

**Working Paper Number 93**  
**The Employment Impact Of Globalisation In Developing Countries**

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*The relationship between globalization and employment is of growing significance to policy makers in developing countries, but is surprisingly difficult to analyse theoretically and empirically. ‘Globalization’ means different things to different analysts and it is so multi-faceted that its effects are difficult to isolate and evaluate. Received trade theory does not provide a clear guide to its employment effects and in its most commonly used version it assumes away many factors that affect employment during globalization. Much finally depends on the ability of each country to cope with the liberalised trade, investment and technology flows that globalization implies. As this ability varies widely across the developing world – and is continuing to diverge between countries – it appears that no generalisation about the globalization-employment relationship is possible.*

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## INTRODUCTION

This paper discusses the analytical framework of the globalisation-employment relationship in developing countries, focusing on the manufacturing sector. This relationship is surprisingly difficult to define and measure (Ghose, 2001), for many reasons. Globalisation is a multi-faceted phenomenon, and each facet may have different effects on employment, varying by country, time, industry, policies and the like.<sup>2</sup> It comes as a part of large array of economic, technical, social, legal and policy changes, each with interactions and feedbacks, making it difficult to separate the effects of globalisation. Different analysts tend to focus on different aspects of globalisation, thus often talking at cross purposes. Even when an unambiguous definition is used – say, globalisation taken only as increased trade flows – received theory is unable to provide a clear guide on its employment effects.

This suggests that a generalisable relationship between globalisation and employment in developing countries as a whole *may not exist*. The relationship is, rather, context specific, dynamic and changeable, reflecting *particular interactions in each economy* between the external facets of globalisation (e.g. shrinking economic distance, greater trade or the spread of international production) that apply to the economy and internal factors that affect its employment response. In analytical terms, there are three sets of factors at work in the globalisation-employment relationship, each with a differing theoretical and empirical tradition:

1. The *static reallocation* of employed labour in response to globalisation.
2. The *dynamic growth effects* of closer integration of economies with the globalised system, depending on the ability of each economy to provide the capabilities needed to grow in a closer knit, technology driven and highly competitive international economy.
3. The *mode of insertion* of the economy into the global system (e.g. by greater primary exports, subcontracting of low-technology activities, local firms entering global value chains or attraction of high technology processes or functions).

Much of the existing literature on globalisation and employment falls into the first category, in the tradition of received comparative advantage theory and defining globalisation as a rise in trade. This is a very useful approach, and allows for rigorous econometric testing of the causal link between enhanced trade and employment. However, it *is* essentially static, and ignores dynamic interactions between globalisation and domestic capabilities, growth and competitiveness. Clearly, such effects are likely to be very important, even dominant, in determining the employment effects of globalisation over time. However, they are difficult to model and quantify and this branch of analysis remains largely intuitive. Finally, the analysis of the mode of insertion is a relatively new topic, but it is of growing significance as it becomes apparent that different modes have increasingly differentiated growth and employment effects on developing countries.

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<sup>2</sup> Globalisation in the general sense of closer integration of national markets is not new (O'Rourke and Williamson, 2000). Many economists date its efflorescence to the period following the great 'voyages of discovery' in 1492, which led to "a transfer of technology, plants, animals and diseases on an enormous scale, never seen before and probably since" (Lindert and Williamson, 2001, p. 2). This epoch of globalisation was prolonged (trade boomed until about 1820) but it faced 'anti-global' forces like policy barriers to trade, monopolies, wars and insecurity. As a result of these, commodity prices remain highly dispersed between exporting and importing nations. The next epoch, 1820-1913, was more 'pro-global', with price dispersions falling, indicating better integration of economies. In this era, the industrial revolution transformed transport and communication technologies and colonialism imposed liberal rules of trade and investment. International migration boomed, foreign capital spread and trade barriers fell. The third epoch, the inter-war period (1913-1950), was 'anti-global': trade was restricted, overseas investments and technology flows fell and the price gaps between Atlantic trading partners doubled (*ibid.*). The current episode of globalisation is again strongly 'pro-global', with increasingly liberal trade and investment policies and strong international capital flows. However, it differs from earlier episodes (Bordo, Eichengreen and Irwin, 1999). Its main facilitator is rapid innovation in information and communications technologies and its main driver the spread of tightly knit global value chains, often under the direct control of transnational corporations. Labour migration, while growing, is less important than earlier. Transport costs are at historic lows. Liberalisation is more voluntary than imposed (though there are intense external pressures on developing countries). As a result, 'economic space' has shrunk to unprecedented levels, with global markets for products, finance, information, technology and services more closely knit than ever before and with productive activities increasingly integrated across countries under common governance.

## DEFINITIONS AND MEASURES

To most economists ‘globalisation’ means the closer integration of economies *via* trade and factor flows. But this permits many interpretations of how this can be measured. To some, globalisation is indicated by relative commodity prices between trading nations; O’Rourke and Williamson (2000) call the convergence of relative prices the ‘central manifestation of globalisation’. But some measure globalisation by growth trade and factor (but capital rather than labour) flows, while others see it primarily as the policy process – economic liberalisation – that facilitates closer economic relations. Some have narrower definitions: the organisation and governance of global production systems (or value chains). In his new book on globalisation, Stiglitz (2002) addresses the international “institutions of globalisation”, the IMF, the World Bank and the WTO. Economic geographers mean by globalisation the shifts in the location of economic activity subsequent upon shrinking economic distance.<sup>3</sup> Outside economics, there is an even greater variety of definitions of globalisation; in popular critiques it is taken to be synonymous with capitalism, big business and multinational corporations. Some important indicators of globalisation, then, are as follows:

- *Outcomes*: The preferred outcome indicator of globalisation for economic historians is the convergence of product prices between exporting and importing countries, a good indirect measure of economic distance (transport and transaction costs in and policy barriers to trade) between economies. Globalisation is also manifested in rising flows of products, intermediate inputs, equipment, services, finance (loans, FDI and portfolio investment), information, technology and skills. The most commonly used measure relates to these, in particular to trade and capital. However, care has to be taken in interpreting outcome measures when the measures reflect other factors than globalisation and when the closer integration of economies does not result in greater trade or other flows. The latter point is particularly apt today as a number of developing countries opening themselves to global markets are not enjoying concomitant increases in exports or FDI.
- *Transport and communication costs*: Falling transport, information transmission and communication costs can be measured directly, and many analysts use them in discussions of globalisation.
- *Policy liberalisation*: Policies to facilitate freer trade, direct investment, borrowing and portfolio investment, privatization and so on are sometimes used to measure globalisation. The most common measures are that of ‘openness’ (most often trade/GDP ratios) or trade liberalisation (nominal tariffs, relative exchange rates, black market premia on exchange rates or qualitative indices of liberalisation<sup>4</sup>). Openness and liberalisation measures are, however, hard to calculate: indicators of openness may be arbitrary, nominal tariffs may not capture the true incidence of barriers and other measures may be misleading.<sup>5</sup> In any case, it is not clear that they measure ‘true’ national participation in globalisation: a country may be participating more effectively in the globalised economy while retaining trade and other restrictions than by having completely liberal policies. In other words, given infant industry considerations and widespread information and coordination failures, it may be the case that countries can link to and leverage export markets and FDI more effectively by using selective interventions (Stiglitz, 2002, Lall, 2001).<sup>6</sup> Surely Korea

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<sup>3</sup> Thus, Crafts and Venables (2001, p. 2) “Globalisation is about the changing costs of economic interaction across distance and the effects of these changes on the geographical distribution of economic activity. Technical change has been driving the costs of interactions steadily downward for many centuries, though policy interventions have sometimes raised them. Changes in the economic geography of the world economy have been more complex. There have been periods when activity has become more unevenly distributed across space, and periods when these spatial differences have narrowed as activity has spread out of established centres into other regions and countries. The mechanisms driving these changes were, amongst other things, easier movement of people, capital and goods – globalisation”.

