New Trade Theory Versus Old Trade Policy: A Continuing Enigma

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Introduction

As reported in Prasch (1996), support for free trade amongst academic economists in the United States is astonishingly high at 97%! It has enabled Anne Krueger (1997),[1] Chief Economist at the World Bank during the 1980s and chief promoter of the neo-liberal Washington consensus, to engage in a history of economic thought in which the central question becomes one of explaining why economists should have resisted the charms of free trade for so long given both its virtues in practice and its centrality within standard theory of comparative advantage. Her answer essentially boils down to the idea that otherwise idle theorists have made mischief by deploying models of market imperfections without due regard to the stylised facts. In short, for her, if the stylised (neoclassical) theory does not support the stylised policies, it's time to get real. However, as will be shown in much of the discussion that follows, the recent trade literature has, within the confines of an evolving neoclassical theory of market imperfections, made great attempts to address at least some of the realities of trade. By doing so, from the perspective of neo-liberalism, it has been extremely mischievous, if not troublesome in view of the extent to which its conclusions have been over-ruled by the forward march of support for trade liberalisation.

This paper critically examines the theoretical and empirical grounds for trade liberalisation. We note that many of the conventional arguments relating to the static and dynamic gains from liberalisation are based on fragile theoretical grounds. We also show that although new trade theory takes account of some of the complexities international trade and although the analytical thrust of many models justify intervention, such policy conclusions are rejected even by those at the forefront of these theories on the grounds of political economy arguments which do not stand up to careful scrutiny. Finally, we show that arguments favouring trade liberalisation are not supported by existing empirical research which generally fails to capture the complex and ambiguous effects of liberalisation and openness.

Section 1 examines conventional theoretical arguments relating to trade liberalisation and Section 2 reviews recent developments in new trade theory. Section 3 examines the empirical research relating to liberalisation dealing with both cross-country research and industry and firm-level studies.

1 <u>Conventional Arguments for Trade Liberalisation</u>

The literature on trade liberalisation differentiates between the static and dynamic gains from trade policy reform. Whilst the economic arguments relating to static gains are straightforward it is also generally acknowledged that the magnitude of these gains is fairly low. Static, once-and-for-all gains arise as the misallocation of resources under protection and import substitution is corrected and resources shift from inefficient to efficient sectors, activities and firms. The gains take the form of the well-known Harberger welfare triangles. However, empirical estimates of the welfare costs of these relative-price distortions rarely exceed 2 or 3 percentage points of GDP (Bhagwati 1993; Pursell 1990). The response of mainstream theorists to these negligible welfare gains has been to extend these welfare triangles by emphasising the dynamic, long-term gains from liberalisation. Whilst a range of arguments relating to long-term benefits have been produced, closer scrutiny shows them to hinge on fairly arbitrary assumptions, thus lacking both theoretical consistency and empirical validity.

One way of inflating welfare triangles has been to incorporate rent-seeking, with the focus being on the calculation of welfare losses from government trade interventions, especially the introduction of import quotas. It has been argued that the resource costs of trade interventions are multiplied several-fold by the existence of rent-seeking. Empirical estimates have shown the magnitudes of the costs to be large (de Melo and Robinson 1982; Gallagher 1991; Tarr 1992). As Ocampo and Taylor (1998) note, however, it is difficult to accept these estimates at face value; if quotas cover only a fraction of imports and if imports are only a fraction of GDP, rents and rent-seeking outlays cannot be significant. It is also interesting to note that there has been little empirical research on whether rents have actually declined following liberalisation. This is especially so of institutions such as the research department of the World Bank which has undertaken large multi-country studies to establish the gains from liberalisation. Onis (1991) is a notable exception, showing that Turkish policy moves towards export-orientation gave rise to a new type of rent-seeking directed at obtaining export quotas.

Another argument relating to the dynamic gains from liberalisation centres around X-efficiency and entrepreneurial effort. By reducing competition and increasing relative prices in import-competing sectors, protection encourages entrepreneurial slack. Formal representations of this argument have revealed its fragility (Tybout 1992). It only holds when the entrepreneurial labour

supply curve is upward sloping in the relevant range and when changes in work incentives operate in the same direction for both exporters and import-substituting producers. As we show in Section 3, the empirical evidence relating to trade policy and efficiency also fails to provide conclusive support for this argument.

