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THE HIGH ROAD AND THE LOW ROAD TO INTERNATIONAL TRADE:

Emerging Exporters Revisited

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This article analyzes a cluster of manufacturing firms that were identified in 1992 as 'Emerging Exporters'; firms that export between \$2-50 million dollars annually. It analyzes the extent to which such firms have continued to successfully export. It will be argued that the experience of these firms indicate that a 'high road' to industrial development is open to Australia, but only under specific conditions; conditions that are susceptible to policy decisions.

The Low Road and the High Road

Recent discussions of industrial development and international trade have looked at two alternative paths to industrial development: the 'low road' and the 'high road' (Marceau *et al*, 1997). Although these terms are applied very loosely, there are some general ideas upon which they are based. The low road is a path determined by offering cheap labor and resources to private capital in pursuit of an export-led development strategy. The high road refers to a development path based on productivity growth, technological sophistication, and product innovation as means for achieving competitive advantage. Each strategy entails vastly different outcomes for the working conditions of those employed:

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"The 'high road' seeks to build economic growth and prosperity through cooperation and strong worker rewards, including relatively rapid real wage growth. The 'low road' relies on conflict and insecurity, control and harsh worker punishments, and often features relatively stagnant or even declining real wage growth. Both are coherent strategies, both can conceivably work" (Gordon, 1996: 144).

Similarly, Shaikh has argued that:

Lower unit costs ... are the key to absolute advantage. This means that low-productivity nations face two options if they are to be competitive. They can try to keep real wages sufficiently low, so as to offset their own technological backwardness. Or they can modernize, thereby raising productivity and even providing room for rising wages. The former option shifts the burden of competitiveness onto the backs of the nation's workers. The latter requires firms to take the initiative (with attendant costs and risks) and provides for the possibility of benefits to both workers and firms (1995: 77).

This distinction between the high road and the low road is linked to the more general discussion of 'globalization' and its impact on specific countries and regions¹. It is widely perceived that globalization puts pressure on countries to adopt the low road; trying to entice foreign capital by subsidizing costs of production, relaxing environmental and other regulations, and pressuring workers to accept lower wages. International capital is supposedly able to organize the production process globally. With the world perceived as 'one big market', decisions regarding where to produce are determined on the supply-side, principally the availability of cheap labor and/or specialized inputs. The pressure to adopt the low road strategy is usually perceived to be strongest in those industries producing standardized, homogenous, mass produced manufactured goods. Since the production of such goods does not require special skills on the part of workers – it is founded on the idea of deskilling – capital will tend to seek out large supplies of labor that are cheap and compliant. International capital can thereby produce in one area based on cost considerations, and sell output in other regions where

¹ For a discussion of the way in which globalization is pushing Australia down the 'low road' see Bryan and Rafferty (1999: ch.3).

markets are available. This creates a dilemma for the governments of advanced countries who seek to attract foreign investment while at the same time are trying to protect their historic standards of living.

This dilemma of the low road has led to the search for an alternative strategy to development and international trade; one which does not compromise established working conditions and other standards such as environmental protection and which provides the basis for a successful trade strategy. McKinsey and Company, in their 1992 study (commissioned by the Australian Manufacturing Council) entitled *Emerging Exporters*, took the view that such a high road is available. Globalization, for McKinsey and Company, opens up new possibilities that can be exploited by countries pursuing a competitive rather than comparative advantage. Australia, it is argued, cannot compete on the basis of cost competitiveness without seriously undermining its norms and standards, and therefore should cede traditional mass production manufacturing to overseas operation. It can, however, compete on other criteria in industries which do not follow the traditional mass production model of manufacturing.

