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Growth: Theory and Evidence**

by

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The views and interpretations in this paper are those of the author
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Abstract

There can be little doubt that, historically, trade has acted as an important engine of growth for countries at different stages of development, not only by contributing to a more efficient allocation of resources within countries, but also by transmitting growth from one part of the world to another. There are static and dynamic gains to be had from trade between countries but there is nothing in the theory of trade that says that the gains are equitably distributed. Also, there is nothing in the theory of Customs Unions that says that the gains from trade will be equitably distributed between members. Indeed, the Customs Union as a whole may be welfare-reducing if trade diversion exceeds trade creation. Recent research suggests that regional trade agreements, reduce growth and investment, but generalised trade liberalisation in the form of unilateral tariff reductions (or the reduction of non-tariff barriers to trade) improves growth performance. Export growth relax the balance of payments constraint on demand by providing the foreign exchange to pay for the import content of higher levels of consumption, investment and government expenditure. Most developing countries are constrained in their growth performance by a shortage of foreign exchange and could therefore grow faster with more exports.

Résumé

On ne saurait nier que, historiquement, le commerce a été un élément clé de la croissance à divers stades de développement des pays, non seulement en contribuant à une allocation plus efficace des ressources au niveau national, mais aussi en diffusant la croissance d'une région du monde à l'autre. Les échanges entre pays procurent des gains statiques et dynamiques mais, dans la théorie du commerce, aucun élément n'indique que ces gains sont équitablement partagés. De même, la théorie de l'union douanière ne soutient pas que les bénéfices tirés des échanges sont équitablement répartis entre les membres. En fait, l'union douanière peut être un facteur de diminution de bien-être si la diversion du commerce excède la création des échanges. Des récents travaux de recherche donnent à penser que les accords de commerce régional réduisent la croissance et l'investissement mais que la libéralisation généralisée des échanges sous la forme de réductions tarifaires unilatérales (ou la réduction des barrières non tarifaires) améliore la performance sur le plan de la croissance. L'augmentation du volume des exportations a pour effet d'assouplir les contraintes de la balance des paiements sur la demande car cela permet de disposer de devises pour payer les importations nécessaires à des niveaux plus élevés de consommation, d'investissement et de dépenses publiques. La plupart des pays en développement, dont la croissance est entravée par la pénurie de devises, pourrait donc croître à un rythme plus rapide avec un volume accru d'exportations.

Trade, Trade Liberalisation and Economic Growth: Theory and Evidence*

by

A.P. Thirlwall

‘the causes which determine the economic progress of nations
belong to the study of international trade’ (A. Marshall, 1890)

Introduction

In the world economy since 1950 there has been a massive liberalisation of world trade, first under the auspices of the General Agreement on Tariffs and Trade (GATT), established in 1947, and now under the auspices of the World Trade Organisation (WTO) which replaced the GATT in 1993. Tariff levels in high-income developed countries have come down dramatically, and now average approximately 4 percent. Tariff levels in developing countries have also been reduced, although they still remain relatively high, averaging 20 percent in the low- and middle-income countries. Non-tariff barriers to trade, such as quotas, licenses and technical specifications, are also being gradually dismantled, but rather more slowly than tariffs.

Regional Trade Agreements (RTAs) have also become very fashionable in the form of Free Trade Areas and Customs Unions. The WTO lists 76 that have been established or modified since 1948. A list of 22 of the most important ones is given in Appendix 1. The major ones are the European Union (EU); the North American Free Trade Area (NAFTA); Mercosur covering Argentina, Brazil, Paraguay, Uruguay and Chile; APEC, covering countries in the Asia and Pacific region; ASEAN covering South-East Asian countries, and SACU, covering countries in southern Africa.

The liberalisation of trade has led to a massive expansion in the growth of world trade relative to world output. While world output (or GDP) has expanded fivefold, the volume of world trade has grown 16 times at an average compound rate of just over 7 percent per annum. In some individual countries, notably in South-East Asia, the growth of exports has exceeded ten percent per annum. Exports have tended to grow fastest in countries with more liberal trade regimes, and these countries have experienced the fastest growth of GDP. The quote from Alfred Marshall at the beginning of this paper appears to have been a profound and prescient observation. It is difficult, if not impossible, to understand the growth and development process of countries without reference to their trading performance. In this paper, I explore theoretically the links between trade and development, and survey some of the empirical evidence, focussing particularly on: regional trade agreements; the relation between trade liberalisation and economic performance, and on models of export-led growth from both the supply-side and demand-side (which are generally neglected in the orthodox literature).

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The doctrine that trade enhances welfare and growth has a long and distinguished ancestry dating back at least to Adam Smith (1723-90). Smith, in his famous book, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), stressed the importance of trade as a vent for surplus production and as a means of widening the market thereby improving the division of labour and the level of productivity. It is worth quoting Smith directly:

“between whatever places foreign trade is carried on, they all of them derive two distinct benefits from it. It carries the surplus part of the produce of their land and labour for which there is no demand among them, and brings back in return something else for which there is a demand. It gives value to their superfluities, by exchanging them for something else, which may satisfy part of their wants and increase their enjoyments. By means of it, the narrowness of the home market does not hinder the division of labour in any particular branch of art or manufacture from being carried to the highest perfection. By opening a more extensive market for whatever part of the produce of their labour may exceed the home consumption, it encourages them to improve its productive powers and to augment its annual produce to the utmost, and thereby to increase the real revenue of wealth and society”

In the 19th century, Smith’s productivity doctrine of the benefits of trade developed into an export-drive argument, particularly in the colonies, which explains why classical trade theory is often associated with colonialism.

Following Smith, David Ricardo (1772-1823) developed the theory of comparative advantage and showed rigorously in his *Principles of Political Economy and Taxation* (1817) that on the assumptions of perfect competition and the full employment of resources (although not made explicit), countries can reap welfare gains by specialising in the production of those goods with the lowest opportunity cost and trading the surplus of production over domestic demand, provided that the international rate of exchange between commodities lies between the domestic opportunity cost ratios (see later). These are essentially *static gains* that arise from the reallocation of resources from one sector to another as increased specialisation, based on comparative advantage, takes place. These are the *trade-creation* gains that arise within Customs Unions or Free Trade Areas as the barriers to trade are removed between members, but the gains are once-for-all. Once the tariff barriers have been removed, and no further reallocation takes place, the static gains are exhausted.

This is in contrast to the *dynamic gains* from trade which continually shift outwards the whole production possibility frontier of countries if trade is associated with more investment and faster productivity growth based on scale economies, learning by doing and the acquisition of new knowledge from abroad, particularly through foreign direct investment. It is the dynamic gains from trade that are focussed on in modern trade theory (see Helpman and Krugman, 1985) and in “new” growth theory (see Grossman and Helpman, 1991), and which constitute a vital link in the causal chain between exports and growth.

There can be little doubt that, historically, trade has acted as an important engine of growth for countries at different stages of development, not only by contributing to a more efficient allocation of resources within countries, but also by transmitting growth from one part of the world to another. Not all countries, however, necessarily share equally in the growth of trade or its benefits. This will depend on: the production and demand characteristics of the goods that a country produces and trades; the domestic economic policies pursued, and the trading regime it adopts. For example, taking the developing countries as a whole, the volume of exports has grown slower than for developed countries since 1950 – 5 percent per annum compared to 8 percent – because developing countries still largely produce and export primary commodities and low value-added manufactured goods with a relatively low income elasticity of demand in world markets. The

discrepancy in rates of growth of exports has been even wider in value terms because the terms of trade of developing countries has deteriorated vis à vis developed countries causing the developing countries' share of the total value of world trade to have fallen from 30 percent in 1965 to 20 percent today.