Increasing returns to scale (IRS) are frequently cited as an important source of dynamic gains from liberalisation. Firms in more open trade can supposedly operate at lower costs due to higher levels of output, available through participating in world markets. This argument, however, is based on the assumption that liberalisation necessarily expands IRS activities. If scale economies are mainly concentrated in protected sectors which decline following trade reform, this type of dynamic gain will not materialise. As Rodrik (1994, p. ??) notes "whether scale effects add or subtract from resource allocation effects depend on a variety of factors with no clear-cut presumption either way". Another variant of this argument is that protection increases profitability and leads to the coexistence of too many firms producing at below minimum efficient scale. Liberalisation, therefore, leads to industry rationalisation and allows firms to benefit from scale effects and produce at lower average costs. Again, this argument is also questionable as it assumes easy and frictionless entry and exit into markets.

Long-term productivity gains are also seen to ensue from the correction of the anti-competition, anti-export bias of protection which will have discouraged cost-cutting technological change. In much of the policy literature on developing countries, the precise mechanism by which trade reform has promoted technological dynamism has never been fully spelt out (e.g. Balassa 1988). Increased levels of competition are taken as sufficient to generate increased innovative activity and productivity gains across all sectors. The fact that relative-price distortions such as tariffs may adversely affect learning and technology development in some sectors but not in others and the possibility that various instruments of trade intervention may have differential consequences for innovative activity, has not always been considered. More importantly, the simplistic notion that high levels of competition unambiguously promote technological change ignores the well established body of research on market structure and innovation, which indicates that this is not necessarily true (Evenson and Westphal 1995). Such assertions about the beneficial effects of trade-related competition on innovation are also found in recent analyses which otherwise claim to question the mainstream approach to trade policy adopted by the World Bank and the International Monetary Fund (IMF), in forming a new 'Post-Washington Consensus` (Stiglitz 1998).

Overall, a general feature of conventional arguments relating to the dynamic effects of trade liberalisation is that they are not located within a coherent theory of industrial performance. In recent years, considerable attention has been focused on technology-related factors in influencing firm and industry-level productivity and the fact that technology development is the outcome of a complex interaction of supply-side and demand-side factors. That these are highly sector- and country-specific (such as technological skills and institutions, scientific and technological paradigms, relative price and demand changes and so on) has been emphasised (Evenson and Westphal 1995). The adaptive and incremental types of below-the-frontier type of technological activity typically undertaken by developing country firms have also been shown to be the outcome of such processes (Bell and Pavitt 1992). In this context, to expect productivity improvement to be largely determined by trade liberalisation and international competition alone is highly simplistic. As we show below, such notions of industrial performance are evident both in recent trade models which incorporate increasing returns, imperfect competition and technology spillovers and empirical analyses of liberalisation.

2 New Trade Theory

New trade theory is now entering its middle-age, having been established in the 1980s (Ethier 1982; Krugman 1984,1986; Brander and Spencer 1985; Eaton and Grossman 1986; Grossman and Horn 1988; and Grossman and Helpman 1991). Overall, these models attempt to address the shortcomings of standard trade theory by dealing with some of the realities of trade in a more complex and sophisticated manner by incorporating a fuller range of factors. However, they provide few unambiguous conclusions.

New trade models incorporate four innovations within neoclassical economics; market imperfections, strategic behaviour and the new industrial economics, new growth theory and political economy arguments. Many of the models based on market imperfections and strategic behaviour justify interventionist trade policy. Whilst much of the literature linking trade and new growth theory favours trade liberalisation (mainly on the grounds of knowledge spillovers), here too the possibility that free trade may be detrimental to economic growth is allowed for. Overall, however, interventionist trade policies are rejected even by those at the forefront of these theories, mainly on the grounds of political economy arguments (such as rent seeking). Below, we examine the fragility of these political economy arguments when we discuss the four innovations linked to new trade theory in detail.

a and b) Market Imperfections and the New Industrial Economics/Strategic Behaviour

First, the increasing returns to scale conventionally used to justify protection has been complemented by a range of other market imperfections. These include informational asymmetries and imperfections which inform so much of recent innovation within mainstream microeconomics which is itself usually seamlessly transformed into understandings of the economy as a whole. Secondly, new trade theory also draws upon the new industrial economics with models incorporating the strategic behaviour of all agents, firms as well as governments. This involves game theory, intertemporal optimisation, and issues of time-consistency especially for government policy (the possibility of changing policy commitments after the private sector has invested of which the latter can be aware).[2] We will address the literature around these two sets of innovations together.