The Report therefore took a very optimistic view of Australia's ability to pursue a 'high road' strategy for industrial development and international trade. The travellers down this road, according to McKinsey, will be small-to-medium sized manufacturing enterprises (SME's) producing 'high-tech', high-value-added products where price alone is not the only factor governing export success. In this respect the McKinsey Report shared the views of other accounts of Australia's prospects for following a high road strategy; the belief that Australia should concentrate manufacturing production on niche products which are technological sophisticated. As Marceau, Manley, and Sicklen (1997: 6) argue:

The technology/innovation response [i.e. the high road] is more important in high knowledge industries, whereas competition in lower-tech goods and services will largely be played out via exchange rates and wage rates. This suggests that firms and countries have choices as to which route they wish to take ... It appears that the prognosis for economies based around the production and export of knowledge intensive products will, on some criteria at least, be brighter than that for producers and exporters of standardised products in fragmented markets.

While these various views agree that the type of product is critical in determining whether a high road strategy can be pursued, they differ as to the factors which allow an economy to identify and focus production on such products. Marceau *et al* take an institutional approach, arguing that it will be the result of government policy to encourage education, investment in R&D, and sectoral assistance measures². The McKinsey Report, on the other hand, argued that the international success of 'emerging exporters' rested on the "will and skill" of the entrepreneurs leading them, especially the ability of these entrepreneurs to identify niche markets within the expanding global economy. Export success, in other words, is not determined by structural characteristics of the economy, but rather its 'endowment' of entrepreneurial *elan*. Similarly, the McKinsey Report discussed the lack of an (ill-defined) "export culture" (1993: iv) in explaining why many Australian firms that had the potential to export, did not in fact do so.

The McKinsey Report, however, is studded with serious methodological flaws (see for example Menzies, 1994). I reviewed the McKinsey Report in an earlier issue of *JAPE* (Argyrous, 1993) and summarize the main shortcomings of the Report that were identified there.

- The foundation stone of the McKinsey Report is that emerging exporters were spread uniformly across manufacturing rather than being clustered in specific sectors. Thus export success must be due to generic characteristics, such as entrepreneurial spirit, rather than on any specific structural properties of the economy. To arrive at this conclusion the Report manipulated the way in which sectors of manufacturing were defined: sectors with high concentrations of exporters were split into a number of sub-sectors, while those segments of manufacturing with relatively few exporters were combined to give the impression of higher concentration.
- McKinsey and Company withheld data that were in their position but which did not accord with their conclusion that emerging exporters developed across manufacturing as a whole.

2 See Austrade (1994) for study of the impact of assistance measures on the trade performance of manufacturers which is sympathetic to this argument.

- The Report argued that successful exporters can emerge very rapidly (within five years) and identified a group of "born global" firms that supposedly reached rapid export success on the back of entrepreneurial spirit. Closer inspection found this conclusion to be derived from the manipulation of the date at which a firm was said to be established.
- The McKinsey Report claimed that emerging exporters tended to be small-to-medium sized enterprises (SME's) that concentrated on niche, high-tech products. Yet the sample of firms surveyed included such large conglomerates as Email, Toyota, Carlton and United Breweries, and Unilever. In fact, there were two distinct clusters of firms: traditional large mass production firms, and also the type of SME's that the McKinsey Report misleadingly identified as synonymous with emerging exporters.
- The Report included more than one division of the same firm as separate entities, tending to overemphasize the prevalence of emerging exporters. For example, both Email and Email Furniture were included as separate firms in the original study.

These flaws in the analysis actually stem from a more fundamental problem related to the Report's underlying view of industrial development. The Report gives the impression that the route to the high road rests on static personal characteristics of individuals rather than on the structural characteristics of an economy and its evolution over time. It is difficult to see how the export success of firms as diverse as Nestle and William Wallbank (a small press-tools and brick-making machine manufacturer) can both be explained on such simplistic terms as entrepreneurial will and skill.

Cumulative Causation and the High Road to International Trade

This article takes a different view as to how Australia can adopt a high road strategy. It does not concede that traditional mass production industries are only viable in economies pursuing a low road strategy.

Such industries can also be made internationally competitive through a high road strategy of real wage growth, stable employment, and an expanding domestic economy. Indeed, we shall argue that the export success of SME's is predicated on the existence and success of traditional, large mass producers within a national network of industries.