Given the predictions of trade theory and the facts, the important point to make in this introduction is that the issue for developing countries in general, and Africa in particular, is not so much *whether* to trade but in *what* to trade, and the *terms* on which trade should take place with the developed countries of the world (or between themselves). There can be no doubt that there are both static and dynamic gains from trade, and that trade provides a vent for surplus production (as stressed by Adam Smith). What is in dispute is whether the overall gains to developing countries could be greater if the pattern of trade was different from its present structure, and if the developed countries modified their policies towards the developing world. Specifically, it is still the case that over 60 percent of export earnings of developing countries (and over 80 percent in Africa) are derived from the sale of primary commodities, and the price of primary commodities relative to manufactures has been deteriorating for at least a century at an average rate of approximately 0.5 percent per annum (Thirlwall, 1995). Also, while the developed world preaches free trade for developing countries, it continues to protect its own markets from imports from developing countries, particularly agricultural produce and textiles. There is a double standard here.

It should also be mentioned at this juncture that real trade theory based on the classical ideas of Smith and Ricardo, and also much of conventional modern trade theory, ignores the monetary or balance of payments consequences of trade. If a particular pattern of trade leads to balance of payments difficulties, and the balance of payments is not self correcting through relative price (*ie* real exchange rate) movements, the gains from trade can easily be offset by the reductions in output and the increase in unemployment necessary to compress imports. This is an important consideration in thinking about the potential role of strategic protection and the speed of trade liberalisation. The balance of payments consequences of trade is also one of the important reasons, neglected by orthodox theory, for supposing a strong link between exports and growth. Export growth is the only component of demand that provides the foreign exchange to allow other components of demand in an economy to grow faster, such as investment, consumption and government expenditure, all of which have an import content which needs to be paid for in foreign exchange. Export growth relaxes a balance of payments constraint on demand, as well as impacting on growth from the supply-side.

The Static and Dynamic Gains from Trade

The static gains from trade stem from the basic fact that countries are differently endowed with resources (natural and acquired) and because of this the *opportunity cost* of producing products varies from country to country. Opportunity cost is measured by the marginal rate of transformation between one good and another, as given by the slope of the production possibility curve; that is, by how much one good has to be sacrificed in order to produce another. If, for example, a country has to sacrifice the production of 1000 tons of wheat to produce 100 tons of steel, the opportunity cost ratio between wheat and steel is 10:1. The law of comparative advantage states that countries will benefit if they specialise in the production of those goods for which the opportunity cost is low and exchange those goods for other goods, the opportunity cost of which is higher. In other words, the static gains from trade are measured by the resource gains to be

obtained by exporting to obtain imports more cheaply in terms of resources given up, compared to producing the goods oneself. Or, to put it another way, the static gains from trade are measured by the excess cost of import substitution; by what is saved by not producing the imported good domestically. The resource gains can then be used in a variety of ways including increased domestic consumption of both goods. Let us now give a diagrammatic example of the point being made. In Figure 1, the production possibility curves for countries A and B are drawn to show the different combinations of goods X and Y that can be produced with each country's given factor endowments. For simplicity, they are drawn linear which implies that factors of production in both countries are sufficiently versatile to be able to produce either commodity equally efficiently. (In practice, the curves are likely to be concave to the origin indicating a diminishing marginal rate of transformation between the two goods). Curves I and II are indifference curves showing combinations of the two goods which give the same level of community welfare.

Now suppose that the marginal rate of transformation between X and Y in country A is $10/8$ and in country B it is $10/2$. The opportunity cost of X is therefore lower in country B than in A; and the opportunity cost of Y is lower in country A than in B. This being so, we can show that it will be mutually profitable for country A to specialise in Y and for country B to specialise in X, and for A to trade Y for X and for B to trade X for Y.

Before trade, each country is confined to producing on its own production possibility frontier. Each country will produce a combination of X and Y to reach its highest level of total utility, given by indifference curve I. Country A settles at 'a' producing X_a and Y_a ; and country B settles at 'b' producing X_b and Y_b . With the opening of trade there can be only one ratio of exchange (or price ratio) between X and Y determined by the interaction of demand and supply in both countries together, and it will lie somewhere between each country's internal transformation (price) ratio. Suppose that the international rate of exchange settles at $10/5$. It can be seen that if country A specialises in Y, production shifts from a to a_1 , and it can now obtain more of X internationally (OX_{a_1}) than it can domestically (OX_a) leading to a higher level of community welfare on indifference curve II (point c). Likewise if country B specialises in X, production shifts from b to b_1 , and it can obtain more of Y internationally (OY_{b_1}) than it can domestically (OY_b), also leading to a higher level of welfare (point c_1). Specialisation on the basis of comparative advantage enables the maximum to be produced from a given amount of factor resources. Production increases, consumption increases, and therefore global welfare.

There is nothing in the doctrine of comparative advantage, however, that guarantees an equal or equitable distribution of the gains from trade. This depends on the international rate of exchange between the two goods, on what happens to the terms of trade, and on whether the full employment of resources is maintained as resources are reallocated as countries specialise. It can be seen from Figure 1 that which country benefits most from specialisation depends on how close the international rate of exchange is to the domestic transformation ratio between the two goods. The closer is the international rate of exchange to a country's own internal rate of exchange, the less it will benefit from specialisation and the more the other country will benefit. In extreme circumstances one country may become absolutely worse off if the real resource gains from trade are offset by a decline in the terms of trade. This is the case of 'immiserising growth' first demonstrated by Bhagwati (1958).

In considering the distribution of the gains from trade between developing and developed countries, the problem for many developing countries is that the nature of the goods that they are 'forced' to specialise in under the aegis of free trade have characteristics which may cause both the terms of trade to deteriorate and the unemployment of resources. Firstly, primary commodities

have both a low price and income elasticity of demand which means that when supply increases prices can drop dramatically, and demand grows only slowly with income growth. Secondly, primary commodities are land-based activities and subject to diminishing returns, and there is a limit to employment in diminishing returns activities set by the point where the marginal product of labour falls to the minimum subsistence wage. To take Ricardo's example of Portugal specialising in wine and England in cloth. As Portugal moves out of cloth production into wine production, there is no guarantee that viniculture will be able to employ all the labour thrown out of cloth production because at some point, as more labour is employed on the vineyards, labour's marginal product will fall below the wage. No such problem arises in manufacturing, such as cloth production, where no fixed factors of production are involved, and production may be subject to increasing returns. The preservation of full employment in both activities, as resource reallocation takes place, implicitly assumes non-diminishing returns in both activities; that is, constant or decreasing costs. In practice, for countries specialising in diminishing returns activities, it is possible that the real resource gains from specialisation may be offset by the real income losses from unemployment. In this case, complete specialisation and free trade would not be optimal.

Now let us turn to the dynamic gains from trade. The essence of dynamic gains is that they shift outwards the whole production possibility frontier by augmenting the availability of resources for production through increasing the productivity of resources and increasing their quantity. One of the major dynamic benefits of trade is that export markets widen the total market for a country's producers. If production is subject to increasing returns, export growth becomes a continual source of productivity growth. There is also a close connection between increasing returns and the accumulation of capital. For a small country with no trade there is very little scope for large scale investment in advanced capital equipment; specialisation is limited by the extent of the market. But if a poor small country can trade, there is some prospect of industrialisation and of dispensing with traditional methods of production. It is worth remembering that at least 60 countries in the world classified as developing, and 31 in Africa, have populations of less than 15 million. Without export markets, the production of many goods would not be economically viable.

Other important dynamic benefits from trade consist of the stimulus to competition; the acquisition of new knowledge, new ideas and the dissemination of technical knowledge; the possibility of accompanying capital flows through foreign direct investment, and changes in attitudes and institutions. In the context of 'new' growth theory, these are all forms of externalities which keep the marginal product of physical capital from falling, so that trade improves the long run growth performance of countries.