Informational asymmetries and adjustment costs are dealt with in models which consider optimal technology choice over time. Ohyama and Jones (1995) allow for one country deliberately to fall behind another so that, with adjustment costs, leaping ahead in the future becomes less expensive. It becomes possible to explain both falling behind, catch-up and leapfrogging. Leahy and Neary (1996) consider such issues in the context of R&D rivalry, although Durkin (1997) shows that pursuit of comparative advantage in producing technological progress itself can lead to inefficiency (home county may be better at producing innovation in the factor-rich sector of the other country!).

In models involving strategic behaviour, results differ depending upon stylised assumptions. Various assumptions about the sorts of competition and oligopolistic behaviour considered are made. Thus, Bhattacharjea (1995) finds that both strategic industrial policy (on entry/exit) and tariffs are necessary under imperfect competition at home and abroad and endogenous market structure. Fuerst and Kim (1997) and van Long and Soubeyran (1997) take account of heterogeneity in costs functions with trade policy affecting the distribution of production across (more or less efficient) firms within countries as well as across countries. The effect of vertical integration is modelled by Bernhofen (1997), Ziss (1997), Holm (1997), Jie-A-Joen (1997). Pal and White (1998) incorporate considerations of privatisation (the removal of a firm that acts strategically to maximise domestic welfare rather than profit),

Strategic trade models also involve consideration of the policy instruments that governments are allowed to deploy and the sequencing of decision-making. Sleuwagen et al (1998) examine the

issue of cascading protection - to what extent and in what circumstances is protection passed and how are its costs and benefits distributed. Karp and Perloff (1995) find differential effects of protection when policy instruments are targeted at investment as opposed to output (not affecting or affecting long-term outcomes, respectively).

The relevance of these new trade models to developing countries has been debated (Lucas 1988; Bardhan 1995; Ruttan 1998). Whilst some strategic models with oligopolistic players dominating world markets may be of limited relevance to low-income developing countries (Stewart 1991), arguments for intervention based on scale economies and imperfect competition are widespread in developing countries, rendering these theories especially relevant for them (Helleiner 1992). Empirical evidence indicates that imperfect competition is indeed rampant (Lee 1992), although the evidence on scale economies is much more limited.

As is evident, models based on strategic behaviour are highly diverse given the underlying factors and assumptions over which they range. But, what they all tend to share in common is the result that strategic trade policy is justified and, in addition, that it should be complemented by other forms of policy (or take a variety of forms). Such a conclusion should not come as a surprise. For, it is presumably only by accident that free trade will be optimal in the presence of market imperfections and, further, the more the imperfections the more the instruments we need to deal with them. Further, given the diversity of the models, it also follows that interventions will need to be selective and country/sector specific depending upon the type and strength of market imperfections involved.

Of course, the standard neo-liberal response to these models is to claim that government has neither the knowledge nor the ability to be selective in its policy interventions. The supposedly large informational requirements are one reason why the analytical thrust of trade theory in justifying interventionist trade policy has been rejected even by those at the forefront of the theory. Yet, the literature is itself well suited to handle such issues since it has drawn upon the economics of imperfect and asymmetric information. If governments are less well-informed than the private sector (and less able), does it follow they should do nothing? The answer is resoundingly in the negative and should not come as a surprise. For the implication is that we should leave the generals and the military industrial complex to make defence policy since they know more about waging war and the true costs and capabilities of weapons.[3]

Clearly, as in any principal-agent problem, there is a trade-off between (lesser) knowledge and (others') motives. Brainard and Martimort (1997) address the issue directly as suggested by the title of their paper.[4] Their conclusion is striking, p. 56:

> Attainment of the informationally constrained social optimum requires a complicated menu of contracts combining per-unit subsidies and lump-sum transfers.