<sup>4</sup> For a brief discussion see Greenaway *et al.* (2002) and Sachs and Warner (1995).

<sup>5</sup> For critiques see, for instance, Birdsall and Hamoudi (2002) and Rodriguez and Rodrik (1999).

<sup>6</sup> As Rodrik (2001) notes, the most successful globalizing countries today are those that retain many forms of policy intervention. Over recent industrial history, the most dynamic and competitive countries have been those that used industrial policy massively. For a fascinating study of how East Asian countries leveraged foreign technology, enterprises and markets to build their semiconductor industries, see Mathews and Cho (1999).

and Taiwan in the heyday of their industrial policy were more 'globalised' than many African countries today that 'adjusted' according to IMF strictures? Thus, no unequivocal indicator of globalisation follows from policy analysis.

- *Forms of globalisation*: Some analysts take particular forms of globalised production as its manifestation. An important one is integrated production systems where an activity is 'fragmented' and processes or functions located in different countries, measured by the flow of parts and components for further processing.<sup>7</sup>
- *Actors in globalisation*: Some people equate globalisation with the spread of TNCs and the growing dominance of large firms in global value chains. If this definition is accepted, the share of TNCs in various forms of economic activity becomes a good measure of globalisation. However, this is clearly a rather restricted measure, excluding many other dimensions of the phenomenon that do not involve direct equity participation. In fact, it even underestimates the importance of TNCs in economic life, since they rely increasingly on external suppliers and subcontractors.

In sum, while most people seem to agree what globalisation is in general, there are no precise or optimal measures of globalisation. Given the inherent fuzziness of the concept, moreover, it is unlikely that a perfect measure will emerge.<sup>8</sup> This makes it very difficult to measure *the* impact of globalisation on anything. However, this does not make the analysis redundant. Quite the contrary: the fact that globalisation has so many aspects that 'hang together' makes it all the more important to discuss its impact, even in an imprecise way. Where measures are required, it would seem best to treat particular (quantifiable) aspects separately, acknowledging that this does not amount to a complete analysis of globalisation.

Let us now consider the relationships between globalisation and employment under the headings of trade theory, dynamic growth effects and mode of insertion into global value chains.

### TRADE THEORY AND GLOBALISATION: COMPARATIVE STATICS

In applying trade theory to globalisation and employment, many analysts take globalisation to be the rise in exports and imports consequent upon trade liberalisation. This narrow definition allows them to test with standard trade theories the impact of greater trade on the labour intensity of production in the static comparative setting that characterises most such theories. The most relevant theory is the canonical Heckscher-Ohlin (H-O) model, which deals with two factors of production (labour and capital) under simplifying assumptions of perfectly competitive markets and identical production functions with freely available technologies across countries. In this model, a rise in trade raises the demand for labour-intensive products in poor, labour-surplus countries: this is commonly taken to mean that H-O predicts employment growth in developing countries, but in strict theory this is not true. Since in H-O all markets clear with macroeconomic equilibrium and full employment throughout, a rise in trade can only cause an inter-sectoral shift towards labour-intensive activities (and so higher wages), not greater employment.<sup>9</sup>

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<sup>7</sup> See Yeats (2001), whose paper appears in a book named 'Fragmentation' (Arndt and Kierzkowski, 2001).

<sup>8</sup> A judicious *combination of outcome measures* (flows of goods, intermediates, FDI and so on) may be the best measure for empirical purposes. For instance, trade/GDP ratios (or manufactured trade/GDP ratios) may be used jointly with FDI, foreign licensing, trade in components, telecom or Internet usage to gain a better picture of participation in the global economy. It would seem better to exclude policy-based measures altogether and to discuss policy needs to benefit from globalisation separately.

<sup>9</sup> Fitzgerald and Perosino (1995) note that the H-O model "unambiguously predicts the direction of change of aggregate and sectoral employment and factors prices: output increases in the exportables sector and decreases in the importables sector as instantaneous adjustment takes place along the PPF [production possibilities frontier]. As the exportables sector is more labour intensive than importables, the change in the composition of employment increases the aggregate demand for labour and reduces that for capital. Consequently, the equilibrium real wage rises and capital rental falls. Aggregate employment does not increase because labour supply is rigid, but the increase in wages encourages producers to adopt more capital intensive techniques in both sectors." (p. 4).

However, many analysts interpret the H-O model more realistically to include labour market rigidities and unemployment (Ghose, 2000). In this case, an increase in manufactured trade between developing (labour surplus) and developed (labour scarce) countries *is likely to result in an increase in employment in the former*. To the extent that globalisation implies greater trade (in this case working only through trade liberalisation), the prediction is clear for manufactures. Note that the prediction may not apply to trade in primary products, which are often capital intensive. Nor does it apply to South-South trade, where the outcome depends on relative factor endowments in trading partners (i.e. some developing countries are more capital endowed than others). It is a purely comparative static prediction – the time period is irrelevant since adjustment is instantaneous – and it depends solely on the *shift of resources between activities* using given technologies, not on the use of different or new technologies. In the canonical model, there are also no factor movements (i.e. no export-oriented FDI in developing countries) and no second order effects on other sectors.

There is intuitive appeal in the simple H-O prediction. Export activity in developing countries does tend to be labour-intensive; the part led by TNCs is clearly driven by labour cost advantages. A shift of activity to export activity consequent upon liberalisation is thus likely to raise the employment intensity of manufacturing. The experience of export-oriented countries in the developing world supports this. They all launched exports in highly labour-intensive activities, and generated considerable employment as they expanded output. Evidence from country studies in Ghose (2000) suggests that “trade increases the employment elasticity of manufacturing” after liberalisation (this applies to China, India, Indonesia and Malaysia, p. 20-21). There are also second-order effects on employment in import-competing industries: by relieving the foreign exchange constraint or by attracting greater FDI, export growth raises employment in these industries and, more important, raises the growth rate of the economy as a whole. This is in line with the general finding that export-oriented economies grow faster than inward-oriented economies and that economies shifting from the latter to the former strategies enjoy increases in exports and growth. This export-growth relationship literature is well known and we return to it below.

Even accepting this, however, there are reasons to question the predictions of trade theory. The canonical H-O model is based on endowments of two factors located within perfect markets. It ignores many imperfections that in real life determine industrial efficiency and competitiveness: technological leads and lags, scale and agglomeration economies, product differentiation, taste differences and the like. Once a large number of productive factors, including those based on enterprise-level effort, are introduced, it becomes difficult to define ‘endowments’ at the national level.<sup>10</sup> Thus, it becomes difficult, if not impossible, and to predict the impact of trade liberalisation on employment in manufacturing as a whole.<sup>11</sup>

New trade theory, as best exemplified by Grossman and Helpman (1990), takes technological differences, scale economies and externalities into account. While it uses more realistic assumptions than H-O, it does not produce unambiguous predictions for employment. To a large extent, the specific pattern of comparative advantage is indeterminate and opening up to trade does not show how factor use will change.<sup>12</sup> Once scale, agglomeration, externalities and the like are introduced into the

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<sup>10</sup> As Fitzgerald and Perosino (1995) note, once skills, quality, product differentiation are introduced, the employment consequences of liberalisation become very confused. Companies that can only compete by raising skill levels, introducing branded products or raising quality may not raise overall employment but only that of highly skilled workers. Total employment may fall as employment of specific classes of (competitiveness enhancing) workers rises.

<sup>11</sup> The H-O model also assumes instantaneous and frictionless adjustment. Once structural lags are introduced, there arises the issue of period of adjustment. Once a broad range of market failures is admitted it is no longer clear if adjustment will ever be complete, or, indeed, what the equilibrium is that the economy is moving towards. See Stiglitz (1996) for a discussion from the perspective of information economics.