The Theory of Customs Unions and Free Trade Areas

As indicated in the introduction, there have been several attempts in the last 50 years to promote trade through the creation of regional trade agreements in the form of Customs Unions and Free Trade Areas. The essence of a Customs Union is that it frees trade between members and imposes a common external tariff on imported goods from the rest of the world. In a Free Trade Area, by contrast, barriers to trade are brought down within the Area, but there is no common external tariff. Countries are free to impose their own specific tariffs on goods from outside the Area, although often subject to agreement over the proportion of goods that must be purchased from within the Area. Customs Unions therefore *create* trade, but also *divert* it from lower cost suppliers to higher cost suppliers within the Union. The interesting question is always

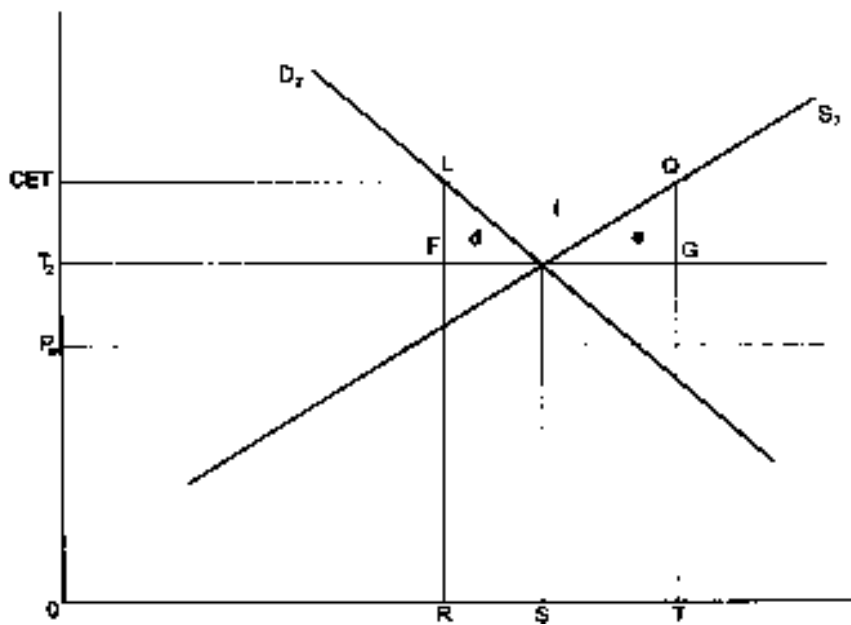
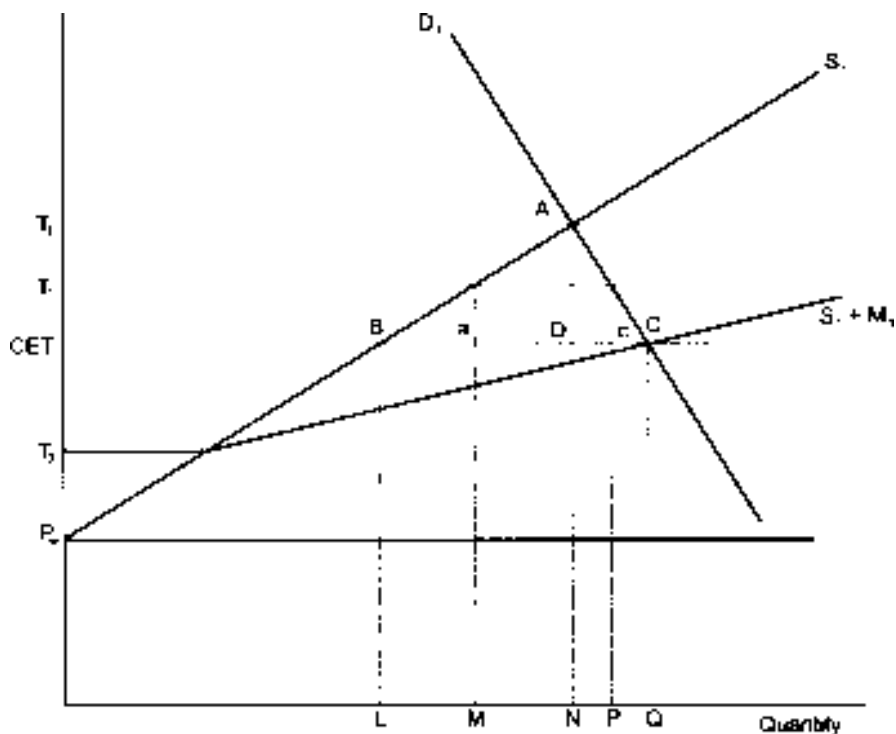
whether the benefits of trade creation exceed the costs of trade diversion. Free Trade Areas also create trade, but the extent of trade diversion is likely to be much less, with the presumption that on narrow economic grounds, at least, Free Trade Areas are superior. For the same reason, Customs Union are likely to be inferior to a policy of unilateral tariff reductions, and therefore need to be justified on other economic or non-economic grounds. De Melo, Panagariya and Rodrik (1993) suggest three channels through which regional integration could alter economic outcomes for the better. Firstly, a regional trade agreement entails a larger political community which might lessen the scope for adverse discretionary actions by governments, and in particular restrict the power of growth-retarding political interest groups, unless politically powerful lobbies can form alliances across countries. Secondly, when a regional institution is set up *ab initio*, better choices may be made than at the nation-state level, where policy-makers have to contend with existing institutions that accommodate factional interests. Thirdly, when participating countries have different economic institutions, policy-making at the regional level will entail a compromise between those institutions and may lead to a superior outcome for at least some member countries. For example, if a Customs Union adopts as its common external tariff, the average tariff of the Union, at least some members must benefit. Notwithstanding the potential political-economic benefits, the World Bank is generally hostile to regional trading blocs because of their relatively inward-looking nature.

Before we look at the empirical evidence on these matters, however, let us consider theoretically the gains and losses of Customs Unions. The analysis makes the same assumptions as classical trade theory: perfect competition; prices reflect opportunity cost; factors of production are immobile between countries; trade is balanced (*i.e.* no balance of payments problems), and the full employment of resources. The trade creation effect of a Union is composed of two parts: firstly a production effect which consists of the substitution of cheaper 'foreign' goods for domestic goods from within the Union, and secondly a consumption effect consisting of the gain in consumer surplus from cheaper goods. The trade diversion effect is also composed of two parts: firstly, the substitution of higher priced goods from within the Union for goods outside the Union, and secondly the loss of consumer surplus that this entails. The gains and losses for two partner countries within the Union are illustrated in Figure 1. To simplify the analysis, scale economies and terms of trade effects are ignored.

D_1 and D_2 are the demand curves for a good in the two countries; S_1 and S_2 are the domestic supply curves; $S_1 + M_1$ is the supply curve in country 1 consisting of the domestic supply curve and the supply of the good from the partner country which is assumed to enter duty free; and P_w is the world price. Now suppose that before the union of the two countries, a tariff of $P_w T_1$ was imposed in country 1 and $P_w T_2$ in country 2. In this case, it can be seen that demand equals supply in both markets; there are no imports from the rest of the world, and we can focus first of all on the process of *trade creation*.

A Customs Union is now formed with a common external tariff (CET) that balances supply and demand of the two partners (equal to P_w CET). The CET is lower than OT_1 in country 1 and higher than OT_2 in country 2. This has consumption and production effects in the two countries. In country 1 domestic consumption increases from N to Q, and domestic production decreases from N to L. In country 2, domestic production increases from S to T; domestic consumption decreases from S to R and the difference between supply and demand is exported to country 1. For country 1 there has been a cost saving equal to the area ABD, and an increase in consumer surplus equal to the area ADC. The total gain of trade creation is equal to $ABD + ADC$. In country 2, there has been a loss of consumer surplus equal to area 'd' and an increased production

Figure 1



cost equal to area 'e', but this is more than offset by the increased export revenue of LFGQ, so country 2 is also better off.