Even more remarkable is the conclusion reached by Creane (1998) to the effect that policymakers may be better off, and justified in using trade policy, the less information that they have. It is not, however, necessary to engage in trade theory to see why this conclusion arises in the context of imperfect competition. For, consider a monopolist who wishes to exercise product discrimination. To do so, customers (including countries contemplating trade policy) must have the knowledge to discriminate products (as is recognised in practice by advertising irrespective of whether "genuine" differences are created). Without this, monopolists may be forced to rely upon a more Pareto-efficient but less profitable strategy and be unable to exploit product discrimination. Nor is this some esoteric point in the context of development where, both for welfare and growth, economies are better served by supply to a cheap mass market than to a more profitable elite.

b) Links With New Growth Theory

Apart from strategic behaviour and market imperfections, the new trade theory is integrated with the new growth theory which is also essentially based upon market imperfections (translated into variable growth rates rather than deadweight loss).[5] In endogenous growth theory the long run growth rate can be improved by government policy to induce a higher saving rate and/or to incorporate externalities. Models linking trade and endogenous growth have examined the various channels through which trade can influence growth, but provide few generalisable conclusions.

Technology and knowledge spillovers are key mechanisms which link international trade and endogenous growth.[6] In their classic work, Grossman and Helpman (1991) show how international trade can boost a country's Research and Development (R&D) sector (which is the sector which drives economic growth) by transmitting technological information, increasing competition and entrepreneurial effort and expnading the size of the market in which innovative firms operate. But, trade can also have negative effects on the R&D sector by displacing innovative activities, making the overall effects of trade openness ambiguous.

Other technology-based models emphasise the positive effects of openness by focusing on the role of capital goods imports in promoting economic growth (Coe et al 1995; Lee 1995; Pissarides 1997). In these models technology spillovers are generally proportional to capital goods imports. Imported capital goods embody information about new technologies, and producers who are exposed to this information are seen as more likely to innovate. Romer (1992) describes this as 'using ideas' (as opposed to 'producing ideas') and Pack (1992) sees them essentially as a free dividend for being a latecomer. Many of these models imply that increased amounts of resources will be devoted to R&D following trade liberalisation.

The positive conclusions about openness in these models are largely dependent on specific assumptions about the nature of technology and technology transfer and can be reversed when the definition of technology is refined. Most models assume that technology can be perfectly codified and easily transferred. If, however, we acknowledge that learning by importing capital goods is partly dependent on the absorptive capacity of countries, the gains from trade (especially for poorer countries) may be more limited. Keller (1996) presents a model which differentiates between technology embodied in capital goods and capabilities (or 'absorptive capacity'). Using a Rivera-Batiz and Romer (1991) type endogenous growth model, he shows that the productivity and growth effects of increased access to foreign capital goods will be short lived unless absorptive capacity increases at a more rapid rate than during the period prior to trade reform. In the long run, the rate of growth of output is forced down to the rate of human capital growth. Similarly, Van de Klundert and Smulders (1996) allow for technology spillovers between North and South, but the latter's low level of high-tech production limits learning by doing.[7] In the light of recent evidence that increased openness leads to less investment in human capital at the secondary and tertiary levels (Wood and Ridao-Cano 1999), this all implies that the gains for poor countries from access to technology imports can be limited.

A negative conclusion about the effects of openness is also reached by a few recent endogenous trade models which revisit infant industry arguments by explicitly dealing with the role of learning under protection in countries with low levels of industrialisation. In these models, poor countries are shown to specialise in low technology products if free trade were allowed and trade restrictions allow them to develop complex industries (see Reddy 1999).

These ambiguous results of endogenous growth/trade models are complicated further by the fact that growth-enhancing trade policies do not always improve welfare. Thus, Westerhout (1995)

focuses on consumer variety and allows firms to exit and enter. With trade liberalisation, consumer prices and costs of production are lower but so can be product variety, as domestic producers are eliminated, and this can outweigh the other effects on consumer welfare. For a small open economy, Osang and Pereira (1996) find that all tariffs are damaging to long-run growth but there can be increases in welfare in the short run.[8] In addition, there is no reason to presume that tariffs should be uniform across goods in maximising intertemporal welfare.

