PRODUCTIVITY, TRADE AND EMPLOYMENT: A CONTRIBUTION TO THE BELL -ISP DEBATE

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> 'If the only tool you have is a hammer, everything begins to look like a nail.' (Abraham Maslow)

Trevor Bell's (1995) incisive critique of the report of the Industrial Strategy Project (Joffe et al, 1995, hereinafter ISP), raises a number of issues about the analysis and conclusions reached by the ISP. Bell questions the ISP's contention that productivity growth in South Africa has been unusually low, showing instead that low (and negative) productivity growth has not been an unusual occurrence in a number of developed and developing countries since the 1950s. Bell argues that macroeconomic factors, rather than productivity, explain much of manufacturing's poor performance in the 1980s. Bell questions both the ISP's contention that much of the manufacturing sector's poor performance is the result of past import-substituting strategies, and their recommendation that South African trade and industrial policies should seek to promote manufactured exports. Instead, he makes the case for further import substitution.

In response to Bell, Kaplan and Lewis (1996), defend the ISP's focus on, and analysis of, South Africa's productivity performance. Further, they are critical of Bell's argument that import-substituting trade strategies offer a possible path for manufacturing growth, arguing instead that '*we have to increase our penetration of international markets*' (1996:122).

Kaplan and Lewis' (1996) defence of the ISP's focus on exports is based, to a large extent, on the ability of exports to foster productivity growth. Based on a growing international literature, my contribution questions the ISP's assumptions about the relationship between exports and productivity growth, and reports on the limited empirical literature analysing this issue in the South African manufacturing sector. I also analyse the possible employment effects of productivity growth in the South African context, an area which I believe the ISP has not explored sufficiently. In short, my contribution to this debate is focused on issues related to productivity, trade policy and employment.[1]

In their response to Bell's criticism of their analysis of South Africa's productivity performance, Kaplan and Lewis offer a number of alternative estimates of productivity performance in the South African manufacturing sector which accord with their arguments about South Africa's poor performance with respect to productivity. However, even though , Kaplan and Lewis (1996:115) acknowledge that 'measures of productivity are notoriously fraught with difficulty and are very contentious', the ISP Report fails to address seriously the highly controversial nature of estimates of productivity in South Africa. Given the importance of productivity issues to the arguments and policies forwarded by the ISP, one would have expected the ISP to have, at the very least, explored the reliability of productivity estimates, as Charles Meth (1994) did in his review of the problems associated with estimates of productivity in South Africa.

Trade Policy and Productivity

In response to Bell's criticism that the ISP has placed too much emphasis on exports, Kaplan and Lewis (1996) argue that part of their emphasis on exports follows from the 'evidence (that) ... suggest(s) that firms tend to learn more from exporting than from producing for the domestic market ...' (1996:122). This belief in the advantages of exports is emphasised in the original report, where the ISP argues (1995:23) that:

> in addition to the obvious advantage of increased foreign exchange earnings, enhancing the export orientation of industry can lead to a more efficient allocation of resources, promote the acquisition of more leading-edge technologies and enhance productivity growth. Apart from benefits to the export-oriented firm, there are potential spillovers in marketing and information which may serve to enhance productivity in the rest of the economy.

The ISP argue that import-substituting policies have been one of the major factors inhibiting the development of technological capabilities within local manufacturing firms. Consequently, a 'more export- oriented trade regime, import liberalisation, and the promotion of competition on the domestic market ... will be critical in order to enhance the technological capabilities of South African companies.' (ISP, 1995:251)

The ISP's view on the relationship between exports and productivity growth is based on two assumptions. First, it is believed that given the competitive pressures of exporting, South African firms will have no option but to improve their efficiency. Second, the ISP seems to accept the argument that exporting is associated with learning. When firms engage in export markets, their managements are exposed to new technologies and new ideas which improve

not only the exporting firm's productivity, but also filter down to non-exporting firms in the local economy. Exporting is therefore also deemed to lead to external economies.[2] The view that exports may be productivity enhancing is thus based on the existence of competitive pressure on firms, learning-by-exporting, and the external economies that exporting is deemed to generate.

The above assumptions have been the subject of much debate in the theoretical and empirical literature on development, growth and trade policy. Below, I explore some of the main issues in this literature.

Kaplan and Lewis (1996:120), correctly point out that new growth theory (endogenous growth) offers an exciting theoretical framework for analysing the 'importance of deliberate efforts designed to improve technology ... (and) policies designed to accelerate technological learning'. Using new growth theory, it can be demonstrated that, theoretically, exports do lead to efficiency gains through learning, technological learning and external economies (see Grossman and Helpman, 1991 and 1991a). However, theoretical models based on new growth theory can equally generate outcomes where exports and increased international trade impede, rather than promote technological learning (see Rodrik 1995, Grossman and Helpman 1991, and Pio 1994).[3] Thus, whether or not models based on new growth theory confirm the existence of learning-by-exporting effects, depends on the construction and assumptions of the models. Further, Pack (1994) points out that new growth theory lacks empirical validation, is based on strong assumptions about international production functions, and does not provide a satisfactory guide to explaining the growth process .