Now let us consider the case where there is also *trade diversion* from the rest of the world. Suppose that in country 1 the initial tariff level was lower than $P_w T_1$ – say $P_w T^*$, so that demand exceeded supply and the excess demand was filled by imports from the rest of the world, MP, at price P_w . If a common external tariff was now introduced of P_w CET, demand would increase from P to Q with an increase in consumer surplus of area 'c'. Production would fall from M to L with a reduction in production cost equal to area 'a'. There would be trade creation gains equal to 'a' + 'c'. But now there is also trade diversion. Imports, previously from outside the Union, would now come from the higher cost partner. MP imports from abroad would be replaced at the increased cost of $MP \times P_w$ CEW. This is the cost of trade diversion.

In evaluating the net gains from a Customs Union, trade creation needs to be compared with trade diversion. In general, trade creation is likely to predominate over trade diversion, the larger the Union and the lower the common external tariff. The larger the Union, the greater the scope for trade creation, and the lower the CET, the less trade diversion there is likely to be. It is possible, however, even if the Union as a whole is on balance trade creating, that at least one country may lose. Likewise, it is possible for at least one country to gain even if the Union as a whole is, on balance, trade diverting. Everything depends on circumstances. A Customs Union can be devised, however, which raises the welfare of all members. This requires firstly that the common external tariff of the Union is set so that the level of post-Union trade with the rest of the world does not fall below its pre-Union level, and secondly that lump-sum compensatory taxes and transfers are imposed to offset individual country losses.

Apart from trade creation and trade diversion, Customs Unions may also have other important effects associated with the enlargement of the market which are neglected by the static analysis presented above. Firstly, the larger market may generate economies of scale. If there are economies of scale, the supply curves in Figure 1 will slope downwards, and the common external tariff can be lower than the original tariff in *both* partner countries. There will be a normal trade creation effect and a cost saving in both countries. Secondly, integration is likely to promote increased competition which is likely to affect favourably prices and costs, and the growth of output. Thirdly, the widening of markets within a Customs Union is likely to attract international investment. Producers will prefer to produce within the Union rather than face a common external tariff from outside. Finally, if the world supply of output is not infinitely elastic, there are terms of trade effects to consider. Specifically, if there is trade diversion, the world price of the good will fall, moving the terms of trade in favour of the Customs Union. This term of trade effect represents a welfare gain which may partly offset the welfare loss of trade diversion.

It was mentioned earlier, however, that because Customs Unions impose a common external tariff they are likely to be inferior, in terms of welfare improvement, to a policy of *unilateral* tariff reductions (continuing to make the standard assumptions, of course, of trade balance, full employment etc.). We can now illustrate this using Figure 1. Suppose country 1 has an initial tariff level of $P_w T^*$. It enters a Customs Union with country 2 with a common external tariff CET, and trade creation takes place equal to 'a' + 'c' (as before). Country 1 could also, however, reduce its tariff to $P_w T^*$ on a non-discriminatory basis. It would enjoy the same trade creation gains, but now would be able to obtain imports cheaper from the rest of the world. This means an additional gain equal to the difference between the total expenditure on imports from the Union compared to the rest of the world. At a simple level, the conclusion from this theoretical analysis is that the formation of Customs Unions represents a movement towards free trade, but even freer trade (*i.e.* no trade diversion) is better. The recent empirical evidence seems to support this view.

Empirical Evidence on the Growth Effects of Customs Unions and Trade Liberalisation

Up to now the general experience of regional trade agreements in developing countries has been disappointing because they have been highly inward-looking and protectionist, with trade diversion exceeding trade creation. Typically, the existing ratio of trade to GDP has been high in the member countries and the ratio of trade with the rest of the world has also been high so that the scope for trade creation has been minimal and the potential for trade diversion has been great. In the Economic Community of West African States (ECOWAS), founded in 1975, the amount of inter-member trade is still less than 10 percent of total exports. According to Robson (1998), most trade-based integration initiatives in Africa have so far made little or no contribution to trade or economic development. Forouton (1993) concludes his study of regional integration in sub-Saharan Africa (SSA) by saying “the structural characteristics of the SSA economies, the pursuit of import-substitution policies, and the very uneven distribution of costs and benefits of integration arising from economic differences among the partner countries, have thus far prevented any meaningful trade integration in SSA”. Of the seven or eight groupings in SSA, only SACU has achieved any noticeable degree of integration in the market for goods. Otherwise intra-group trade has remained limited and stagnant. This conclusion is echoed by the authors of many of the applied papers in Oyejide, Elbadawi and Collier (1997) which examine the experience of regional integration and trade liberalisation in sub-Saharan Africa.

Recent empirical work across developing countries as a whole supports this pessimistic conclusion as far as regional trade agreements are concerned, but finds that broad trade liberalisation does lead to faster growth. Research by de Melo, Panagariya and Rodrick (1993) finds no evidence that regional integration among developing countries exerted a positive effect on income and growth, except in the case of the Southern African Customs Union (SACU) where favourable growth effects were found for Botswana, Lesotho and Swaziland. Vamvakidis (1999) takes 109 cases of participation in 18 regional trade agreements over the period 1950 to 1992 and concludes that their impact on the growth rate of members has been negative. Vanvakidis also takes 51 cases of broad liberalisation and finds that countries have grown faster after liberalisation. Two measures of liberalisation (or trade openness) are used. One is the standard measure used in much of the ‘new’ growth theory literature of the ratio of total trade (exports + imports) to GDP. The second is the so-called Sachs-Warner (1995) ratio of openness. Sachs and Warner define an economy as ‘open’ if all five of the following conditions are met: (i) an average tariff rate of less than 40 percent; (ii) average non-tariff barriers equivalent to a tariff rate of less than 40 percent, (iii) a black market exchange rate premium of less than 20 percent, (iv) no communistic government, and (v) no state monopoly of major exports. These criteria can be used for pin-pointing the precise year (s) of trade openness for a country. The procedure for testing the effect on growth of trade liberalisation, or belonging to a regional trade agreement (RTA), is to specify a cross-country growth equation of the form:

$$g = a + b_1 (\text{initial GDP per head}) + b_2 (\text{population growth}) + b_3 (\text{schooling}) + b_4 (\text{growth of world GDP}) + b_5 D_1 + b_6 D_2 \quad (1)$$

where D_1 is a dummy variable if the country participates in an RTA; and D_2 is a dummy variable for the Sachs-Warner openness variable or the trade share variable. Growth (g) is measured taking five year averages over the period 1950-92. The dummy variable for both measures of trade liberalisation is positive and significant. The results suggest that after liberalisation countries grow

faster on average by 1.5 percentage points, and that an increase in the trade share by 10 percent leads to an increase in the growth rate by 0.56 percentage points. Estimating the same equation across countries participating in RTAs shows the RTA dummy variable to be negative. The same results emerge when the share of investment in GDP is taken as the dependent variable. After liberalisation, the investment share is 2.7 percentage points higher, but membership of a RTA lowers the investment share. The negative result for RTAs must result from the fact that, on balance, trade diversion is more powerful than trade creation.

In other work, Vamvakidis (1998) has tried to estimate the effect on growth of the size and openness of neighbouring countries, and finds that countries which have neighbours with large open economies experience faster growth. Openness matters more than size. Being near a developed country also has a positive spill-over effect. In both respects, sub-Saharan Africa is at a disadvantage, consisting as it does of mainly small and highly protected economies, relatively remote from the industrialised economies of Europe and North America.