<sup>12</sup> To quote Fitzgerald and Perosino (1995), “There are four main positive effects [under new trade theory]: (a) trade expands the output market of exporting industries and allows them to exploit economies of scale in production and knowledge accumulation; (b) trade fosters technological spill-over as it provides access (at a cost) to the world stock of knowledge; (c) foreign competition reduces the duplication of R&D efforts and makes them more effective; and (d) the contraction of import-competing sectors can release skilled workers for exports. However, there are also negative effects. Liberalisation increases foreign competition and imitation, which can outweigh the enlargement of output market and reduce the return on investments in R&D. Latecomers are forced to relocate to stagnating industries, and unskilled-labour countries

trade model, there arises the possibility of *multiple equilibria*.<sup>13</sup> Thus, markets may clear at a low level or low growth equilibrium where developing countries specialize under free trade in low-technology, slow-growing activities. If, however, they can mount a concerted strategy to develop the skill and technology base necessary, they could arrive at a higher-level equilibrium. In such conditions, the impact of liberalisation on employment depends on which equilibrium is reached, which depends in turn on government policy.

Spiezia (2002) and Vivarelli (2002) demonstrate the indeterminacy of employment outcomes of liberalisation under received trade theory. Spiezia notes that the H-O and technology gap theories of trade give opposing predictions of the impact of increased trade on employment in developing countries. The neoclassical theory predicts rising employment only when physical factor endowments are taken to be the only determinants of comparative advantage. If differences in factor productivity, sectoral productivity and demand patterns are introduced, the outcome is unpredictable. For instance, if the productivity gap between the developing and developed worlds were larger for labour than for capital, the former would end up exporting capital-intensive products and so creating less employment as a result of greater trade. In technology gap theories, with comparative advantage determined by technological leads and lags rather than factor endowments, no prediction emerges at all about the impact of growing trade on employment. Developing countries will export low technology or traditional products, whether these are labour or capital intensive. Their employment creation relative to industrial countries will depend on relative rates of innovation and the relative demand for new and old goods. Statistical tests confirm that the employment impact of greater trade is indeterminate. In nearly half of the countries analysed, the labour intensity of exports is lower than that of non-traded or imported products.

Vivarelli (2002) also notes various qualifications to the received trade models. Factor endowments cannot be compared easily across developing countries when there are countries at an intermediate level with higher labour endowments than mature industrial countries but lower than poorer countries. The impact of trade liberalisation cannot then be predicted for the developing world as a whole: a more differentiated model is called for. Moreover, a product intensive in low-skilled labour in an advanced economy may be demanding of relatively skilled labour in a developing one. This amounts to an effective factor-intensity reversal that makes generalisations on the employment impact impossible. If Wood's (1994) model of H-O is adopted, with capital being mobile and skilled labour along with natural resources being the immobile local endowments, trade liberalisation has unpredictable effects on employment. Vivarelli also notes that H-O assumes each country to be on the same production function, with the same access to knowledge and without scale economies; if this assumption is dropped, and technologies allowed to differ in skill-intensities, the skill-biased nature of technical change would lead new technologies (introduced by trade and FDI liberalisation) to reduce the demand for unskilled labour in poor countries.

Trade theory does not, therefore, permit any clear conclusions about employment once the strict and unrealistic H-O model is dropped. This is just what this chapter argues; however, note again that all such analysis is comparative static and does not take dynamic effects into account. Its testing uses a narrow definition of globalisation: increased trade. However, whether or not a country that exposes itself to world markets actually enjoys a sustained increase in trade is itself an issue. The relationship between globalisation and employment in each economy is determined by that economy's capabilities, which depends in turn on national endowments and policies. The next section considers these factors.

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are obliged to specialize in traditional industries with little technological spillover. Thus, liberalisation may not only interrupt the process of accumulation of new knowledge, but also cause the loss of that already accumulated". (p. 16)

<sup>13</sup> See, for instance, Redding (1999) and Stokey (1991).

## GLOBALISATION AND EMPLOYMENT AS MEDIATED BY NATIONAL CAPABILITIES

It is now a truism that export-oriented economies have done better than inward-oriented ones in raising living standards, wages and employment in a sustained manner. However, this says little about whether 'globalisation' has been good for growth and employment in developing countries. The secret of export success in the most dynamic developing economies, 'Tigers' of East Asia, did not lie in passive liberalisation but in building domestic capabilities and leveraging international markets and resources (Mathews and Cho, 1999). Their experience is in sharp contrast to many more countries that liberalised their economies but failed to have comparable growth in exports, incomes or employment. There is, in other words, a vital missing link in the conventional approach to globalisation and employment – *how countries manage the process of integrating into the global economy*. The external forces of globalisation – shrinking economic distance, mobile resources and the like – only provide opportunities for employment generation. Whether a poor country seizes these opportunities or not depends on its ability to mount policies geared to competitiveness; these policies are often at sharp variance with the liberalisation associated with globalisation (i.e. the removal of the government from international trade, investment and technology flows). Given this missing link, it is fruitless to search for a general causal relationship between globalisation and employment.

It is well known now that many successful 'Tiger' economies in Asia did not have liberal trade and FDI policies but used widespread interventions in trade, capital and technology flows to promote competitiveness (Stiglitz, 1996, Lall, 2001). Trade interventions provided a domestic base for building proficiency in export activities and in reaping scale economies; FDI interventions were used to strengthen the local technological base. Export orientation was, however, critical to the success of these interventions. It provided the competitive spur needed to force the development of capabilities in protected industries.

Understanding this dynamic relationship between growth, participation in global markets and policy needs a deviation into the 'technological capability' approach to industrial development. Most trade theories, including new trade theory, assume that technology can be imported and used by developing countries without further effort, cost or uncertainty.<sup>14</sup> In other words, there is no *learning process* involved: if there is learning, it is passive and automatic learning-by-doing. As such it is largely predictable and economically trivial since it does not generate market failures (efficient capital markets can anticipate and finance such learning). This approach contrasts with the evolutionary approach to technology, in which firms do not operate on a neoclassical production function but in a 'fuzzy' world where they have imperfect knowledge of a few technologies and need to expend effort in mastering, adapting and improving upon that technology. The possibility of localised technological progress with imperfect information and missing markets raises completely different considerations. Central to it is the existence of widespread market and institutional failures, the remedying of which is the key to industrial competitiveness (Box 1).

The technological capability literature is based on the evolutionary theories of Nelson and Winter (1992).<sup>15</sup> The literature is highly empirical, building upon the experience of technological learning in enterprises in developing countries. It provides a complex explanation of industrial success involving market failures and efforts to overcome those failures. While its nature means that it is not amenable to conventional modelling based on optimization, it offers a very realistic explanation of different patterns of industrial success and comparative advantage in the developing world.

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### Box 1

#### Ten features of technological learning in developing countries

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<sup>14</sup> There is thus a sharp distinction made between industrial countries that innovate at the frontier and developing ones that use existing technologies. In the former, there are technological leads, externalities and possible market failures in innovation. In the latter, technology effectively vanishes as a determinant of comparative advantage, since no further effort is needed to use technologies efficiently. All the spillover benefits of technology can be reaped by simply opening up to world markets: using imported technologies does not raise any economic issues.

<sup>15</sup> For a simple and clear exposition see UNIDO (2002).