Models linking growth and trade also deal with the issue of convergence. Again, they provide few robust conclusions, with convergence or divergence depending upon how openly competitive is international trade. Boileau's (1996) model allows for international externalities, but with non-traded and non-market production within countries. He is able to generate growth and cycles in which, contrary to most models and in conformity to received wisdom, cross-country correlations on output exceed those of consumption and productivity. Lau and Wan (1994) argue that trade is necessary but not sufficient for poorer countries to converge. For middle-income countries will be able to accrue the benefits of catch-up since the costs of doing so declines with growth, whereas the poorest countries will experience a widening income gap. A complex model is provided by Fischer and Serra (1996) in which the domestic economy grows faster the greater the level of equality because of higher incentives and returns to investment in human capital.[9] As growth rises, unskilled labour may be rewarded more as it becomes scarcer but inequality may also increase as the wealthier invest more in human capital. With a world economy of rich and poor countries, free trade is in part disadvantageous for the former in raising inequality at once (skilled labour is immediately worth more in opening up to trade) and over time, and in lowering the growth rate as poorer countries converge. Poor countries unambiguously gain from each of these effects. The implication is free trade for poor countries and subsidised education for the worse-off in rich countries.

c) Political Economy Arguments

In short, the marriage between new trade and growth theories serves to render each more complex. In addition, they also tend to share a particularly underdeveloped notion of what constitutes a nation. Indeed, in conformity with longstanding traditions in trade theory, the nation is simply a special individual, usually with both benevolent goals (social welfare) and special powers (policy).[10] A simple step is taken to progress beyond such simplicity once account is taken of internal influences upon

government policy, thereby incorporating a fourth factor in new trade theory, that of political economy in general and rent-seeking in particular. Rodrik and Fouroutan (1998), for example, debate whether trade liberalisation has stalled in Africa because of a combination of distributional and informational problems (who knows consequences and who gets compensated for them).[11] Fung (1995) examines the redistribution between capital and labour as rents are shifted and shared with change in trade policy in the presence of oligopoly. In a model of electoral competition, Riezman and Wilson (1997) find that limits on number of donors and amounts of donations by interest groups can lead to inefficiency in the making of trade policy.

Most important, though, in the political economy of trade policy have been the rent-seeking arguments. It is as if all of the above can be set aside since to act upon their prescriptions is to solicit unproductive rent-seeking through trade policy. Here, however, there is a major problem. If there are underlying economic and political interests in favour of trade policy, why would they allow trade liberalisation to proceed? And, if they have no choice, might they not engage in even more costly forms of pursuing their advantage? This is exactly what is perceived to have happened, if not anticipated, in the wake of the Uruguay Round, with trade policy pursued by other means and, most notably, through antidumping measures which have become the new form of (privatised) trade policy in the WTO era.[12]

4 <u>Empirical Evidence</u>

Empirical research has examined the effects of trade liberalisation on growth, productivity and efficiency at cross-country, industry and firm-level. Below, we discuss each of them in turn.

a)   Cross-Country Research

The country-level research on liberalisation and growth consists of cross-section 'before and after' studies (Greenaway et al 1997), and 'with and without' studies (Mosley et al 1991; World Bank 1990) as well as of country specific time-series analysis (Papageorgiou et al 1991; Greenaway and Sapsford 1994; Onafowora et al 1996). In general many of these studies suggest that the effects of liberalisation on growth are ambiguous and complex; whilst some groups of countries show an improvement in growth (as well as other indicators such as investment), others show a marked deterioration. More recent attempts to provide a more consistent analysis using panel data and alternative measures of liberalisation suggest a J-curve type effect of liberalisation on per capita GDP growth (Greenaway et al 1998). Here again, however, the alternative models provide very different estimates of the long-run

effects on growth (with the pay-off ranging from 2% to 46% !), indicating the limitations of capturing complicated growth effects using cross-country single equation growth regressions which are discussed below.

At best, most of the literature seeking to investigate the effects of shifts in trade policy (towards liberalisation) develops a model from which a reduced form is estimated. At worst, simple regressions are run on some index of economic performance against some index of openness (although the best and worst often coincide in practice). Here, we leave aside perennial problems (like much of the literature!) concerning the data, and how we measure openness,[13] the value for an individual country's development over time for what are often cross-section studies, the fallacy of composition - if all liberalise, export prices may fall,[14] and the direction of causation between variables.

Consider, however, two problems that are generally overlooked. The first is that only a single equation tends to be estimated rather than a model. However, even if a significant and desired result is obtained, this is not a proper test of the theory. For, within the model, there will implicit mechanisms through which trade policy has affected trade performance. These include both shifts in composition of output and in capital-labour ratios as well as shifts in domestic prices, factor rewards and composition of consumption. These usually remain unexamined. If, as is to be expected,[15] such empirical regularities do not hold, to what extent is the theory properly tested? To be more concrete, if trade liberalisation in a labour-rich economy is associated with growth in capital-intensive exports, there will be an apparent connection between trade reform and export growth but not for the reasons posited.