The debate in the development literature on the relationship between exports, efficiency and growth has spawned an industry in empirical studies that test the hypothesis that exports are growth enhancing. Whilst most of these studies have concluded that exports are growth enhancing, there are notable exceptions. Importantly, the reliability of most studies exploring the export-efficiency-growth nexus is questionable. Reviewing this literature, Edwards (1993) concludes that in many cases, these studies are unconvincing. He argues that this literature is a good example of 'applied economists ... ask(ing) too much of their data sets, and ... extract(ing) information that is simply not there' (1993:1390). Levine and Renelt (1992) conduct a sensitivity analysis of a range of economic variables, including trade policy variables, that are commonly associated with economic growth in the development literature. They find that trade policy measures are not robustly correlated with economic growth. Interestingly, Levine and Renelt find that investment is the only variable that is robustly correlated with economic growth. This provides some support for Bell's

(1996) argument that the low level of investment in South Africa's manufacturing sector is the key factor explaining its poor performance in the 1980s.

In a survey of the empirical literature linking productivity (measured by Total Factor Productivity) and trade, Pack (1988:372) concludes that 'export orientation, whatever its other merits, does not appear to yield higher total factor productivity growth than does import substitution'. This finding is confirmed by Rodrik (1992).

Looking specifically at the issue of learning-through-exporting, a number of studies have concluded that exporting plants show higher levels of efficiency than non-exporting plants. However, Pack (1992), reviewing the literature on learning and trade policy, argues that the available evidence leaves the relationship between these issues moot. Further, in order to confirm the learning-by-exporting hypothesis, it is necessary to demonstrate that exporting *causes* higher levels of efficiency, as it may well be the case that more efficient firms are likely to engage in the export market. Using firm level data for Colombia, Mexico and Morocco, Clerides et al (1996) test whether there is any evidence to show that exporting *leads* to learning. They conclude that, 'surprisingly, despite many anecdotes in the literature ... we find scant evidence (that exporting causes efficiency gains)' (1996:29). Instead, they find that 'the association between exporting and efficiency is ... most plausibly explained as low-cost producers choosing to become exporters' (1996:30). Further, they test whether there is any evidence of the existence of externality effects mentioned above. They conclude that, on balance, the presence of exporters does not seem to reduce the costs of other firms, thereby casting doubt on the argument that exporting generates external economies.

Kaplan and Lewis (1996) use the experience of South Korea and Taiwan to show that learning-by-exporting was an important part of these countries' growth experience. This is however, a very selective reading of the literature linking trade and growth in the newly industrialised countries. Rodrik (1995a) discusses a number of problems with studies showing that exports are an important factor explaining the growth experience of South Korea and Taiwan, and concludes (like Trevor Bell) that investment explains much of the growth in these countries. On the role of exports, he argues that 'viewing export orientation as the clue to the growth puzzle misses the mark by a wide margin' (1995:97). Similarly, Singh (1995:20) shows there is strong evidence to suggest that (in the case of Japan and South Korea) protection and not exports 'played a very important, positive role in promoting technical change, productivity growth and exports in these countries'. Waverman and Murphy (1992) find similar evidence at an industry

level. Comparing the motor vehicle industry, perhaps the example *par excellence* of learning and innovation, in four countries,[4] they find that 'rapid learning or technical advance is possible in an import-substituting industry, and in one in decline' (1992:306).

A study by the author of this paper (Valodia, 1994) looks at the question of whether exports in the South African manufacturing sector generate productivity gains. The study finds that there is little evidence to support the contention that exports lead to productivity gains in the South African manufacturing sector.[5] Interestingly, in the sectoral studies undertaken by the ISP, there is some evidence of highly innovative firms operating despite the protected trade regime (see for example, Maree's 1995 study of the textile sector, Black's 1994 study of the automobile sector, and Crompton's 1995 study of the plastics sector). A number of ISP studies find that, at the level of the firm, exports do not lead to any productivity gains (see for example, Altman's 1995 study of the clothing sector and Bethlehem's 1994 study of the pulp and paper sector).

Productivity and Employment

In their defence of the ISP's focus on productivity issues, Kaplan and Lewis (1996:116) quote the following extract from *The Economist* which stresses the importance of productivity as an indicator of economic performance:

> If you were asked to choose just one test of an economy's performance, one of the strongest candidates would be growth in productivity. In the long run, increases in productivity - that is output per worker - are the only way for a country to raise its living standards (May 5, 1996)

The quote is tautological, and it should be obvious that the productivity of an economy is the key determinant of performance. The critical part of the quote however, are the words 'in the long run'. Two important questions flow from this. First, how long is the long run, and second what are the effects of productivity growth in the not so long run? A particular concern in the South African context in this regard, is the effect that productivity growth has on employment. We explore this issue below.