1. Technological learning is a real and significant process. It is vital to industrial development, and is primarily conscious and purposive rather than automatic and passive. Firms using a given technology for similar periods need not be equally proficient: each may be at the point given by the intensity and efficacy of its capability building efforts.
2. Firms do not have full information on technical alternatives. They function with imperfect, variable and rather hazy knowledge of technologies they are using. There is no uniform, predictable learning curve for a given technology: each firm may have a different learning experience, depending on its initial situation and subsequent efforts. Each faces risk, uncertainty and cost. Differences in learning are larger between countries at differing levels of development.
3. Firms may not know how to build up the necessary capabilities — learning itself often has to be learned. In a developing country, knowledge of traditional technologies may not be a good base on which to know how to master modern technologies. For a latecomer to a technology, the fact that others have already undergone the learning process is both a benefit and a cost. It is a benefit in that they can borrow from the others' experience (to the extent this is accessible). It is a cost in that they are relatively inefficient during the process (and so have to bear a loss if they compete on open markets). The cost and risk depend on how new the technology is relative to the entrant's base of knowledge, how developed factor markets are and how fast the technology is changing.
4. Firms cope with these uncertain conditions not by maximising a well-defined function but by developing organisational and managerial 'satisficing' routines (Nelson and Winter, 1982). These are adapted as firms collect new information, learn from experience and imitate other firms. Learning is path dependent and cumulative.
5. The learning process is highly technology specific, since technologies differ in their learning requirements. Some technologies are more embodied in equipment while others have greater tacit elements. Process technologies (like chemicals) are more embodied than engineering technologies (machinery or automobiles), and demand different (often less) effort. Capabilities built up in one activity are not easily transferable to another. Different technologies involve different breadth of skills and knowledge, some needing a narrow range of specialization and others a wide range.
6. Different technologies have different degrees of dependence on outside sources of knowledge or information, such as other firms, consultants, capital goods suppliers or technology institutions.
7. Capability building occurs at all levels — shop-floor, process or product engineering, quality management, maintenance, procurement, inventory control, outbound logistics and relations with other firms and institutions. Innovation in the conventional sense of formal R&D is at one end of the spectrum of technological activity; it does not exhaust it. However, R&D does become important as more complex technologies are used; R&D is needed just for efficient absorption.
8. Technological development can take place to different depths. The attainment of a minimum level of operational capability (know-how) is essential to all activity. This may not lead to the development of deeper capabilities, an understanding of the principles of the technology (know-why): this requires a discrete strategy to invest in deepening. The deeper the levels of technological capabilities aimed at, the higher the cost, risk and duration involved. It is possible for an enterprise to become efficient at the know-how level and stay there, but this is not optimal for its long-term capability development. It will remain dependent on other firms for all major improvements to its technologies, and remain constrained in what it can obtain and use as a competitive tool. The development of know-why allows firms to select better the technologies they need, lower the costs of buying those technologies, realise more value by adding their own knowledge, and to develop autonomous innovative capabilities.
9. Technological learning is rife with externalities and inter-linkages. It is driven by direct interactions are with suppliers of inputs or capital goods, competitors, customers, consultants, and technology suppliers. Others are with firms in unrelated industries, technology institutes, extension services, universities, industry associations and training institutions. Many linkages are informal and based on trust. Where information and skill flows are particularly dense in a set of related activities, clusters of industries emerge, with collective learning for the group as a whole.
10. Technological interactions occur within a country and abroad. Imported technology provides the most important input into technological learning in developing countries. Since technologies change constantly, moreover, access to foreign sources of innovation is vital to continued technological progress. Technology import is not, however, a substitute for indigenous capability development — the efficacy with which imported technologies are used depends on local efforts. Similarly, not all modes of technology import are



equally conducive to indigenous learning. Much depends on how the technology is packaged with complementary factors, whether or not it is available from other sources, how fast it is changing, how developed local capabilities are, and the policies adopted to stimulate transfer and deepening.

Source: Lall (2001).

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The admission of technological capabilities as a determinant of competitive advantage changes the relationship of trade liberalisation with employment. As Lall and Latsch (2001) say,

“In the standard neoclassical formulation it is often assumed that such processes [of building firm-level technological efficiency] are costless and automatic: in the simplest case, firms choose technologies under conditions of perfect information. Under these conditions, there is no need to delve into what goes on within firms, since market prices *by definition* give the correct signals for investments in capital, labour and technology. This formulation is based on the metaphor of an economy as an equilibrium system: Stiglitz correctly points out that such a metaphor ‘provides little insight into the dramatic changes that occur in [developing] societies’ (1996, p.154).

A different conceptualization of firm-level processes yields very different conclusions: in the presence of market failures markets will not, by themselves, give the correct signals to guide the allocation of resources in accordance with a more dynamic view of comparative advantage. This is true, for example, in the case of widespread information imperfections. *In such cases, free trade and import liberalisation may not be the best policy for developing countries undergoing structural change and adjustment.* This is not to deny that increased competition through trade may still be beneficial in highly protected and technologically backward economies; the point is that free markets will not by themselves result in a more desirable outcome. The design of liberalisation has to take account of the extent and type of market failure. In the simplest neoclassical models, market failures are narrowly circumscribed and it is possible to correct them with a minimum of intervention. However, recent advances in information economics suggest that under conditions of widespread informational failures (and with realistic assumptions regarding the distribution, acquisition, and processing of information), free market outcomes may not even be *constrained* Pareto-efficient. It can be shown that there *generally* exists a set of Pareto-improving government interventions, *even if the government faces the same informational constraints as private agents.* Information economics stresses the *ubiquity* of market failure, and the *pervasiveness* of imperfect information.” (P. 59)

The learning stressed by the technological capability approach applies to existing activities as well as to new ones. Where some learning has taken place but has been distorted by past interventions policies should promote ‘re-learning’ competitive capabilities. This, again, cannot be a costless, automatic and instantaneous process but involves time, investment, risk and effort. Simply exposing industries to import competition will benefit only those that have already undergone their learning and are competitive, or are so near the frontier. It will wipe out others, forcing them into cost cutting strategies that do not raise their technological levels and do not give a lasting competitive advantage, or force them into less exposed activities (say, with a local natural resource base).

Thus, the impact of import liberalisation on industrial performance and employment depends on two sets of factors: the *speed and spread of liberalisation*, and the *level of development of technological capabilities at the time of liberalisation*. This is shown in a simplified form in Table 1. While there are many forms of liberalisation, depending on the economic situation, bargaining strength and political perspectives of the countries concerned, for present purposes we may classify them simply into two types. The first may be termed ‘neoclassical’: a rapid and sweeping opening up to market forces, with no underlying strategy and no attempt to coordinate the pace and spread of liberalisation with learning or re-learning processes and factor market improvements. The second may be termed ‘controlled’ liberalisation, with a slow and deliberate opening up, differentiated between activities, and with the government implementing a strategy of industrial upgrading and retaining powers of resource allocation.

Table 1: Industrial Response with Different Capabilities and Nature of Liberalisation		
Nature of Liberalisation	Levels of Technological Development	
	HIGH	LOW
'Neoclassical': Rapid and sweeping exposure of protected activities to import competition, no government role in industrial investment allocation	Decline in I-S industries except for those that have matured technologically or have resource advantages. Inflow of new technologies and improved quality but low technological dynamism (mainly in areas with low learning costs), slow growth of high-tech activities and exports [Examples: Chile and Brazil]	Decline in most I-S industries, except in natural resource based activities and those not exposed to direct import competition. Low rates of industrial and manufactured export growth and diversification; weak inflows of new technologies. Reversal to resource based comparative advantage. [Examples: Ghana and Tanzania]
'Controlled': Increased export orientation with significant government intervention in resource allocation combined with gradual opening to import competition	Growth of most industrial sectors with rising employment and exports, continued entry into more complex and heavy activities and growth of high-tech exports. Infant industry targeting continues with liberalisation though with more indirect tools and guidance rather than direct 'command'. [Examples: Korea and Taiwan]	Growth of labour intensive and resource based activities, with some entry into more complex activities that become competitive in world markets. Technological development focused in activities with strong government support. [Example: Indonesia and Mexico]

Similarly, levels of technological development between countries can be classified into two groups: 'high' and 'low'. In the nature of phenomenon, technological capability is difficult to measure. Nevertheless, it is intuitively plausible to think of industrial sectors as being technologically strong or weak in terms of the complexities of technologies in use, their mastery of those technologies and their ability to adapt and improve upon technologies and generate new technologies.