The second point is a more developed form of the first and is to be learnt from the more sophisticated treatments of the endogenous growth literature.[16] The models involved in the new trade theory, even with a few factors, are extremely complicated in terms of their outcomes - potentially generating multiple equilibria and complex patterns of adjustment to or around them. For a single economy, this raises issues of what exactly are we estimating - comparison of static equilibria or paths between equilibria. For a cross-section of economies, trade performances cannot be taken to be independent of one another. Countries serve the same world market, one country's exports are another's imports, and economic variables are not independent of one another given flows of capital, labour and technology, quite apart from strategic behaviour of firms and governments, etc.

Ideally, of course, the dynamics of trade performance would be properly modelled, and models fully estimated across panel data. The literature generally falls far short. Even so, it is far from

supportive of the trade liberalisation hypothesis. Neatly illustrating some of these observations is the study of Greenaway et al (1998) who panel data across liberalisers and non-liberalisers (with/without and before/after) to come to a negative conclusion on the effect of trade reform on growth but then suggest this may be due to a shorter-run J-curve impact.

b) Industry and Firm-Level Studies

A substantial body of empirical literature has focused on the dynamic effects of trade liberalisation and has investigated the effects of trade policy and openness on total factor productivity and efficiency at the industry level. Evidence from these studies, however, is inconclusive. Some early empirical exercises found a negative (but weak) correlation between import substitution and productivity growth (Nishimuzu and Robinson 1984), others showed TFP growth rates to be high in highly protected industrial sectors (Waverman and Murphy 1992), whilst continued and accelerating TFP growth rates in both periods of high and low protection have also been reported (Aswicahyono et al 1996). High levels of import penetration have also been found to be associated with low rates of productivity growth (Nishimuzu and Page 1991). Given the varying country coverage of these studies, the different industrial sectors covered and the varying definitions of liberalisation and openness used, attempting to provide a rigorous net balance of the evidence would serve little purpose. Some key weaknesses of these industry-level studies, however, must be noted. None of them discriminates between the effects of trade policy and macro policy choices and it is, therefore, difficult to attribute causality to trade policy itself. Many of them also fail adequately to control for other influences on productivity growth. In particular, the failure to control for industry effects is especially problematic.

The firm-level literature circumvents the need to control for industry effects, but still fails to establish a direct causal link between trade liberalisation and improved economic performance. Much of this literature examines the link between trade liberalisation, openness and firm-level efficiency estimated using frontier-production-functions. Some studies find support for the conjecture that efficiency levels are highest among industries experiencing the largest declines in protection (Tybout et al 1991). The firm-level literature also examines the relationship between export-orientation and productivity/efficiency, although the link between trade liberalisation and exporting is not empirically investigated. Several studies have found exporting firms to be more efficient than their domestically oriented counterparts (Chen and Tang 1987; Haddad 1993;, Aw and Hwang 1994; Tybout and

Westbrook 1995 and Aw and Batra 1998), and have attributed this result to the positive learning effects which accrue from contact with foreign buyers.

There are three major weaknesses with this firm-level literature. Firstly, most studies examine one-time changes in the *level* of efficiency and their findings are consistent with the claim that trade liberalisation generates static gains. They, do not however, provide conclusive evidence relating to long-term, dynamic improvements in firm-level efficiency. Secondly, the indicator of firm performance use by many of the studies, TFP, is characterised by theoretical inconsistencies and estimation problems (see Nelson for a critical discussion of these issues). Thirdly, they fail to establish the causal links between trade policy, export-orientation and efficiency. For instance, the literature on exporting generally does not ask whether the direction of causality runs from exporting to efficiency or vice versa. The latter is a strong possibility as more efficient firms are more likely to be competitive in export markets. A recent study of exporters in Colombia and Morocco attempted to address the causality issue by plotting long term cost and productivity trajectories (Clerides et al 1998). They found that entry into export markets does not significantly shift the cost and productivity functions of firms and conclude that the association between exporting and efficiency is most plausibly explained as low cost producers choosing to become exporters.