Underlying this alternative view of the high road to development, and which better explains the McKinsey Report's own findings, is the theory of circular and cumulative causation³. Cumulative causation sees export success as based, in a manner not dissimilar to the low road view, on cost reductions as a precondition for exporting. Cumulative causation, however, argues that unit costs can fall because of demand-side factors that generate economies of scale, rather than on lowering of real wages.

Kaldor (1966), for example, developed a four-stage model of industrial development in which the interaction of demand- and supply-side factors create a distinct trajectory for industrial development. The first stage is characterized by the codevelopment of a local consumer goods industry and the growth of a local mass market to which local producers can sell. As economies of scale are realized domestically, firms are able to use the associated cost advantages to tap into foreign markets (stage 2). The growth of local industry also creates a market for specialized machinery and equipment, thus spawning domestic capital goods firms (stage 3). These local firms begin to replace imported capital goods by taking advantage of proximity to key purchasers of specialized equipment, and on the back of this local development they are eventually able to export (stage 4).

It needs to be emphasized that the starting point for this process is the emergence of a domestic consumer market. A virtuous cycle of self-reinforcing growth emerges as an expanding domestic market induces local manufacturing. The realization of economies of scale generates further domestic income growth as a result of productivity gains. This provides the springboard to exports; with foreign demand thereby adding a new source of demand to fuel the economies of scale, productivity growth, and income generation. This centrality of the domestic market is

3 A detailed history of the theory of cumulative causation is provided by Toner (1999). For a brief overview of this theory see Ricoy (1988) and Eatwell (1982).

what allows this development path to be termed a 'high road' option. It implies real wage growth, stable employment, job security, progressive redistribution of income, and income support schemes, since these are all the elements which buttress the type of market growth that leads to investment in domestic manufacturing.

Argyrous (1996) has extended Kaldor's four-stage model to show that it will create two distinct but complimentary types of markets. These market types align themselves with the basic distinction between capital and consumer goods industries. Traditional mass production firms will be concentrated in consumer and intermediate goods sectors, and high-value-added SME's (the champions of most 'high road' strategies) will be concentrated in sectors producing capital goods and equipment. Indeed, the existence of SME's that produce 'high tech' products is an *extension* of the mass production system. Mass production is built on the use of sophisticated, often purpose-built, machinery and equipment. Thus the expansion of mass markets at the consumer-good end induces the development of discretionary markets for capital goods. The relationship also has an evolutionary dimension in that the development of mass markets for consumer goods precedes and eventually filters down as discretionary markets for the capital goods used in mass production.

This brief overview of the cumulative causation model of industrialization provides the basis for explaining the export performance of emerging exporters since 1992.⁴ In particular a clear distinction can be made between firms that rely on economies of scale as the means for achieving export success, and those firms where product innovation and customer feedback were important. Moreover, the first group, as predicted by the theory, were largely producers of consumer and intermediate goods whereas the second were manufacturers of capital goods. Thus the high road implies creating the conditions in which the whole network of firms, including both large mass producers of standardized goods and small-scale producers of high-tech goods, is created.

4 A more detailed analysis of the theory of cumulative causation with respect to trade, development and industry policy can be found in Argyrous (1993; 1996).

The Sample

The present study investigated the performance of those firms that were part of the McKinsey study in 1992 and which had manufacturing operations in Sydney. Preliminary phone calls to all the original list of 310 firms that participated in the 1992 study were conducted to determine whether they had manufacturing operations in Sydney in 1992. In addition, the 1992 Sydney phone books were consulted to verify the list of 'Sydney firms'. From this preliminary investigation it was determined that there were 95 Sydney firms out of the total of 310 that featured in the McKinsey Report. It is likely that there may have been some errors at this stage of the research in so far as some firms that were manufacturing in Sydney but which no longer are operating were not detected. But given that nearly a third of the original total were identified as firms with some Sydney manufacturing base in 1992, it is unlikely that there were many such firms omitted.