In sum, once it is accepted that technology has tacit elements that can only be mastered by prolonged, expensive, uncertain processes involving externalities and market failures, the neoclassical link between liberalisation and growth (and so employment) becomes conditional. There are certainly conditions in which it will obtain, where the requisite capabilities exist or can be developed in a short, foreseeable period with support from factor markets and institutions: fairly industrialized developing countries with active governments and developed supplier and institutional bases. There are other countries in which the result may well be the opposite, with closure of existing industrial capacity in the face of competition and little dynamism in export activities. The experience of East Asia illustrates the first outcome, that of Sub-Saharan Africa the second.

This approach does not conflict with the empirical findings of Ghose (2000), it just casts a different light on the factors involved. *In the end, the impact of trade liberalisation on employment remains conditional.* Simple two factor models cannot explain the recent experience of developing countries in terms of industrial or export growth. While a part of the experience does seem to conform to standard predictions based on factor endowments, the underlying theory is deficient. The H-O model neglects such factors as learning, increasing returns, externalities, linkages and cumulative effects. These factors clearly affect comparative advantage, in two ways. First, where scale and agglomeration economies exist, countries can, *ceteris paribus*, establish competitive leads by being first movers and cumulatively increasing their lead over time. Second, where there are unpredictable, prolonged, costly and inter-linked learning processes, with diffuse externalities and failures in information markets, countries can improve their advantages by interventions to promote entry, overcome learning costs and co-ordinate inter-related activities. Moreover, if learning costs and risks rise with technological complexity, further interventions are needed to promote deepening. In these cases, improving skills is a necessary but not sufficient condition for changing location advantages: there are *other* immobile complementary factors. Developing these generally involves market failures, so that comparative advantage depends on how failures are remedied. As noted, this 'missing link' between globalisation and employment creation is central to the analysis.

It is important for the present discussion to understand the particular features of current globalisation. The list below notes those that are likely to affect employment in developing countries.

- The shrinking of economic distance<sup>16</sup> affects the context for industrial development. In particular, the ‘natural protection’ that countries enjoyed in the past<sup>17</sup> is sharply reduced: international competition now appears far more quickly and intensely. Together with trade liberalisation, this forces industries to reach competitive ‘best practice’ frontiers very rapidly. At the same time, it opens up new opportunities. With well-known exceptions like agriculture, markets in developed countries are more open than before and developing country exporters can reach these markets more efficiently. It also allows developing countries to import foreign products, services and technologies more readily and cheaply and consumers to collect information at very low cost. There are mixed implications for employment: larger exports can promote it where countries have the wherewithal to compete in export markets, while intensified competition in domestic markets can lower it unless local enterprises build competitive capabilities quickly.
- The rapidity of technical change means that enterprises in all countries, regardless of the level of development, have to use new technologies to be competitive (new ‘technologies’ include not just products and processes but also new methods of organising firms, managing inter-firm relations and supply chains, linking to innovation and so on). Obsolete technologies tend to become uneconomic at all factor prices. Analysts like Freeman and Perez (1988) talk of a new ‘revolution’ in technology, so widespread and dramatic are its effects. The ability to generate employment depends on the ability of countries to promptly access and efficiently use new technologies.
- Every country has to engage in constant technological effort. Industrial leaders clearly have to invest in innovation, but followers (developing countries) also have to undertake technology generation, not to innovate but to absorb and adapt new technologies (Lall, 2001). Recent years have seen an unprecedented burst of research and development spending.<sup>18</sup> The pace, complexity and skill needs of technological effort force firms to specialize more narrowly and to share the risks and costs of innovation with other firms, opening up new avenues for spreading activity within globalised systems.
- Technical change affects all activities, but it benefits some more than others. Thus, innovation-based manufacturing is gaining at the expense of others in both production and trade in almost all countries. Data from the US National Science Foundation (NSF 1999) show this clearly; note that the 68 countries in the sample account for over 95 per cent of global industrial activity (Table 2).

**Table 2: Annual growth rates of manufactures: high technology and total, 1985–1997 (percent)**

	All Production	All Exports	High-Tech Production	High-Tech Exports
68 countries	7.30	5.90	10.80	12.70
China	11.70	20.50	14.90	30.20
Korea	10.20	10.60	15.40	18.70
Singapore	8.00	15.00	13.10	21.70
Taiwan	4.70	12.00	11.60	18.90
Hong Kong	-0.20	13.50	3.50	18.10
United States	2.90	8.80	4.70	10.10
Germany	2.20	4.10	3.80	5.80
UK	1.70	6.30	3.30	8.00
Japan	1.70	2.40	5.20	4.40
France	1.20	5.80	3.60	10.80

Source: NSF (1999).

<sup>16</sup> For instance, the cost of 1 megahertz of processing power has fallen from \$7.6 thousand in 1970 to 17 cents by 1999, a decline of 99.9 per cent or 35 per cent per year over 30 years. The cost of sending 1 trillion bits has fallen from \$150 thousand to 12 cents. The entire contents of the US Library of Congress can now be transmitted across America for \$40; soon it may be storable on one computer chip. In 1930 the cost of a minute’s telephone call from New York to London was \$300 at today’s prices; today it is a few cents.

<sup>17</sup> Natural protection was historically enhanced by widespread protection of infant industries by the presently industrialized countries. See Chang (2002).

<sup>18</sup> Thus, per capita spending on enterprise-financed R&D in the industrial world rose from \$122 in 1985 to \$402 in 1998. In the developing world, it rose from \$0.6 to \$4.6. UNIDO (2002)

- Patterns of *global trade* are changing in response not only to innovation but also to the *relocation of activities, processes and functions* from high to low cost regions. Trade in some products (like pharmaceuticals) grows rapidly mainly because of innovation, with little relocation to take advantage of low wages. Some (like apparel) are driven primarily by relocation; technical progress is slow and the income elasticity of demand is low. Some (like electronics) benefit from both innovation and relocation – they have low-technology assembly processes that can be placed in poor countries. Table 3 shows 1985 and 2000 values of world exports by technology, distinguishing between resource-based, low, medium and high technologies. Primary products grew the slowest, nearly halving their share of total exports. Resource-based manufactures followed. Low and medium-technology manufactures grew at more or less the same rate, both slightly raising their shares (a more detailed calculation, not reported here, shows that MT products grew faster than LT after 1995). The fastest-growing group was high-technology products. Industrial specialization is thus relevant to generating exports and employment, since the relocation of export-oriented activities to poorer countries is a major driver of employment.

**Table 3: Values and structure of world exports, 1985-2000 (\$ million and %)**

Products	1985	2000	Annual growth rate	Distribution 1985	Distribution 2000
All sectors	1,703,582,494	5,534,008,649	8.17%	100%	100%
Primary Products	394,190,554	684,751,141	3.75%	23.1%	12.4%
Manufactures	1,252,573,675	4,620,266,770	9.09%	73.5%	83.5%
Resource based	330,863,869	863,503,545	6.60%	19.4%	15.6%
Low Technology	241,796,065	862,998,972	8.85%	14.2%	15.6%
Medium Technology	485,784,011	1,639,871,870	8.45%	28.5%	29.6%
High Technology	198,029,682	1,269,587,194	13.19%	11.6%	22.9%
(of which, ICT)	90,151,843	773,119,244	15.40%	5.3%	14.0%

Source: Calculations by UNCTAD based on UN Comtrade database, using classification developed by Lall (2001).

- Productive resources – goods, inputs, capital, technology and high-level skills – move around the world more easily and rapidly. A great deal of mobility does not involve ownership, but in general it does: thus, the role of transnational companies (TNCs) with affiliates under their direct control is growing. According to UNCTAD (2002.b), TNCs now account for around two-thirds of world trade. New organisational techniques and ICTs allow TNCs to spread their activities efficiently across greater distances. Their growth is accompanied by growing internalisation of the most valuable technologies, so that entering these activities necessarily involves TNC entry. Employment generation in such activities thus needs strategies to target and attract FDI. At the same time, competitive pressures are forcing TNCs to specialise more narrowly and hive off non-core activities to other firms. This yields some unexpected results.<sup>19</sup> It also opens up new growth opportunities for firms with the capabilities to meet the needs of technology-intensive TNCs.
- However, FDI in the developing world remains highly concentrated, and is growing more so over time (UNIDO, 2002). The share of the leading five and ten recipients of FDI has grown in the developing world, while declining in the world as a whole (Figure 1).