Trade Liberalisation and Export-Led Growth

Trade liberalisation does not necessarily imply faster export growth, but in practice the two appear to be highly correlated. The impact of trade liberalisation on economic growth outlined above probably works mainly through improving efficiency and stimulating exports which have powerful effects on both supply and demand within an economy. There are several different measures of trade liberalisation or trade orientation, and all studies seem to show a positive effect of liberalisation on economic performance. Likewise there are several different studies of the relation between exports and growth and the evidence seems overwhelming that the two are highly correlated in a causal sense, but the relative importance of the precise mechanisms by which export growth impacts on economic growth are not always easy to discern or quantify.

There are several possible measures of trade liberalisation or outward-orientation, and many investigators and organisations (e.g. Leamer, 1988; World Bank, 1987) devise their own measures. Some of the most common measures used are: the average import tariff; an average index of non-tariff barriers; an index of effective protection; an index of relative price distortions or exchange rate misalignment, and the average black market exchange rate premium. In 1987, the World Bank classified a group of 41 developing countries according to their trade orientation in order to compare the performance of countries with different degrees of outward/inward orientation. Four categories of countries were identified:

- (i) strongly outward oriented countries where there are very few trade or foreign exchange controls and trade and industrial policies do not discriminate between production for the home market and exports, and between purchases of domestic goods and foreign goods.
- (ii) moderately outward oriented countries, where the overall incentive structure is moderately biased towards the production of goods for the home market rather than for export, and favours the purchase of domestic goods.
- (iii) moderately inward oriented countries where there is a more definite bias against exports and in favour of import substitution.
- (iv) strongly inward oriented countries where trade controls and the incentive structures strongly favour production for the domestic market and discriminate strongly against imports.

The classification of the 41 countries according to these four categories in the periods 1963-73 and 1973-85 is shown in Table 1. Most of the African countries taken are in the moderately and strongly inward oriented categories. When a whole group of countries is relatively inward orientated, it may be difficult to discern a relation between the degree of orientation and growth, and this was the case in a study by Helleiner (1986) of a series of African countries over the period 1960-79. He found no association between the degree of export orientation and growth, although he did find a negative relation between import instability and growth performance, reflecting the type of goods exported and the problems associated with foreign exchange earnings instability. However, the World Bank concluded its own study by saying that the evidence “suggests that the economic performance of the outward-oriented economies has been broadly superior to that of inward-oriented economies in all respects”.

In a major study of trade orientation, distortions and growth in developing countries, Edwards (1992) develops a model which assumes that more open economies are more efficient at absorbing exogenously generated technology. Using nine indicators of trade orientation constructed by Leamer (1988), he shows for a sample of 30 developing countries over the period 1970-82, that more open economies tend to grow faster. To test the hypothesis, a conventional growth equation is used relating the growth of per capita income of countries to their investment ratio; their initial level of per capita income as a proxy for technological backwardness, and a measure of trade distortion. All but one of the trade distortion measures produce a significant negative coefficient, and the findings are robust with respect to the sample taken, the time period taken and the method of estimation. The findings are also robust to some of the alternative indicators of trade liberalisation and distortion mentioned at the beginning. In Edward’s model, however, the only channel through which trade liberalisation enhances growth is through the absorption of foreign technology. This is undoubtedly important, but there are other important mechanisms.

In another comprehensive study, Dollar (1992) addresses the question of whether outward oriented developing countries grow more rapidly – taking as his sample 95 countries over the period 1976-1985. Trade orientation is measured by the degree to which the real exchange rate is distorted by not reflecting differences in the price level between countries. High relative prices indicate strong protection and incentives geared to production for the home market. Taking different continents, and comparing them with the successful economies of Asia, he finds that in Latin America the exchange rate was overvalued by 33 percent during this period, and in Africa by 86 percent. Growth equations are estimated across countries using each country’s measure of exchange rate distortion, controlling for differences in the level of investment and the variability of the exchange rate. Dollar finds that, on average, trade distortions in Africa and Latin America reduced the growth of income per head by between 1.5 and 2.1 percent per annum. The results cannot be considered as conclusive because exchange rate distortions are likely to be correlated with other (internal) variables that impair growth performance, but they are certainly suggestive.

Recently Brahmabhatt and Dadush (1996) at the IMF have developed a speed of integration index based on four indicators: (i) the ratio of exports and imports to GDP (the Vamvakidis measure of openness); (ii) the ratio of foreign direct investment to GDP; (iii) the share of manufactures in total exports, and (iv) a country’s credit rating. They then divide a sample of 93 countries into four groups – fast, moderate, weak and slow integrators – and find that the fast integrators include most of the rapidly growing East Asian exporting economies, while the weakly and slowly integrating group include most of the low income countries of sub-Saharan Africa and some of the middle-income countries of Latin America. The distribution of countries by speed of integration is shown in Table 2.

The high performance Asian countries are perhaps the most spectacular examples of economic success linked to exports (notwithstanding the recent crisis in East Asia). The economies of Japan, South Korea, Taiwan, Singapore, Hong Kong, Malaysia, Indonesia and Thailand have recorded some of the highest GDP growth rates in the world – averaging approximately 6 percent per annum since 1965 – and also some of the highest rates of export growth, averaging more than 10 percent per annum. It should be noted, however, that this success has not always been based on free trade and laissez-faire. Japan and South Korea, for example, have been very interventionist, pursuing relentless export promotion but also import substitution at the same time. Indeed, in their meticulous study of *The East Asia Miracle*, the World Bank (1993) concluded that there is no single East Asian model. What is important for growth is not whether the free market rules or the government intervenes, but getting the fundamentals for growth right. Three policies are identified as contributing to the success of these ‘tiger’ economies: firstly, industrial policies to promote particular sectors of the economy; secondly, government control of financial markets to lower the cost of capital and to direct credit to strategic sectors, and thirdly, policies to promote exports and protect domestic industry. Crucial to all three policies is good governance. The World Bank concedes that most of the countries deviated from free market economics, but deviated less than other developing countries, and got the fundamentals right (such as high levels of human and physical capital accumulation).

The fact remains that none of these countries could have grown as rapidly as they did without the rapid growth of exports. Apart from the externalities associated with trade and the encouragement of domestic and foreign investment, they simply would not have had the foreign exchange to pay for all the import requirements associated with rapid growth. This leads us on to various models of export-led growth.

Models of Export-Led Growth

Three main models of export-led growth will be discussed: the neoclassical supply-side model; the balance of payments constrained (Hicks super-multiplier) model and the virtuous circle model. The first is the conventional orthodox model which fits neatly into mainstream neoclassical growth theory. The latter two models are rarely articulated in the trade and growth literature, and yet may be of greater importance for understanding growth rate differences in open developing economies; especially if most developing countries are constrained in their economic performance by a shortage of foreign exchange. Moreover, orthodox growth and trade theory predicts the *convergence* of per capita incomes across countries which is at variance with what we observe in the real world. What appears to happen in practice is that once a country gains an advantage through the capture of export markets, it tends to sustain that advantage through the operation of various cumulative forces which generate ‘virtuous circles’ of success for favoured countries (and regions), and ‘vicious circles’ of slow growth and under-employment for those countries that get left behind. When studies are conducted of the relation between exports and growth, either across countries or over time, it is not always clear whether the relation found is picking up supply-side factors; demand-side influences; cumulative forces interacting with each other, or a combination of all three.