Sydney based firms were chosen for convenience. Given that we intended to visit the manufacturing operations to gather the research data, the time and cost of surveying all 310 firms across Australia was prohibitive. Concentrating on the Sydney firms still ensured that a large share of the original list of Emerging Exporters were surveyed. From the list of Sydney firms it was also decided to exclude one particular cluster of firms. Firms that are now part of the Siemens group (such as AWA Traffic and Information Systems, Interscan, and GEC Plessey Communications) could not be disentangled from each other and related in an exact way to specific operations in 1992. Through restructuring, takeovers, or mergers it was difficult to link a particular operation in 1999 with a particular operation included in the original McKinsey study.⁵

⁵ In addition two firms were excluded as they commented that they had never manufactured their own product but rather had always contracted out their manufacturing needs.

Methodology

Firms that were identified as having some Sydney based manufacturing in 1992 were contacted by factory visits, or, in a limited number of cases where it was more convenient to the firms, by phone interview. The interviews were conducted during the period December 1998-March 1999. A standard set of questions was developed regarding production and export performance since 1992 in order to provide comparable results.

A number of firms declined to participate in the study. This left 75 firms, out of the 95 that were initially identified as Sydney producers, for which information was recorded and upon which the following results are based.

An Overview of Emerging Exporters Since 1992

In general, the experience of the emerging exporters that McKinsey in 1992 heralded as the 'champions' of Australian manufacturing has not been very positive. Of the 75 firms for which useable information was obtained, 17 firms (23%) had, completely shut-down operations in Sydney, or were in the process of doing so. From the 58 Sydney firms that planned to continue some Sydney operations, 11 firms have reduced the size of their Sydney operations. When added to the 17 firms that had completely closed down, 37% of Sydney firms for which information was obtained had experienced some sort of contraction in operations since 1992. Only 14 firms, on the other hand, stated that they had expanded their Australian manufacturing operations.

Thirteen firms indicated that they had, since 1992, established or expanded overseas production facilities. This figure may be understated, though, since some of the firms that have completely closed operations in Sydney, and were therefore not contacted, may have done so in the process of relocating operations offshore. In fact, of the 13 firms that were contacted and indicated some expansion of offshore production, eight had experienced a decline in exports since 1992 and had scaled back some or all of their Australian operations.

Firms were asked to state the dollar value of their annual exports in the previous year. The results are summarized in Table 1.

Table 1: Annual export levels

Export level	Total	Percent
No exports	21	28
Between \$0 and \$2 million	11	15
\$2million - \$50 million	40	53
Over \$50 million	3	4

Only slightly more than half of the firms still export between the \$2-50 million annual amount that defines emerging exporters. Nearly half no longer reach this benchmark, and only three of the 75 firms have expanded exports beyond this point. This gloomy picture is reinforced by the responses to the question as to whether exports have decreased, remained static, or increased since 1992. These responses are summarized in Table 2.

Table 2: Export levels since 1992

Export levels have:	Total	Percent
Decreased	46	61.0
Remained static	4	5.5
Increased	21	28.0
Don't know	4	5.5

Clearly, the emerging exporters of 1992 have not lived up to expectations. It was evident from the responses that the Asian crisis has been significant in explaining these experiences. Yet a closer examination the responses indicates that, aside from the specific factor of the Asian crisis, other general forces were also operating. In particular, the firms that provided information regarding the factors affecting their export performance cluster into two distinct groups: those emphasizing economies of scale, and those emphasizing feedback from customers.