#### FIGURE 1

- International value chains are more tightly knit than before, both within firms (by TNCs<sup>20</sup>) and externally (by contractual or informal relationships<sup>21</sup>). As noted, functions and processes are being

<sup>19</sup> An example is the growing use of ‘contract manufacturers’ by leading electronics firms: many are moving to only innovation and marketing, leaving production, procurement and logistics to unrelated firms (Sturgeon, 1997, UNCTAD, 2002.b).

<sup>20</sup> Thus, some 30-40 percent of the trade handled by TNCs is actually within the firm (between different affiliated companies) and is not transacted on open markets.

subdivided and located across the globe to take advantage of fine differences in costs, logistics, markets and innovation.<sup>22</sup> The process is cumulative, with first movers building up leads based on learning and agglomeration economies. This ‘fragmentation’ (Arndt and Kierzkowski, 2001, for a trade-theoretical analysis) is causing large changes in the distribution of production and comparative advantage (Dicken, 1998, calls it ‘global shift’).

- Developing countries as a whole are doing well in trade. Their manufactured exports are growing faster than those of developed countries, which is to be expected since they started from a lower base. However, the patterns of their growth are interesting and unexpected. They grow more slowly than developed countries in primary products and resource-based manufactures (Figure 2), presumably because of the faster application of new technology or trade barriers in the industrial world. Within other manufactured products, their relative lead over industrial countries *rises with technology levels*. This is counterintuitive: theory would lead us to expect that developing countries would grow fastest relative to developed countries in low technology, less in medium technology, and least in high technology, products. The data show the reverse. Moreover, it is not just rates of growth that show this trend (due, say, to the small initial base of high-tech products); the values involved in technology intensive exports are also very large.<sup>23</sup>

FIGURE 2

- However, only a few countries have become significant players in global supply chains, even in low technology activities (and here one of the main drivers of relocation to low wage countries, the Multi-Fibre Arrangement, is about to expire). As UNCTAD (2002.b) and UNIDO (2002) note, large numbers of low wage countries are effectively marginalized. East Asia dominates the manufactured scene in the developing world; at the other end, Sub-Saharan Africa is virtually absent in sophisticated manufactured exports (Figure 3).

FIGURE 3

- The determinants of competitive advantage are changing. Though some productive resources are more mobile than before, they do not spread evenly; they need strong complementary immobile resources to make them productive and, in a liberal world, competitive. The immobile resources that poor countries have to offer involve more than primary resources or cheap unskilled labour. They include new skills, technological competence, competitive supplier clusters, strong support institutions, good infrastructure and well-honed administrative capabilities. Attracting mobile resources in competition with other countries needs sophisticated strategies of FDI promotion, targeting and leveraging. *The countries best able to develop local assets and strategies are the best placed to generate employment under the competitive conditions of globalisation.*
- Competitive capabilities are unevenly distributed in the developing world, and are growing more so over time. UNIDO (2002) shows that such ‘drivers’ of industrial performance like skills, technological effort, FDI and technology licensing are diverging increasingly. East Asia is pulling rapidly ahead of other regions, and Africa is falling further behind. The closer integration of markets and liberalisation of policies does not reverse this divergence; in fact, it can make it worse by exposing economies to world markets before they are ready to cope, by constraining policies needed to build capabilities and shrinking government budgets. Figure 4 shows UNIDO

<sup>21</sup> There is a tendency for lead firms to rely on a smaller number of ‘first tier’ suppliers, which in turn deal with and coordinate second and third tier suppliers. The first tier suppliers are major TNCs in their own right.

<sup>22</sup> In some low technology activities like apparel, lead coordinators are international buyers rather than TNCs. The role of direct ownership (FDI) in coordinating and managing globalised activities depends on the nature and pace of change of the technology and the availability of specialised suppliers; it is also changing rapidly over time as systems become more open. See UNCTAD (2000.b).

<sup>23</sup> High-technology exports are now the largest single component of developing country manufactured exports. In 2000, at \$445 billion, they were \$60 billion larger than developing country primary exports, \$210 billion larger than resource-based manufactured exports, \$39 billion larger than low technology exports and \$140 billion larger than medium technology exports.

data on the regional distribution of ‘competitive industrial performance’<sup>24</sup> and its main ‘drivers’ for 1985 and 1998. There is a clear correlation between regional performance and drivers; this relationship also holds at the country level (UNIDO, 2002, p. 71).

FIGURE 4

- Finally, while integrated production systems can be powerful engines of employment creation, it is not clear how far they will extend in the developing world. Existing ones are unlikely to spread much more because of technological features; economies of scale, scope and agglomeration mean that they will concentrate in a few locations that can provide the critical mass of skills, suppliers, services and institutions they need to deploy new technologies efficiently. There is unlikely to be a cascading of production facilities to countries lower down in the ladder: on the contrary, there may be discontinuities in the relocation process. Once established in particular countries, TNCs are likely to ‘stick’ for long periods, at least until wage and congestion costs rise to uneconomic levels or the relevant skills run out.<sup>25</sup> This means that the employment potential of such value chains as electronics and automobiles is likely to remain concentrated.
- At the same time, the globalisation of manufacturing and services is in its infancy and new production systems may arise. In the low technology area, the main activity – clothing and apparel – may carry on spreading to new locations even after the end of the Multi-Fibre Arrangement in 2005. ICT based services will certainly continue to grow in low wage locations. Resource based activities may transfer more value-added activities to raw material suppliers.

This background suggests that there is likely to be enormous variation in the employment effect of globalisation, with the crucial factor being the ability of countries to build strong competitive capabilities and attract investments from abroad. While new technologies allow finer specialization and more relocation, the beneficiaries may remain few in number. However, the dynamics of globalisation and location remain uncertain and changeable, and it is important for all countries to gear themselves as much as possible to its competitive needs.

TNCs generate employment in *three ways*. They employ people in their plants (*direct* employment). They create employment in suppliers and service providers, as well as in other affiliates that are attracted to the country by the original investors (*indirect* employment). And they create employment by adding to incomes that lead to higher consumption, savings, and investment (*tertiary* employment). These positive effects have to be set against the potential *loss of employment* caused by TNCs. Foreign entry may force existing firms out of business or induce local competitors to shed employees. If entry is by acquiring local firms, it may lead to significant redundancies. These effects may also vary over time. The short-term loss of employment may be more than offset by longer-term gains if FDI raises the competitiveness, efficiency and export-orientation of domestic firms, or generates new local suppliers. On the other hand, if FDI adversely affects local enterprise development and holds back technology upgrading, the long-term employment and skill effects may be even worse. Since it is very difficult to specify the counterfactual – what would have happened if the FDI had not taken place – *the final net effects are almost impossible to measure rigorously*. The discussion of such effects of FDI remains largely in the realm of conjecture.

*Direct employment:* Direct employment generation in host economies by FDI depends on several factors. First, employment effects differ by *mode of entry*. The size of employment generated depends on whether investment is in green-field sites, joint ventures, or mergers and acquisitions (M&As). In developed countries, M&As almost invariably lead to labour shedding, either immediately or with a time lag. In developing countries, the net effect is less clear: some M&As

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<sup>24</sup> The UNIDO competitive industrial performance index is an unweighted average for each country of manufacturing value added per capita, manufactured exports per capita, the share of medium and high technology industries in MVA and the same share in manufactured exports. See UNIDO (2002).