Table 1
World Bank Classification of Developing Countries According to Trade Orientation
1963-1973 and 1973-1985

Period	Strongly Outward Oriented	Moderately Outward Oriented	Moderately Inward Oriented	Strongly Inward Oriented
1963-73	Hong Kong Korea Singapore	Brazil Cameroon Colombia Costa Rica Côte d'Ivoire Guatemala Indonesia Israel Malaysia Thailand	Bolivia El Salvador Honduras Kenya Madagascar Mexico Nicaragua Nigeria Philippines Senegal Tunisia Yugoslavia	Argentina Bangladesh Burundi Chile Dominican Republic Ethiopia Ghana India Pakistan Peru Sri Lanka Sudan Tanzania Turkey Uruguay Zambia
1973-85	Hong Kong Korea Singapore	Brazil Chile Israel Malaysia Thailand Tunisia Turkey Uruguay	Cameroon Colombia Costa Rica Côte d'Ivoire El Salvador Guatemala Honduras Indonesia Kenya Mexico Nicaragua Pakistan Philippines Senegal Sri Lanka Yugoslavia	Argentina Bangladesh Bolivia Burundi Dominican Republic Ethiopia Ghana India Madagascar Nigeria Peru Sudan Tanzania Zambia

Source: World Bank (1987).

The Neoclassical Supply-Side Model

The neoclassical supply-side model of the relation between exports and growth assumes that the export sector, because of its exposure to foreign competition, confers externalities on the non-export sector, and secondly that the export sector has a higher level of productivity than the non-export sector. Thus, the share of exports in GDP, and the growth of exports, matters for overall growth performance. Feder (1983) was the first to provide a formal model of this type to explain the relation between export growth and output growth. The output of the export sector is assumed

Table 2
Distribution of Countries by Speed of Integration

	East Asia	South Asia	Latin America And Caribbean	Middle East and North Africa	Sub-Saharan Africa	Europe and Central Asia
Fast Integrators	6	3	5	2	2	5
Moderate Integrators	2	5	4	10		2
Weak Integrators	3		9	2	10	
Slow Integrators			2	5	14	2
Total	9	5	21	13	36	9

Source: Brahmhatt and Dadush (1996).

to be a function of labour and capital in the sector; the output of the non-export sector is assumed to be a function of labour, capital and the output of the export sector (to capture externalities), and the ratio of respective marginal factor productivities in the two sectors is assumed to deviate from unity by a factor d . These assumptions produce an augmented neoclassical growth equation of the form:

$$G = a(I/Y) + b(dL/L) + [d/(1+d) + F_x] (X/Y) (dX/X) \quad (2)$$

where I/Y is the investment ratio; dL/L is the growth of the labour force; dX/X is the growth of exports; X/Y is the share of exports in GDP; $\delta/(1+\delta)$ is the differential productivity effect, and F_x is the externality effect. Feder tests the model taking a cross section of 19 semi-industrialised countries and a larger sample of 31 countries over the period 1964-73. First he tests the model without export growth, and then with the growth of exports included. The inclusion of dX/X considerably improves the explanatory power of the equation, and the effect of export growth is always statistically significant. The coefficient on export growth, however, is an amalgam of an externality effect and a productivity differential effect. To decompose the two, equation (2) can be fitted excluding the export share term (X/Y) which then isolates the externality effect. The differences between the total effect of export growth and the externality effect is the productivity differential effect. When this is done, Feder finds substantial differences in productivity between the export and non-export sector and also evidence of externalities.

The results should not surprise. The export sector is likely to be more 'modern' and capital intensive than the non-export sector which to a large extent consists of low productivity agriculture and petty service activities. The externalities conferred are part of the dynamic gains from trade discussed at the beginning, associated with the transmission and diffusion of new ideas from abroad relating to both production techniques and efficient management practices.

Cross-section work on exports and growth assumes, however, that all countries in a sample conform to the same model, with the same intercept and coefficient parameters linking exports and growth. In practice, this is highly unlikely to be the case; and it transpires, in fact, that when time series studies are conducted for individual countries, the relation between exports and growth is much weaker. Ram (1987) takes time series data for 88 countries over the period 1960-82 and finds large differences in the parameter values between countries. Indeed, the export variable is only significant in 40 percent of the countries, and is much weaker in low income countries than in middle income countries. Another time series study by Greenaway and Sapsford (1994) produces even weaker results. They take 19 countries and run various regressions of output growth (net of exports) on the investment ratio, labour force growth and export growth, and generally find the export growth variable to be insignificant. They conclude that if trade liberalisation is supposed to influence output growth through export growth, the evidence is scanty. On the other hand, the effect of liberalisation may be to alter the relation between export and growth performance, and this is tested by using shift and slope dummy variables in the equations to discriminate between periods before and after liberalisation. The evidence for structural breaks, however, is also scanty.

A major problem with time series studies, however, is that the coefficient estimates capture only short-run relationships. In the case of exports and growth, the effect of export performance in any one year is likely to be lagged and longer-term whatever the mechanism by which export growth exerts its favourable influence on an economy. Studies need to recognise this, and ideally future studies should use pooled time series and cross section data (*i.e.* panel data) both to maximise the number of observations and to allow for country specific effects at the same time. The software statistical packages to do this are now readily available (*e.g.* LIMDEP).

Whatever procedure is adopted, however, the problem remains of identifying the causal mechanism by which exports influence growth. The Feder model is a pure supply-side argument which has plausibility, but there are other (non-neoclassical) supply-side arguments, and also demand-side considerations which would also be consistent with finding export growth and GDP growth positively correlated over the long term. From the supply side, export growth may raise output growth through externalities, but also faster export growth permits faster import growth. If countries are short of foreign exchange, and domestic and foreign resources are not fully substitutable, more imports permit a fuller use of domestic resources. In particular, more foreign exchange allows the greater import of capital goods which may not be produced domestically. Esfahani (1991) recognises this point and reestimates Feder's equation for 31 countries, including the growth of imports as well as the growth of exports. The export growth variable now loses its significance, while the import growth variable is significant. The regression is also run without export growth, and it is found that once the import supply effect of exports is taken into account there is apparently no significant externality effect of exports left to explain. Esfahani concludes: "even though exports do not appear to have had much direct externality effect on GDP — export promotion policies in these countries can be quite valuable in supplying foreign exchange which relieves import shortages and permits output expansion".

Even the Esfahani argument, however, doesn't go far enough because it neglects the importance of demand for the growth of output. Most factors of production in the growth and development process are *endogenous* to demand and not exogenously determined as neoclassical growth theory assumes. Capital is a produced means of production and is as much a consequence of the growth of output as its cause. The demand for labour is a derived demand from output. Labour input responds to demand in all sorts of ways through reductions in unemployment; increases in labour force participation; increases in hours worked; shifts of labour from low productivity to high

productivity sectors, and in the last resort, through international migration. In labour surplus economies, such as most developing countries, it stretches credulity to assume an exogenously given supply of labour that determines output in a causal sense. Productivity growth is also largely endogenous to output growth working through induced capital accumulation, embodied technical progress and static and dynamic returns to scale. To understand growth rate differences between countries, it is necessary to understand why demand growth differs between countries, and the constraints on demand that exist within countries. In most developing countries, the major constraint on the growth of demand is the current balance of payments and the shortage of foreign exchange. Export growth relaxes a balance of payments constraint on demand and allows all other components of demand (consumption, investment and government expenditure) to grow faster without running into balance of payments difficulties. This is the simplest of all explanations of the relationship between export growth and output growth, and leads us on to the modelling of balance of payments constrained growth models in which export growth is the driving force.