Local Markets and Globalization

Part of the globalization rhetoric has been the argument that international companies will treat the world as one big market, basing decisions about where to produce on cost considerations or the availability of key inputs, thereby causing deindustrialization in the developed countries. The local market evaporates into the larger world market so that locational decisions are based on supply-side considerations alone. This study has found that in many instances globalization has *accentuated* the importance of local market conditions in the decision as to where production is to take place. As companies concentrate their international production into fewer plants, the choice of which plants to close and which plants to expand or build anew is not necessarily driven by 'low road' factors of pure input costs, but by the 'high road' consideration of an expanding domestic market in the host country. Even where the eventual market is perceived to be global in scale, the realization of economies of scale in the local market as a stepping stone to exporting is clearly evident in this research. Indeed it is the major finding of this study.⁶

For example, firms were asked to identify factors that have affected exporting since 1992. The most common response identified the Asian crisis, which provides the backdrop to most of the findings. But the other major factor that was mentioned related to domestic demand factors, which was mentioned by 20 firms, representing nearly a third of all firms who responded to this question. The transcripts of the interviews are littered with comments illustrating the importance of local demand conditions to exporting success:

"domestic market as a bedrock"

"one must have reasonable production volumes in Australia to get costs low enough to compete in export markets"

"economies of scale are important"

6 A similar conclusion was reached by a recent survey of manufacturers by *Australian Business* and the Colonial State Bank. It found that those firms with the strongest base in the domestic market were also those best able to weather the Asian Crisis (1999).

“all products exported are run-ons from domestic sales”

“to get markets in Japan and Asia economies of scale are everything. Couldn't compete with overseas valve-makers without economies of scale”

“couldn't export unless we had a large domestic base – only 10 players worldwide – need to be big”

“can't set up to export – not viable – domestic market needed”.

Of particular interest is the stress placed on local market conditions by subsidiaries of multinational companies (MNC). The local subsidiary of a multinational pharmaceutical company, for example, made the following comment:

If we did not have a domestic market, we could not have an export market. A multinational company without local volumes then not worth producing. Globalization means local markets very important to determine global investments.

It was clear in some instances that when a MNC consolidates global production into fewer locations the key factor determining which plants to expand and which to shutdown is local market conditions. One firm commented, “globalization means you have to put a case forward to parent that local volume justifies Australian investment”. The subsidiary of one MNC that was in the process of closing production gave the reason for closure as “excess capacity globally – Head Office decision that Australian market too small to justify local production”. Another firm explained the global rationalization of corporate production plans in this way: “worldwide company – economies of scale in Australia determine main product to produce and this is what is exported – if customers require a different product then get OS affiliates that produce those products [based on their local economies of scale] to meet demand and vice versa from OS affiliates”. Parent firms often played subsidiaries against each other with local sales volumes a key factor in the final decision. One firm stated that they regard their “sister companies who can reach economies of scale in their local markets” as their main competitors.

A classic case of a virtuous cycle where local market conditions dictated global production decisions is Pfizer, the manufacturer of Viagra. This is a commodity which, for the firm, is homogeneous and easily transportable. Given these characteristics it would appear that the production decision should not rely on local market conditions but rather the world as one big market. Yet the manufacture of this product for the South-East Asian market is based in Australia. Despite Australia having a population aged 65 years or over that is only two-thirds the size of that in Thailand, the *effective demand* for Viagra generated by Australia's smaller aged population was considered significantly greater than that in Thailand, which was considered the alternative production location. It was felt that a stable and growing domestic market could act as a springboard for export to the rest of the region, and as a result exports have grown since 1992 and led to a plant upgrade.

A similar story, but which shows how the same process can reverse itself into a vicious cycle, was provided by Johnson Mathey, a local subsidiary of a UK parent. On the day on which the interview took place, this firm, which produces catalytic converters for motor cars, was in the process of relocating equipment to South Africa. With only 300,000 motor cars produced in Australia annually, for which Johnson Mathey supplied 180,000 converters, the parent regarded local volumes as insufficient to justify continued Australian operations. Total production needed to be at 1.5 million units annually to achieve desired economies of scale, and the domestic market did not absorb enough of this total to warrant continued Australian operations: "if the domestic market had the volume at profit, then can look at selling offshore". The company has therefore switched to the low road, relocating to South Africa where inputs are cheaper and where one of its major customers, Rover, has also relocated.