<sup>25</sup> This is a danger for countries without strong local industrial capabilities that have benefited from recent TNC relocation, like Malaysia, Thailand and the Philippines. These countries face a strong challenge from China, with lower wages, more low-level skilled labour, a large supply of technical manpower and a developed supplier base. See Lall (2001).

salvage moribund firms and contribute to conserving employment (See Part I for a comprehensive discussion of M&A effects). Others reduce total employment in the host economy by dismissing labour or out-competing local firms. Whether or not employment subsequently rebounds depends on a host of factors, including productivity, multiplier and growth effects. Unfortunately, comprehensive quantitative assessments, tracing employment levels over time for different M&As, are scarce.

Second, employment by TNCs (at least in tradable activities) also depends on the *trade and industrial policies* of the host economy. *Ceteris paribus*, export-oriented regimes with abundant, cheap labour and a conducive environment for FDI can have significant employment generation by TNCs. As the early experience of East Asia shows, simple processing activities for exports – in some countries with substantial local participation – creates large numbers of (initially low wage and low skill) jobs. Whether this employment is sustainable over time is a different matter: this depends on whether TNCs deepen and improve their technologies and skills as wages rise. Import-substituting regimes can stimulate employment generation in the initial stages; however, growth tends to slow over time if high levels of protection are maintained and lead to inefficiencies and technological lags. Similarly, domestic competition policies can affect the creation of employment. In general, competitive settings tend to generate more sustainable growth, place fewer barriers to the entry of new firms (especially SMEs) and encourage greater flexibility.

Since most countries are moving to more liberal trade and industrial regimes, employment effects in tradable activities will, as noted, depend partly on how quickly these activities restructure to face international competition. It will also depend on whether new FDI flows in: while large domestic markets will remain a strong magnet, the growth of employment will depend increasingly on the host economy's competitive capabilities. Thus, economies that can support rapid restructuring and efficient new productive activities will see FDI-driven employment growth in the tradable sector. Others may not. Their employment growth will come from non-tradable service activities like tourism, where FDI can play an important role. A few advanced host economies, like Singapore and Hong Kong China, can move into high technology services like finance or regional headquarters, with TNCs providing vital skills and links to the global economy.

The experience of TNCs in liberalising host countries is mixed. Some liberalising economies have enjoyed sustained employment growth, particularly those that had a strong export sector to start with and could maintain export growth. Many others, especially in Sub-Saharan Africa and in parts of Latin America, are suffering declines in output and formal sector employment (ILO *WER* 1996/97, pp. 157 ff.). TNCs can and do play a positive role in restructuring industrial activities; however, this is mainly in countries where there is a suitable base of domestic capabilities. In other circumstances, the combination of trade liberalisation and globalisation has negative effects on employment and wages.

The third factor is the efficiency of the *labour market* and the quality of labour market *institutions*, such as labour laws and trade unions, in the host economy. Similarly, if gender or ethnicity leads to segregation in employment (labour market segmentation), investments are likely to create less employment or upgrade it less efficiently than where labour markets work well. Many developing host countries suffer a number of information, coordination and other failures, which limit their ability to respond to market needs, furnish new skills or safeguard the interests of employees.

*Indirect and tertiary employment:* Where local linkages are strong, indirect employment created by TNCs can be significantly larger than that created directly. For the manufacturing sector as a whole, indirect employment effects in the formal sector range between 1 and 2 times the number of jobs created directly in affiliates. Depending on the activity and product, supplier capabilities, the extent of outsourcing and size of the affiliate, the multiplier can be much larger. Activities that involve a large number of input suppliers (like food processing) or subcontractors and service firms (engineering and electrical products) tend to generate substantial indirect employment. In the latter category, however, the effect depends on the level of sophistication of the supplier network.

Employment linkages change over time. To start with (and unless compelled otherwise), foreign affiliates prefer to source inputs, intermediates and services from overseas suppliers with whom they have strong linkages. However, all else being equal, firms also prefer to have suppliers nearby. As new FDI flows in and domestic capabilities develop, supplier relationships change. In

advanced technologies, affiliates often induce their traditional suppliers to invest in their proximity; this has been the main reason for a significant increase in local content in Malaysian electronics TNCs. In technologies where local firms have good capabilities (or can be brought to acceptable levels with some assistance), TNCs often develop local supply networks. Where domestic capabilities are weak, however, such linkages are unlikely to appear or grow. Premature liberalisation without investment in skills and capabilities can hold back the development of supplier capabilities, and so constrict the growth for indirect employment.

What may we conclude about TNCs as agents of globalisation and employment? As with trade and liberalisation, there is no clear-cut outcome – *it all depends*. TNCs do have the potential to add to employment, if they bring net additional resources to the host economy and do not have large negative effects on employment by local firms. This potential is particularly large for export-oriented global sourcing operations, which in technology intensive activities involves integrated production systems. Whether or not a particular country gains depends on its attractions as a location for FDI – in a globalising world, that is, on its competitiveness – and the capabilities of local firms. Countries like Malaysia, Thailand, Mexico and China have gained substantial new employment from FDI. A much larger number of others have gained relatively little.

This has not taken into account the generation of employment in service activities by TNCs. This is again a very promising area, particularly in functions that can now be easily relocated by the use of new ICTs. The explosion of software, data entry, back-office services and similar activities in India is one example.<sup>26</sup> A large part is handled by local companies subcontracting to clients overseas, but there is also rapid growth of foreign affiliates, many of which are expanding local design and development activities in India.

In sum, therefore, the FDI aspect of globalisation offers substantial employment benefits to the countries that are able to attract, retain and leverage it. Very few developing countries, unfortunately, fall into this category. And some of those that do face serious challenges as wages rise and cheaper competitors emerge. Again, the critical variable is the ability to provide a competitive setting for TNCs to locate operations, not based just on low wages but on the whole range of capabilities that is now needed for modern industry.

## CONCLUSIONS

Globalisation can offer many employment benefits to developing countries. In the external world these countries face, markets become more accessible, transport costs lower, information easier to get, technology easier to access and capital easier to raise: this promises more exports, faster transfer of technology and greater investment resources. On the domestic front, closer integration with the world economy also promises much. Trade liberalisation, according to received trade theory, promotes labour-intensity in (export and domestic-oriented) activities and so boosts employment. Investment liberalisation leads to larger inflows of technology, information, capital, skills and various services, often in a 'packaged' form that lets them be deployed quickly and efficiently. It may also give access to the internal production systems of TNCs that increasingly span the world and offer massive markets, rapid growth and technological as well as employment benefits. Opening the economy to international service and infrastructure providers can help create jobs, raise productivity and strengthen competitiveness. It is not just foreign firms that benefit: local enterprises can respond to more intense competition and new market opportunities by raising their productivity and collaborating with, learning from and supplying to TNCs.

In general, therefore, globalisation can, by rationalising activity across national boundaries and integrating countries into a more efficient system where mobile resources exploit the specific

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<sup>26</sup> Software and related services have been among India's fastest growing export items, averaging 40 per cent per annum in 1988-2002, and expanding from \$70 million to a projected 7.6 billion in 2001-2002. Industry experts estimate that this industry accounted for 16 per cent of India's total exports in 2000-2001; employed 5 million people; and received \$1.6 billion in investments.



advantages of each location, boost activity and supply the ‘missing elements’ to make local factors or enterprises competitive. In an era of explosive innovation, it also offers a wealth of new, highly productive technologies whose dissemination can raise living standards in developing countries (in non-traded as well as traded activities). There is clear evidence that several developing countries have enjoyed rapid and sustained output, export and employment growth by participating in globalisation (UNIDO, 2002).

Given this immense productive, absorptive, allocative and resource transfer potential of globalisation, it may seem that simply opening economies up to global market forces is a good – perhaps the only – way to promote employment and growth today. This is indeed the position of many analysts and the Washington Consensus is built on just this premise. One strong version of this approach, ‘neoliberalism’, holds that the more rapidly and completely governments withdraw from intervening in markets, the more their economies benefit: markets are always efficient, and globalised markets today are exceptionally so because they carry so much greater potential.