Balance of Payments Constrained Growth Models

In the long run, no country can grow faster than that rate consistent with balance of payments equilibrium on current account unless it can finance ever-growing deficits which, in general, it cannot. Ratios of deficit to GDP of more than 2-3 percent start to make the international financial markets nervous (witness Mexico, Brazil and the countries of East Asia in recent years), and *all* borrowing *eventually* has to be repaid. We can model a country's balance of payments equilibrium growth rate by stating the balance of payments equilibrium condition, specifying multiplicative (constant elasticity) import and export demand functions in which imports and exports are a function of domestic and foreign income, respectively, and of relative prices, and substituting these functions in the equilibrium condition. Since imports are a function of domestic income, the model can be easily solved for the growth of income consistent with balance of payments equilibrium (see McCombie and Thirlwall, 1994). The constrained growth rate (y_B) is:

$$y_B = [(1 + \Psi + \eta)(p_d - p_f - e) + \epsilon(z)]/\pi \quad (3)$$

where p_d is the growth of domestic prices; p_f is the growth of foreign prices; e is the rate of change of the exchange rate measured as the domestic price of foreign currency; z is the growth of world income; Ψ (<0) and η (<0) are the price elasticities of demand for imports and exports, respectively, and ϵ (>0) and π (>0) are the income elasticities of demand for exports and imports respectively.

If relative prices, or the real exchange rate, don't change very much in the long run, and/or the Marshall-Lerner condition is just satisfied ($y + h = 1$), equation (3) reduces to:

$$y_B = \epsilon(z)/\pi \quad (4)$$

or

$$y_B = x/\pi \quad (5)$$

if relative prices don't change at all, where x is the growth of exports determined by the growth of world income alone. Equation (5) is the dynamic version of the so-called Harrod trade multiplier result derived by Harrod in 1933 where, on various assumptions (including constancy of the real terms of trade), the level of income Y is shown to be a linear multiple ($1/m$) of the level of exports (X), where m is the propensity to import.

It can be seen that equation (5) predicts a correlation between a country's long run sustainable growth rate and the growth of exports, with the strength of the correlation depending on differences

in the income elasticity of demand for imports (π). Extensive empirical research (see, McCombie and Thirlwall, 1994 and 1997), shows that x/p is a very good predictor of a country's long run growth performance, so that allowing for differences in p , income growth and export growth are highly correlated. The conclusive evidence that most developing countries are balance of payment constrained is to find countries growing at their balance of payments constrained growth rate (or above, financed by capital inflows) while resources lie idle domestically. In these circumstances, export growth will raise output growth by relaxing a balance of payments constraint on demand, irrespective of any supply-side effects.

Nureldin-Hussain (1995) has applied this model to Africa to contrast the experience of slow growing African countries with the faster growing countries of Asia over the period 1970-90. He uses an extended model which also includes terms of trade effects ($p_d - p_f - e$) (see equation 3) and the effects of capital flows. The major explanation of the difference in growth rates between Africa and Asia turns out to be the difference in the growth of exports, as can be seen from Table 3. The average growth of the African countries, excluding oil exporters, was 3.4 percent per annum, and of the Asian countries 6.6 percent. The contribution of export growth in Africa was 1.99 percentage points and in Asia 5.91 percentage points. Differences in capital flows and terms of trade movements made only a minor contribution to growth rate differences.

Exports are unique as a growth-inducing force from the demand side because it is the only component of demand that provides foreign exchange to pay for the import requirements for growth. In this sense, it allows all other components of demand to grow faster in a way that consumption-led growth or investment-led growth does not. Indeed, it can be shown (see McCombie, 1985) that the dynamic Harrod multiplier result of equation (5) is formally equivalent to the Hicks super-multiplier (Hicks, 1950) in which the growth of output is determined by the major component of autonomous demand to which other components of demand will adapt. In an open economy context, the major component of autonomous demand is export growth, and faster export growth allows all other components of demand to grow faster. It is possible, as McCombie does, to then disaggregate the contribution to growth of exports and other components of demand within this demand-oriented framework.

Virtuous Circle Models of Export-Led Growth

Finally, it needs to be recognised that exports and growth may be interrelated in a cumulative process. This raises the question of causality, but more important such models provide an explanation of why growth and development through trade tends to be concentrated in particular areas of the world, while other regions and countries have been left behind. These models provide a challenge to both orthodox growth theory and trade theory which predict the long run convergence of living standards across the world. In neoclassical growth theory, capital is assumed to be subject to diminishing returns so that rich countries should grow slower than poor countries for the same amount of investment undertaken. Neoclassical trade theory predicts convergence through the assumption of factor price equalisation. The empirical evidence is at odds with the theory; there is no evidence that living standards across the world are converging (see Thirlwall, 1999).

A simple cumulative model, driven by exports as the major component of autonomous demand, is to assume that (i) output growth is a function of export growth; (ii) export growth is a function of price competitiveness and foreign income growth; (iii) price competitiveness is a function of wage

growth and productivity growth, and (iv) productivity growth is a function of output growth – the so-called Verdoorn Law working through static and dynamic returns to scale, including learning by doing. It is this induced productivity growth that makes the model ‘circular and cumulative’ (see Dixon and Thirlwall, 1975) since if fast output growth (caused by export growth) induces faster productivity growth, this makes goods more competitive and therefore induces faster export growth. Specifying a four-equation model such as the above, and substituting, gives the equilibrium growth rate of:

$$y = \gamma [\eta (w - r_a + \tau - p_f) + \epsilon (z)] / (1 + \gamma\eta\lambda) \quad (6)$$

where w is the rate of growth of wages; r_a is the rate of growth of autonomous productivity; τ is the rate of change of the markup on unit labour costs; p_f is the rate of change of foreign prices; z is the growth of world income; γ is the elasticity of output growth with respect to export growth; $\eta (< 0)$ is the price elasticity of demand for exports; ϵ is the income elasticity of demand for exports, and λ is the Verdoorn coefficient. The Verdoorn relation not only makes the model ‘circular and cumulative’; but also gives rise to the possibility that once an economy obtains a growth advantage it will tend to keep it. Suppose, for example, that an economy obtains an advantage in the production of goods with a high income elasticity of demand in world markets, such as high technology goods, which raises its growth rate above other countries. Through the Verdoorn effect, productivity growth will be higher and the economy will retain its competitive advantage in these goods, making it difficult, without protection or exceptional industrial enterprise, to establish the same commodities. In such a cumulative model, it is the difference between the income elasticity characteristics of exports (and imports, if balance of payments equilibrium is a requirement, as argued earlier) which is the essence of divergence between industrial and agricultural economies, or between ‘centre’ and ‘periphery’. It can also be seen in equation (6) that if no Verdoorn effect is assumed ($\lambda = 0$), and there is no change in competitiveness, the equation reduces to $y = \gamma \epsilon (z)$. If balance of payments equilibrium is a requirement $\gamma = 1/\pi$, where π is the income elasticity of demand for imports. We are back to equation (4) which, rearranging, yields:

$$\frac{y}{z} = \frac{\epsilon}{\pi} \quad (7)$$

This says that one country’s growth rate (y) relative to all others, z (the world growth rate), is equiproportional to the ratio of the income elasticities of demand for exports and imports. This is the essence of the classic centre-periphery models of Raul Prebisch, Dudley Seers, Nicholas Kaldor and others (see Thirlwall, 1983); also sometimes called the 45° degree rule for obvious reasons. Poor developing countries typically export goods with a low income elasticity of demand and import goods with a higher income elasticity of demand, compared to developed countries. This simple model can go a long way in explaining differences in the level of development between countries and the forces which perpetuate divergences in the world economy. The forces are structural relating to the production and demand characteristics of the goods produced and traded.

The vital policy issue for Africa is whether regional trading agreements by themselves, in the form of Customs Unions or Free Trade Areas, can alter the structure of production in favour of commodities with more favourable production and demand characteristics. If not, greater freedom of trade will not necessarily be ‘optimal’, and protection may be required to acquire comparative advantage in new types of goods based on a judicious mix of tariffs and subsidies, on the lines practiced by the successful South East Asian countries. The precise means of protection, and whether the other conditions can be put in place to make protection work, is, however, beyond the scope of this paper.