Another interesting aspect to this firm's operation was that they were in the process of adapting their main product as an industrial catalyst for water utilities and also for retail food outlets where cooking smells were a problem. Thus the seed was there for Kaldor's evolutionary process by which a mass producer of intermediate or consumer goods begins to 'spin off' smaller capital goods producers who originally developed as a sideline to the main production process. But with the domestic market in

decline a potential virtuous cycle turned vicious, and these other product innovations have also been lost.

This result – that local demand conditions are being accentuated by the process of globalization – requires some explanation since it seems counter-intuitive. The research suggests that a number of reasons make local demand conditions a critical factor in global production decisions. Some firms commented that exports begin as a plant filler and a means of selling excess production volumes so that exporting evolves slowly. Feedback from customers in the development stage was also identified as a key influence, and this is obviously facilitated by proximity. More generally, though, it is the result of the fact that economies of scale are only realized over time through an evolutionary process involving investment in ever-more specialized equipment as longer production runs begin to justify it. The idea, propounded by the McKinsey Report, that exporting can occur in a short period of time after start-up completely ignores the limitations arising from this evolutionary process.

The following list of commodities produced by those firms who emphasized local economies of scale in export success accords with Kaldor's four-stage model which predicts that they will largely be manufacturers of consumer or intermediate goods.

- electric motors
- pet food
- hearing devices
- brass rods
- water filters
- wheat products/flour
- furniture
- electrical accessories
- seafood, snacks, pre-prepared meals
- catalytic converters for autos
- mouthwash
- pharmaceuticals

- valves/aerosol containers
- hotwater heaters
- window and door frame weather sealing/hinges
- milk and juice packs
- steering and suspension for autos
- air conditioning equipment
- personal care products

From the responses of the firms it is clear that these types of homogeneous consumer goods need not be produced on the basis of 'low road' factors. The production of these goods at an internationally competitive price can also be achieved through the development of a local market that allows firms to realize economies of scale in the production of these commodities. This counters the common argument that a high road strategy depends on Australia concentrating on high-tech products directed to luxury or niche markets. This is a view shared, for example, by the McKinsey Report and Marceau *et al* (despite their other differences). This idea, however, reflects a type of commodity fetishism which equates the nature of the final commodity with the 'quality' of the production process and its implications for working conditions. Simply because a final commodity apparently embodies a significant amount of technological sophistication does not necessarily mean that the production process from which it emanates also embodies a high degree of technological sophistication. Conversely, simply because a firm produces a standard mass produced product, such as those listed, does not necessarily mean that it does not require a high degree of technological sophistication in the production process. Moreover, at the economy-wide level, the need for an expanding domestic market requires rising real wages and income security for a significant part of the population. It is only when these conditions exist so that mass production of consumer goods can take place that a layer of SME's producing high-value-added exports can emerge. As we shall see in the next section, those firms that depend for export success on producing high-value-added products are usually tied into the production process of these other firms which follow a more traditional mass production system.

Exporting and 'High-tech' Products

Another set of firms to those described in the previous section identified export success with the ability of firms to establish a relationship with key customers in the local economy; customers who could especially provide feedback on product development. These firms (12 in total) fitted the description of small-to-medium firms producing technologically sophisticated products. The list of the products produced by these firms hints at the structural characteristics of the economy which gives rise to them.

- conveyor materials and product handling equipment
- gas handling equipment and gas products
- carbon black for tyre reinforcing
- voice logging telecommunications equipment
- electrical/mechanical equipment
- cinema film developing equipment
- concrete pumps
- lubricating oils and gases
- boilers for sugar and water processing
- machinery for producing rice products
- cell and tissue culture products
- press tools and brick-making equipment

Even a cursory glance at these products indicates the predominance of capital goods producers, a feature that was also evident in the McKinsey Report.