Finally, much of the firm-level research fails to shed light on the various channels through which trade liberalisation might affect productivity and efficiency in changing populations of heterogeneous firms. A few studies have attempted to do so, focusing on the effects of trade policy on industry rationalisation and entry and exit patterns and cost-price ratios (Tybout 1992 and Roberts and Tybout 1991). Overall, however, no strong conclusions emerge. There is little evidence of an association between import penetration and entry and exit patterns, contrary to predictions that import liberalisation is likely to result in the exit of inefficient firms and the entry of low-cost ones. There is also little support for the argument that liberalisation allows firms to benefit from scale economies. Positive firm-level effects of liberalisation are reported by Steel and Webster (1992) in their study of small firms in Ghana; they found new firms (i.e. those entering after liberalisation) to have faster growth rates than older firms and concluded that this demonstrated that liberalisation brings forth dynamic new entrants. This, however is highly misleading as the negative relationship between the age of the firm and growth is a well established empirically (McPherson 1995), having little to do with trade policy.

The dynamic gains from liberalisation are supposed to accrue largely from technology upgrading but few empirical studies have directly examined the technological response to liberalisation at the firm-level. One group of studies has examined the relationship between technology imports and domestic technology development. Both Basant (1993) and Fikkert (1993) found that domestic R&D and foreign technology were substitutes in the case of India. Braga and Wilmore (1991) and Katrak (1997) examine whether improved access to imports increased the extent of R&D at the firm-level. They report a positive but weak association between measures of technology imports and R&D. In general, the evidence indicates that the extent to which foreign technology can stimulate R&D depends on factors such as availability of necessary skills and expertise (Evenson and Westphal 1995).

In the context of developing countries, informal technological effort (mainly to modify and adapt foreign technologies) is more relevant than formal R&D, but the links between trade policy and such informal technological activity have rarely been explicitly examined. Some exceptions are Deraniyagala and Semboja (1999) and Latch and Robinson (1999), who examine the technological response to liberalisation in Sub-Saharan African countries. They find very little evidence of widespread technology development following import liberalisation, with most firms being hesitant or unable to invest in new technologies in the face of very intense import competition. Well-known qualitative studies of interventionist trade and industrial policies in East Asia have demonstrated in detail their impact on technology strategies, learning effects, entry and exit dynamics and micro-level aspects of industrial performance and have highlighted the point that these effects vary considerably according to the type of trade policy and according to the specificities of industrial sectors (Amsden 1989;Wade 1990). It is important that empirical research on the effects of trade liberalisation also examines such factors and provides an in-depth analysis of the manner in which various policy instruments impact upon aspects of performance in specific sectors and in countries at specific levels of development.

In general terms then, the existing empirical research on trade liberalisation allows us to make the following observations. First, there is little to suggest that trade policy is itself an important determinant of industrial performance and, even so, a positive role will derive from export expansion (through export performing requirements, for example) than from import liberalisation.[17] As Helleiner (ed) (1994, p. 31) concludes:

On the basis of currently available evidence, it is difficult to escape the conclusion that trade policy has <u>not</u> been the major influence on productivity growth in manufacturing that many analysts have said that it should be. Such associations as there has been between productivity growth and trade phenomena relate to the probable positive role of manufactured export expansion, and <u>not</u> to import liberalization.

Second, at least as important as trade policy have been the other elements of industrial policy, such as research and development, and the impact of technology transfer and the scale and growth of domestic markets. Also important has been the macroeconomic environment, especially the level and stability of the exchange rate, the level of domestic demand and real wage restraint. At a more detailed level of targeting, favourable access to credit can be used to promote exports, especially to complement low levels of domestic demand relative to scale economies. Given the significance of stability in the macroeconomic environment and the structure of incentives to industry, it is hardly surprising that liberalisation beyond trade, to capital markets, has not been favourable to industrial performance. The impact of speculative movements of capital can discourage long-term investment; and attempts to stabilise capital movements and the exchange rate then lead to high interest rates further discouraging domestic economic activity.

Third, trade policy involves a very wide variety of complex instruments with an equally varied set of outcomes depending upon how the trade policies interact with other policies and factors in the specific economic conditions in which they operate. Consequently, trade policy should not be seen in isolation from other policies and as a bias in one direction or another. Rather, it needs to be situated carefully in a sectoral context, (Agosin and Ffrench-Davis (1995) for Latin America and Soludo (1998) for Africa for example). But, even more important, the process of restructuring industries, both vertically and horizontally, needs to range far beyond considerations of trade policy alone and to recognise how the structure and functioning of sectors are very different from one to another - by virtue of technology, markets, sources of finance and ownership, vertical integration with other sectors as well as established historical patterns.