The ISP is very pessimistic about the possibility of employment growth in the South African manufacturing sector. Although their policies do recognise the importance of employment creation in the small, medium and micro enterprises sector, the ISP (1995:17) argues that 'industrial expansion will be driven by the increasing productivity of labour rather than by a major expansion in industrial employment in the aggregate'. While the ISP may have correctly concluded that the manufacturing sector is unlikely to generate large numbers of new

employment opportunities, they have failed to analyse the effects on manufacturing employment of their primary policy recommendation, productivity growth. When productivity grows, the effect on employment is of interest to a number of constituencies, especially workers. Given that the ISP was commissioned by the Congress of South African Trade Unions (COSATU), one would have expected that the ISP would have considered the impact on employment of productivity growth.

While there is general agreement that in the long run productivity growth and employment are positively related, these variables are often negatively related in the short run. Also, the question concerning the length of the long run is critical to analysing the relationship between employment and productivity growth.

The theoretical literature on productivity and employment, reveals that once one moves out of the comfort of a perfectly competitive world, it can easily be demonstrated that unemployment is one of the possible outcomes of productivity growth (see Meth, 1996, and Carlin and Soskice, 1992). An illustrative example of this outcome is provided by Nell (1996:67) where he argues that:

> Demand and productivity are related in contrary ways. On the one hand high demand provides a strong stimulus for increasing productivity - it means for example that it would be worthwhile to undertake a possibly costly reorganisation; it means that it will pay to push the system hard, to remove the slack, to tighten up discipline, and above all to work, not hard, but *smart*.
>
> So strong demand tends to generate rapid rises in productivity. But then another effect comes into play: rises in productivity tend to weaken demand, by reducing the indirect or multiplier effects of spending. If the production capacity of existing facilities can be increased by reorganisation of equipment and by rethinking procedures, then why build a new one?

It can thus be demonstrated theoretically that productivity increases can generate unemployment in the short and medium run. The question that needs to be addressed then is what is the likely effect of productivity growth on employment in South Africa in the short and medium run, and how long will it take for the long run relationship to emerge. A reasonable answer to this question would require substantial research, which given the poor quality of labour market and productivity data in South Africa, may yield low returns. A more useful way to get some indication of likely trends is to investigate the relationship between employment and productivity in other countries.

Meth (1996) investigates the relationship between productivity and employment in the OECD countries, a setting in which productivity and labour market data are likely to be accurate. Over the period 1978 to 1993, he argues that 'it turns out to be surprisingly easy to find evidence amongst the members of the OECD - the most advanced capitalist economies - of productivity growth being associated with a rising unemployment rate and falling absolute levels of employment' (1996:10). Even in a corporatist industrial relations environment such as that proposed by the ISP, he finds that for the (then) Federal Republic of Germany over the period 1975-80, 'productivity improvement meant that job losses occurred in 24 out of 36 industries, with a total of 585 000 jobs gained in the process versus 3,470,000 lost' (1996:15).

It is therefore quite possible that the ISP's proposals on productivity could result in a substantial increase in unemployment in the short and medium term. In the South African context, this raises serious questions about the efficacy and sustainability of the ISP's policy proposals.

Conclusion

This paper has addressed two important aspects of the ISP's policy proposals. In the latter section of the paper, I have argued that it is very likely that productivity increases in South Africa's manufacturing sector will give rise to higher levels of unemployment in the short and medium term. This should not be interpreted as opposition to a drive to increase productivity in the manufacturing sector. Instead, my argument is that the ISP has failed to analyse, comprehensively, the implications of implementing their policy recommendations.

Much of the ISP's focus on export orientation is based on the assumption that exports are able to generate dynamic efficiency gains, and consequently, higher levels of productivity in the domestic economy. Based on the international literature, and admittedly limited local empirical evidence, I have argued that there is some room for debate on this issue. This suggests that the import-substituting trade policies advocated by Bell (1996) may well offer a promising environment for growth in the manufacturing sector.

Kaplan and Lewis (1996:115) correctly argue that 'in the real world of policy research ... the researcher is obliged to spell out *credible* policy implications that flow from the analysis'. The ISP aught to well be accused of failing in this task. On the issue of the productivity-trade policy nexus, the ISP ought to take heed of Rodrik's (1992) advice. He concludes:

> if truth-in-advertising were to apply to policy advice, each prescription for trade liberalisation would be accompanied with a

disclaimer: Warning! Trade liberalisation cannot be shown to enhance technical efficiency; nor has it been empirically demonstrated to do so (1992:172).

NOTES

1. I am grateful to Charles Meth for his comments and encouragement. Thanks also to David Jarvis for comments.
2. An external economy occurs when the benefits of an action extend beyond the agent initiating the action.
3. There are a number of theoretical reasons why increased trade could limit technological learning. For example, when technological spillovers are geographically concentrated, increased integration with a technologically advanced country can bring about a slowing down in innovative activity in the technologically disadvantaged country. See Rodrik (1995) and Valodia (1994) for further examples of these effects.
4. The countries are Argentina, South Korea, Mexico and Canada.
5. One of the major problems of the study is that the analysis is conducted at an industry level. The author is presently engaged in research testing the export - productivity issue at the level of the firm (see Morris et al, 1996).

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