Table 3
Comparing African with Asian Countries 1970-90 (in percentage points)

Countries	Actual Rate of Growth	Export Volume Effect	Terms of Trade Effect	Real Capital Flow Effect
African Countries				
Algeria	4.90	4.21	10.15	-8.72
Benin	2.90	0.96	1.44	1.35
Burkina Faso	4.20	3.03	-5.17	5.63
Burundi	5.60	3.21	1.69	-1.26
Cameroon	5.50	7.08	-1.12	0.00
Congo	6.59	3.88	0.42	2.38
Côte d'Ivoire	4.50	4.23	0.39	0.81
Egypt	6.90	4.36	-2.37	7.31
Ethiopia	2.20	0.74	-0.09	2.53
Gabon	5.10	6.81	0.49	-0.04
Ghana	1.40	0.15	-3.81	2.88
Kenya	6.24	1.62	-0.50	5.59
Lesotho	4.40	6.62	-3.43	1.55
Madagascar	0.48	0.06	-0.10	0.95
Mauritania	2.30	1.58	0.68	0.42
Mauritius	5.80	5.13	0.92	0.19
Morocco	4.62	2.83	-1.34	3.47
Niger	0.81	1.79	-5.07	3.47
Nigeria	2.50	1.28	2.37	-1.17
Senegal	2.67	1.56	0.23	1.05
Sierra Leone	1.58	-0.67	-0.23	2.65
Somalia	3.40	0.18	-1.10	5.00
South Africa	2.42	1.32	-1.03	7.74
Sudan	3.10	1.13	0.14	1.92
Tanzania	2.90	-0.55	0.33	5.01
Togo	2.90	2.31	0.08	0.61
Tunisia	5.69	5.24	0.87	1.48
Zambia	1.40	-1.29	-0.31	0.58
Zimbabwe	3.23	2.23	-2.40	-1.24
Average	3.66	2.45	-0.27	1.80
Average Excluding Oil Exporters	3.40	1.99	-0.84	2.49
Asian Countries				
China	8.20	6.43	-0.02	0.26
Hong Kong	9.07	8.34	-0.07	1.01
India	4.31	3.16	-0.85	1.96
Indonesia	10.76	3.18	1.82	5.76
Japan	4.20	9.73	-1.42	-4.63
Korea, Rep. Of	9.11	13.47	-0.81	-2.49
Malaysia	7.08	6.60	-0.69	2.21
Philippines	3.70	2.00	0.22	0.26
Sri Lanka	4.30	2.33	-0.65	3.00
Thailand	6.80	5.45	0.96	2.61
Average	6.60	5.91	-0.18	1.31
Average Excluding Japan and Korea	6.58	4.46	0.03	2.39

Conclusions

- There are static and dynamic gains to be had from trade between countries but there is nothing in the theory of trade that says that the gains are equitably distributed.
- The gains from trade to an individual country, based on specialisation, may be affected by welfare losses of unemployment and terms of trade deterioration. In this case, complete specialisation is not optimal.
- Likewise there is nothing in the theory of Customs Unions that says that the gains from trade will be equitably distributed between members. Indeed, the Customs Union as a whole may be welfare-reducing if trade diversion exceeds trade creation.
- The benefits of a Customs Union are likely to be greater the smaller the ratio of existing trade to GDP and the less that members of the Union trade with the outside world. These conditions maximise the scope for trade creation and minimise the scope for trade diversion. These conditions are often not met in regional trade agreements between developing countries; and do not seem to be met in the specific case of Africa.
- Recent research suggests that regional trade agreements, in the form of Customs Unions and Free Trade Areas, reduce growth and investment, but generalised trade liberalisation in the form of unilateral tariff reductions (or the reduction of non-tariff barriers to trade) improves growth performance.
- Trade liberalisation and export growth seem to be positively correlated, and exports act as an engine of growth. How powerful is the engine, however, depends on the production and demand characteristics of the goods produced and exported. Countries specialising in the production and export of primary products do not perform as well as countries specialising in the production and export of manufactured goods. This raises the issue of whether regional trade agreements and unilateral tariff reductions by themselves are sufficient to secure structural change in poor countries.
- There are many models of export-led growth, and it is difficult to discriminate between them. The conventional model is the neoclassical supply-side model which argues that export growth generates externalities and faster productivity growth because the export sector is more productive than the non-export sector.
- Orthodox trade theory ignores the contribution that export growth makes to the demand for output, and particularly in relaxing a balance of payments constraint on demand by providing the foreign exchange to pay for the import content of higher levels of consumption, investment and government expenditure. Most developing countries are constrained in their growth performance by a shortage of foreign exchange and could therefore grow faster with more exports.
- Export growth can also set up a virtuous circle of growth through a process of cumulative causation working through the induced effect of output growth on productivity growth and increased competitiveness. Models of this kind are able to explain the continued divergence in levels of per capita income between countries in a way that orthodox growth and trade theory cannot, which predict the convergence of per capita incomes.
- The question for Africa is not whether to trade but in what to trade and the terms on which it trades with itself and the rest of the world. Regional integration may bring some benefits if wisely designed, but more important is to get right the growth fundamentals of high levels investment in physical and human capital, good governance, and a structure of production that gives scope for scale economies and high productivity which at the same time produces goods,

the world demand for which is rising fast. If this requires elements of protection, countries must not be afraid to deviate from free trade. There are legitimate economic grounds for protection if it will raise income and output above what would otherwise be the case. The classic economic arguments are: the infant-industry argument; the externalities argument, and the case where the social cost of production is less than the private cost because of, for example, the unemployment of labour.

- It is worth remembering that historically no country has ever developed on the basis of free trade except the United Kingdom, which was the first country to industrialise. The United States, the countries of Europe, Scandinavia, Japan and other successful countries in South East Asia all adopted various means of protection at one time or another. Trade liberalisation can be an ultimate goal, but the speed and manner of liberalisation needs careful consideration on a country by country basis.

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APPENDIX 1

Regional Trade Agreements and Their Members

Arab Common Market (ACM): Egypt, Iraq, Jordan, Libya, Mauritania, Yemen.

Andean Common Market (ANCON): Bolivia, Colombia, Ecuador, Peru, Venezuela.

Association of South East Asian Nations (ASEAN): Indonesia, Malaysia, Philippines, Singapore, Thailand.

Central American Common Market (CACM): El Salvador, Guatemala, Honduras, Nicaragua, Costa Rica.

Caribbean Community and Common Market (CARICOM): Antigua and Barbuda, Barbados, Jamaica, St. Kitts and Nevis, Trinidad and Tobago, Belize, Dominica, Grenada, Montserrat, St. Lucia, St. Vincent and the Grenadines.

Economic Community of the Great Lakes Countries (CEPGL): Burundi, Rwanda, Zaire.

European Union (EU): Belgium, France, Germany, Italy, Luxembourg, Netherlands, United Kingdom, Ireland, Denmark.

Latin American Integration Association / Latin American Free Trade Association (LAIA/LAFTA): Mexico, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela.

Mano River Union (MRU): Guinea, Liberia, Sierra Leone.

Union Douaniere des Etats de l'Afrique Centrale (UDEAC): Cameroon, Central Africa, Chad, Congo, Gabon.

European Free Trade Association (EFTA): Norway, Switzerland, Iceland.

BENELUX: Belgium, Netherlands, Luxembourg.

Indian Ocean Commission (IOC): Comoros, Madagascar, Mauritius, Seychelles.

South Africa Development Community (SADC): Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia, Zimbabwe.

Economic Community of West African States (ECOWAS): Cape Verde, Gambia, Ghana, Guinea-Bissau, Nigeria, Togo.

South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA): Australia, Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Papua New Guinea, Solomon Islands, Tonga, Western Samoa.

Economic Cooperation Organization (Eco): Iran, Pakistan, Turkey.

Gulf Cooperation Council (GCC): Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates.

Source: Vamvakidis (1999).