It is especially noticeable that for these firms an established connection with the subsidiary of a MNC can be important in making the transition to exporting. As the list indicates, these firms produce high-value-added, specialized equipment, which is often custom-made to specifications. In such an environment non-price factors such as reputation and reliability are often more important than price in determining competitiveness. By dealing with the local subsidiary of a

MNC, either through intra-firm trade as part of the same conglomerate structure (for example CIG Gas Cylinders), or as an accredited external supplier, these input producers gain the credibility which provides the starting point for exporting – price alone will not suffice. One firm commented: “we get export contracts e.g. Indonesia, by supplying local subsidiary of multinational firm”. Another firm commented that “60% of exports are to MNC oil companies. Once sell to local affiliates then can sell to foreign affiliates. But the original relationship grew up in Australia”. Similarly, Continental Carbon uses its connections with Pacific Dunlop in Australia as a means of being accredited for sales to overseas divisions of Pacific Dunlop.

An illustration of the evolution of such firms is provided by Filmlab Engineering, which is part of Greater Union Cinemas. This firm produces cinema film development equipment. The firm began as part of Colorfilm which developed photographs. The expansion of this consumer market led to the establishment of an internal machine-making division, initially to satisfy its own needs for photo development equipment, and then subsequently as an independent firm to produce this equipment for other customers such as the Defence Department. This division became Filmlab which was then purchased by Greater Union for whom it adapted its product for the cinema industry. Through a ‘captured market’ provided by the parent firm, it now exports to over 75 countries.

The other important aspect of these emerging exporters is that their key customers were usually mass production firms. In fact, in some instances these key customers were other firms in the emerging exporters list who rely on economies of scale to achieve export success. Southcorp, for example, was mentioned by 3 firms as providing a significant relationship which facilitated product development and other forms of innovation. This highlights the complementarity between the two market types discussed above.

Government Demand and Market Formation

The research has identified the importance of two distinct but related market conditions in determining the success of manufacturing exporters. This observation provides a different perspective on the role of government spending in the economy. Government spending is often treated as a single aggregate which impacts on the macroeconomy. In fact, it is made up of many individual spending programs, each having a specific impact on individual markets.

The research has found that for each of the two market types discussed above, the government can play a significant role. In relation to industries where economies of scale are important, Government spending has always been a powerful source of market growth, stabilizing demand in terms of quantity and also through the imposition of uniform standards. The government is often the classic mass consumer, purchasing large quantities of homogenous goods. Fleet purchases of motor vehicles, for example, remains a critical market for what is left of the Australian motor vehicle industry.

This view of government spending raises questions about the impact of current economic rationalist policies such as out-sourcing and privatization. While such policies appear to increase efficiency in the static neoclassical sense, they may not be efficient in the dynamic Schumpeterian, evolutionary sense. That is, by fragmenting government purchasing power the incentive to reach economies of scale by suppliers is also shredded. A clear example of this from the research is Email Furniture (now Brownbuilt Furniture). Email, under the large tender system previously used by government departments to purchase office equipment, was listed as a preferred supplier. This gave stability and quantity to demand which facilitated economies of scale. The recent devolution of government purchasing to local budget units, however, has splintered the government's ability to act as a 'market-maker'. Coupled with import competition as a result of tariff reductions, this company has since been taken over by a competitor who has closed down production plants in Sydney and Brisbane, and seen its export sales fall to below \$0.5 million in 1998.

Similarly, the government can have an impact in so far as it is also a producer that requires specialized inputs into its own production processes. One firm engaged in producing telecommunications equipment found this to be particularly important in assisting in its export growth and has led to an expansion of its domestic production facilities. Similarly, another producer of water pipelines, who has experienced growth over the past two years, relies almost exclusively on government authorities as a key consumer. Esco Industries similarly represents the classic small-scale producer of specialized inputs into larger production processes. A family owned firm which makes electrical equipment largely for the health sector, Esco has relied on feedback from hospitals as its key consumers for product development. With reductions in government capital spending, generally, and in the health sector in particular, Esco has experienced a contraction in sales, with exports falling below \$2 million in 1998.