In short, the factors underlying appropriate trade policy are not only varied and complex but require trade-offs to be made. Macroeconomic conservatism, for example, in order to provide stability for potential investors and exporters, could prove to be a self-defeating exercise if the level of domestic demand is insufficient to support scale economies. Certainly, however, there is no

rationale for accepting the general case in favour of trade liberalisation, and the merits of trade policy

need to be examined at a detailed and specific level. Given infant industry considerations, the

sequencing as well as the content of policy is crucial, especially as trade, macroeconomic or other

policy could kill off infants or even adolescents before they have the opportunity to attain maturity.

5 Concluding Remarks

A number of conclusions follow from our review. First, free or freer trade is heavily favoured

by the economics profession and is gathering momentum under the WTO regime. Second, the thrust of

theoretical and empirical literature is far from supportive of such postures.[18] Third, it is totally

inappropriate to address trade theory and policy separately from other aspects of industrial policy and

performance and macroeconomic considerations. Fourth, crude dichotomies such as those between free

trade and protection should be rejected and the need recognised for sophisticated, sector- and country-

specific trade and industrial policy. Fifth, in this respect, to the extent that the neo-liberal consensus has

promoted trade liberalisation, it has done a double disservice both by undermining interventionist trade

policy and its integration with other policy areas.

[1] See also Krueger (1998) and response from Ocampo and Taylor (1998).

[2] See McKay and Milner (1997) for problems in the design of policy so that ex post outcomes coincide

with ex ante intent.

[3] Alternatively, to be topical, chemical companies should be allowed to make policy on genetic

engineering.

[4] See also Wong and Chow (1997) and Wright (1998).

[5] For a critical account, see Fine (1999).

[6] For an overview of trade, growth and knowledge, see Zhang (1994).

[7] See also Walde (1996) who suggests that, with perfect international technical spill-over, convergence will

depend upon conditions of competition.

[8] See also Kaneda (1995) who shows in presence of increasing returns that the one country of two with

lower time preference is liable to industrialise first.

[9] See also Gould and Ruffin (1995) for the case that human capital is crucial to growth and trade.

[10] Hence the capacity for the theory to move effortlessly between lower and higher levels than the

nation. See Krugman and Elizondo (1996) for the idea that third world cities are too large because of

economies of linkages accruing out of ISI. See also Lall (1998) and Amiti (1998). For new trade theory and regional integration (and idea that this can even intensify internal protection), see Bilal (1998).

[11] See also Edwards (1997).

[12] This is the subject of a separate paper in preparation. But for a comprehensive empirical overview, see Miranda et al (1998).

[13] See Greenaway et al (1998) for a discussion. Note that the problems in measuring openness are recognised theoretically by the wish to construct sensible indices, as in the notion of a uniform-tariff welfare-equivalent to any existing level of protection. See Anderson (1995 and 1998) and Anderson and Neary (1996). These measures, however, depend upon genuine equilibrium comparative statics and cannot eliminate the problem of perverse prices, that increases in a tariff may be equivalent to a decrease in (effective) protection. In addition, in the absence of perfect competition, as is well-known b, export subsidies and tariff reductions (or other trade measures) are not equivalent to one another for a variety of reasons for both partial and general equilibrium. See Chen and Devereux (1997) and Okawa (1997) for example.

[14] See Bandyopadhyay (1996).

[15] Not least from the theory itself in view of the discussion above!

[16] These points are discussed at length in Fine (1999) and carry over, if less observed in the literature, from statistical investigation of growth to trade performance.

[17] See also the review provided by Edwards (1993) who concludes on the mixed results in favour of trade liberalisation, p. 1389:

> Much of the cross-country regression based studies have been plagued by empirical and conceptual shortcomings. The theoretical frameworks used have been increasingly simplistic, failing to address important questions such as the exact mechanism through which export expansion affects GDP growth, and ignoring important potential determinants of growth such as educational attainment. All of this has resulted ... in unconvincing results whose fragility has been exposed by subsequent work.

[18] This is despite Krueger's (1998, p. 1517/8) ironic claim the traditional infant industry argument of dynamic gains outweighing static losses has now been overturned.

Footnotes

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