Unfortunately, this conclusion is unwarranted. Doubts can be raised at both the theoretical and empirical levels regarding the employment benefits of globalisation for the ‘typical’ developing country. The theory that predicts a rise in employment from greater openness to trade is based on strong simplifying assumptions that ignore the realities of competitive advantage. Rapid exposure to market forces in a world of falling ‘natural protection’ (i.e. lower transaction costs), may in fact reduce employment and freeze comparative advantage in stagnant or low-return activities. Even where a shift to labour-intensive activities takes place, it may not raise net employment if it destroys local enterprises without stimulating the growth of new, more efficient ones. Over time, the initial stimulus to employment may not be sustainable in an intensely competitive setting unless specific policies are undertaken to build new capabilities. The missing link is national capabilities – and there is no generalisation possible on how globalisation affects these in particular countries.

FDI continues to be highly concentrated. The level of concentration is rising over time in the developing world, and, given path-dependent and cumulative factors may carry on doing so for some time, at least for global sourcing activities. In a globalising world mobile resources focus on a few locations with competitive complementary resources: given strong economies of scale, scope and agglomeration, global production systems tend to become increasingly concentrated. Countries that plug into globalisation efficiently need to intervene extensively to build international links and leverage them successfully (UNIDO, 2002). The success stories in the developing world may thus be the exception rather than the rule; their experience may well reflect other factors – government strategy, location or just good luck – rather than the beneficial effects of global market forces *per se*.

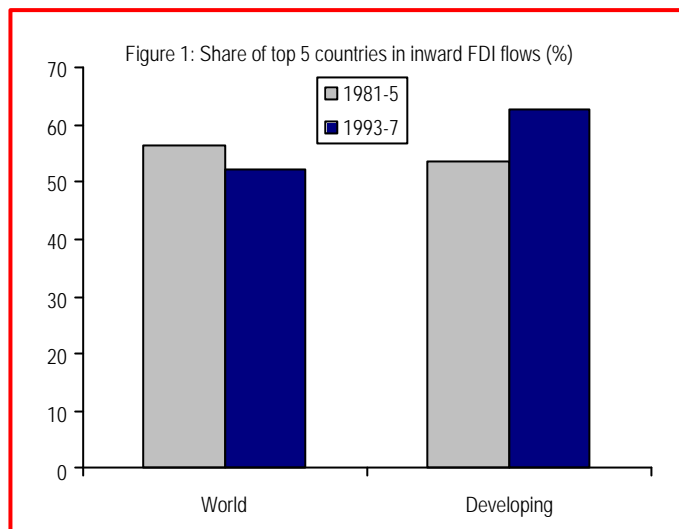
More generally, intense and rapid exposure to market forces can damage economies that suffer from market and institutional failures that affect their competitive response to global competitors and technologies and that they are not able to remedy. What is more, these failures may be cumulative and self-reinforcing rather temporary (an adjustment ‘J-curve’ that comes to an end when policy reform is complete, with the economy moving to higher growth). There may be nothing *inbuilt* in the globalisation process that leads to sustained growth if action is not taken to remedy the failures. There may, on the contrary, be systemic forces that make for continuing divergence between economies; and the policy pressures that accompany globalisation may actually reduce the ability of governments to take remedial action.

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**Figures**



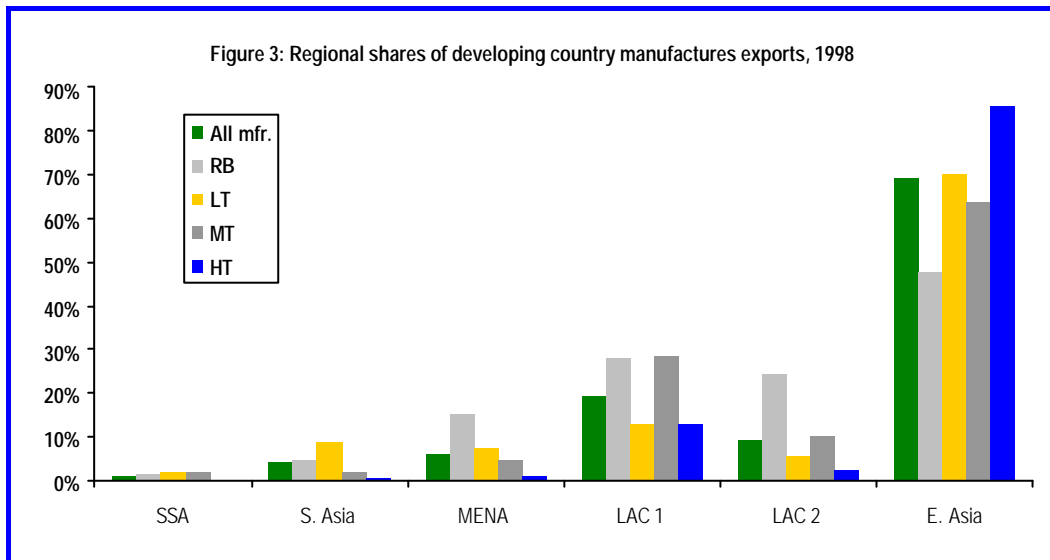
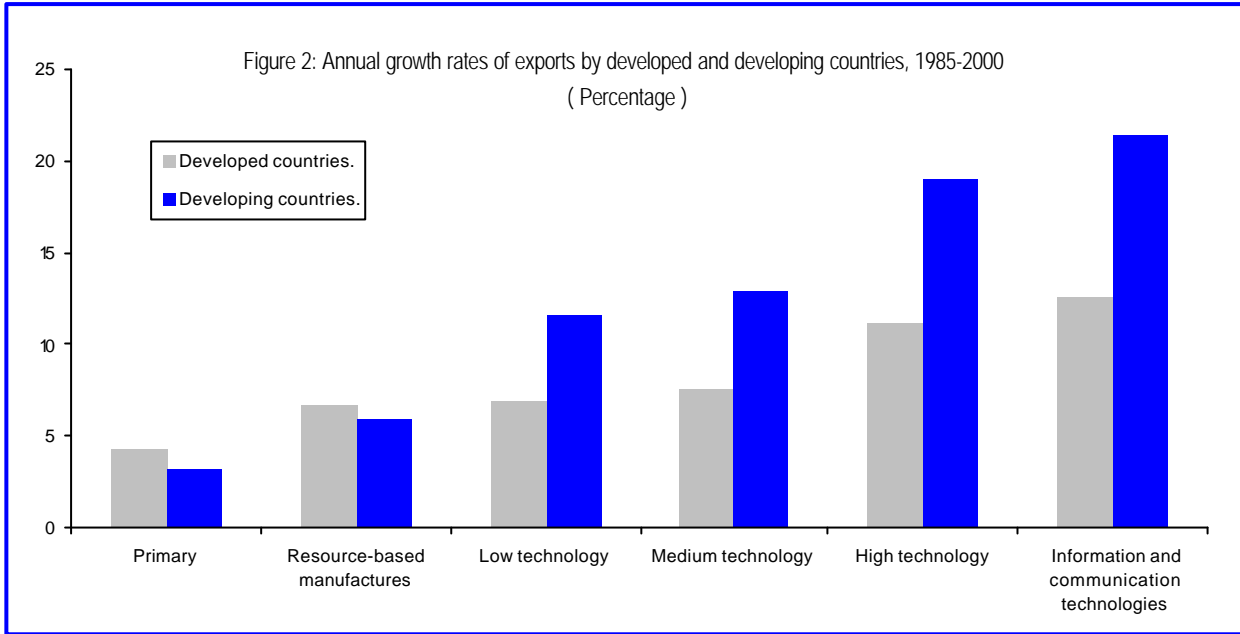


Figure 4: UNIDO Competitive Industrial Performance Index and Drivers