A large volume of literature has recently developed arguing that public investment has a significant relationship with private productivity and profitability. Thus, public investment "crowds in" private investment (Aschauer, 1989). This argument, however, has been criticized for not establishing any *causal* link between public investment and private productivity. The findings of this study hint at where such a causal link may be found; by acting as a key customer for manufacturers of specialized equipment, government investment sustains the crucial layer of capital goods firms that play a pivotal role in the diffusion of technology (Rosenberg, 1976). The spill-over effects that arise when these firms adapt for the private sector products initially developed for government purchase raise overall productivity levels. This translates into rising real incomes, which expand the domestic market for consumer goods, which then induces further investment, and so on in a cumulative way.

Conclusion

It is commonly presumed, as in the McKinsey Report, that firms based in Australia cannot hope to compete in the production of mass produced consumer and intermediate goods, since Australia cannot provide a low enough cost structure to entice investment in such industries. Nor, it might be argued, should it want to. The alternative commonly proposed is for Australia to focus its manufacturing base on a different set of commodities; high-value-added goods often selling in niche markets. Thus the high road supposedly entails a shift in focus to an entirely different type of commodity.

This paper argues that such a characterization of the problem, and therefore the solution, is incorrect. Australian-based firms can be competitive in the production of mass produced goods, but not through the low road strategy of cheapening labor and lowering standards. A high road option is also available for the production of these goods, which seeks to lower unit costs through the realization of economies of scale. It is clear from the firms in this study that this option is very much open; indeed globalization and intra-firm trade has only made it more so.

Indeed, the type of high-value-added products produced by small-to-medium sized high-tech firms, normally associated with a high road strategy, emanate out of the prior development of mass production industries. The theory of cumulative causation, by taking an economy-wide perspective that emphasizes the vertical integration of industries into a network, suggests that the high road option entails *both* manufacturers of mass produced goods and small-to-medium producers of high-value-added commodities. These two sets of firms create mutually reinforcing supply-and-demand relationships that can lead to a virtuous cycle of growth. To focus on one aspect of a mutually dependent relationship, at the expense of the other, is doomed to failure.

A useful way of explaining the main findings of this study is provided by Marx's aphorism that every capitalist wants the wages of their own workers to be low but the wages of the workers of every other capitalist to be high. This statement neatly captures the problem of aggregation when looking at the recent performance of Australian manufacturing. To

individual firms in Australia there is increasing pressure to cut costs and to pursue a low road strategy, given the decline in the economies of scale being afforded by the domestic market. But it is precisely this cost-cutting that is undermining the domestic market. The firms in this study regarded "economies of scale" and the "domestic market" as externally given parameters, outside of their individual sphere of influence. Yet the domestic market is nothing more than the collective outcome of all their individually taken decisions. Thus a vicious cycle emanates as each firm feels the pressure to adopt a 'low road' strategy, which then only exacerbates the conditions which are creating this incentive in the first place.

Australian manufacturing thereby finds itself caught between the two options of a high road or low road to industrialization. It is doubtful that working conditions and wages can be cut to such a level in Australia such that Australian-based firms can truly compete through this avenue (despite the efforts of recent industrial relations 'reform'). Yet they may pursue this strategy to a sufficient degree as to preclude the alternative high road option as well. The result may in fact be a dead end or the exit ramp: firms closing down or choosing to relocate to countries where the conditions for either strategy are more securely based.

It is difficult to see how this impasse, where a country is caught between the two strategies, can be broken without some kind of government action. We have seen that the government *qua* consumer can be a significant factor in creating the type of markets that induce firms to pursue the high road option. But the government can also create the conditions that induce firms to pursue the kind of evolution depicted in Kaldor's four-stage model. The starting point is a large domestic mass market, which ultimately is rooted in gradually improving living standards for the bulk of the population. Thus by promoting real-wage growth over a time-frame that allows producers to meet demand by increasing capacity, the government can expand the size of the local market. Similarly, by redistributing income in an equitable manner, the government can ensure that a greater proportion of the population can access markets to which they were previously excluded.

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