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The Increasing Competitiveness of Developing Economies And Their Impact on Australian Industry
B.L. Johns and J.S. Metcalfe
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THE INCREASING COMPETITIVENESS OF DEVELOPING ECONOMIES AND
THEIR IMPACT ON AUSTRALIAN INDUSTRY *

1. Introduction

One of the most important economic developments of the last twenty years has been the emergence of a number of developing countries as significant exporters of manufactured goods to world markets. Several of the most successful newly-industrialising countries are in East and South-East Asia. Their relative proximity to Australia suggests that the increased competitiveness of their manufacturing industries may have even more impact on this country than on industry in Europe or North America.

Export-led industrialisation in Asia represents an immediate source of pressure for structural change in Australian industry. Yet it is reasonable to claim that we are witnessing no more than a normal evolutionary process in the dynamics of changing comparative advantage. The accumulation of human and physical capital and the international diffusion of new technology will inevitably give rise to changes in comparative advantage. Only if these changes are translated into changes in the pattern of trade and in the structure of industry will be the benefits of economic development be realised.

While it is certainly appropriate to be sanguine about the potential long-term benefits to Australia arising from Asian industrialisation, a number of short-run problems have to be recognised. First, there is a fairly widespread belief that in the present economic circumstances increases in net imports of manufactured goods from the developing countries will tend to add to an already unsatisfactory unemployment situation. Concern about the potential effects on

* The authors acknowledge the assistance of Ms Ruth Morschel with data collection and calculations for this paper. In revising the paper we have benefitted from comments by Dr Ross Garnaut, colleagues at the B.I.E. and participants at the Conference.
income distribution may induce the introduction of policy measures which inhibit the reallocation of resources. Secondly, sudden pressures for structural change in industry may cause acute adjustment problems, particularly where the mobility of the workforce most affected by the changes is low. Thirdly, factor market distortions or temporary fiscal incentives in the newly industrialising countries may cause producers there to manufacture and export certain types of goods which are not ideally suited to the countries' comparative advantage. To the extent that these distortions and interventions result in a less efficient resource allocation and a lower real income in the developing country than would otherwise have been possible, they have an adverse impact on Australia and other exporters to the region.

This paper is designed to explore a number of selected issues which seem to be important in understanding the effects on Australian industry of the increased competitiveness of developing Asian countries. The paper is organised as follows. In the next section we discuss the recent growth of world exports of manufactures by the developing countries and the changes in the types of products exported. The following section examines the growth of trade in manufactured goods between Australia and a group of ten Asian developing economies. Some comparisons are drawn between the experience of Australian industries in this respect and that of industries in O.E.C.D. countries generally. Section 4 looks at the impact on employment in Australian manufacturing industry of increased trade with developing Asia. Section 5 examines some limited evidence about the changes in profitability, employment, investment and productivity in those Australian industries particularly subject to increased competition from developing Asia. An attempt is made to contrast the experience prior to the introduction of quantitative restrictions with that subsequently. This section also includes some do for a group of industries which have increased the proportion of output exported to developing Asia. Section 6 summarises some of the major findings.
2. Growth in exports of manufactures by developing countries

Between 1970 and 1976 total exports of manufactures\(^1\) from the industrialised countries\(^2\) increased by 57 per cent in volume terms. \(^3\) During the same period the developing countries\(^4\) increased their volume of manufactured exports by 103 per cent.

About two-thirds of the manufactured exports of the non oil-exporting developing countries are destined for O.E.C.D. countries, although it is interesting to note that the share of such exports going to the OPEC countries doubled, from about 4 to 8 per cent, between 1970 and 1976.

One feature of the recent growth in manufactured exports from non oil-exporting developing countries has been the marked differences in export performance between individual countries. In general, the developing economies of East and South-East Asia have pursued an export-led industrialisation strategy which has been reflected in high rates of GDP growth as well as high rates of export growth. Those countries in the region that have proceeded furthest along the industrialisation path, namely, Singapore, Hong Kong, South Korea, and Taiwan,\(^4\) substantially increased their share of world exports of manufactures between 1963 and 1976, as Table 1 shows.

Although these four newly-industrialising countries accounted in 1976 for only 4.1 per cent of total world exports of manufactures, this represented about 62 per cent of all manufactured exports by the developing countries in that year.

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1. SITC sections 5 - 8.
3. OPEC and other developing countries outside Europe or the Eastern bloc.
4. In the four countries named manufacturing industry accounted for 24 per cent or more of GNP in 1975. The corresponding figure for Australia was 21.5 per cent (in 1975-76).
In a recent report by the O.E.C.D. Secretary General (O.E.C.D., 1979) attention was drawn to several other newly industrialising countries which have significantly increased their share of world manufactured exports since 1963. These include Brazil, Mexico, Argentine, Spain, Portugal, Greece and Yugoslavia. All of these countries have a deficit on their trade in manufactures which tended to increase between 1963 and 1976. By contrast, Hong Kong, South Korea and Taiwan now each have a surplus on their balance of trade in manufactures and this has been increasing in recent years.

Another feature of the recent growth in manufactured exports from developing countries has been the changing product composition. Table 2 provides some details of manufactured exports from the non-oil-exporting developing countries to North America, Western Europe and Japan. It is interesting to note that engineering products, particularly household appliances and office and telecommunications equipment, and clothing have accounted for an increasing share of these exports. At the same time textiles, iron and steel, wood and paper, other semi-manufactures and other consumer goods have declined in relative importance.

In 1976, clothing was the commodity group in which the developing countries held the largest share of total exports to the industrial countries - 42 per cent. In textiles, household appliances and other consumer goods the developing countries' share of these exports was considerably lower but still exceeded 14 per cent in each case (Table 2).

5. Imports and exports f.o.b.
Clearly, these shares reflect the comparative advantage of the developing countries in labour-intensive manufactured products. However, there are evident signs that in the more industrialised of the Asian developing countries increasing real wage rates are making it less economic to concentrate on the production and export of clothing, textiles and other labour-intensive manufactures. In these countries exports of manufactures requiring greater capital or skill intensity have tended to increase in recent years at a faster rate than exports of products making more intensive use of unskilled labour.

3. Australia's trade in manufactures with developing countries

This section of the paper focusses on the recent growth of trade in manufactures between Australia and ten developing countries in Asia. The ten countries included in the analysis are the five ASEAN countries, (Thailand, Indonesia, Singapore, Malaysia and the Philippines), Hong Kong, South Korea, Taiwan, India and the People's Republic of China. Given the heterogeneity of these nations in per capita income levels, degree of industrialisation and openness to trade, we shall find it useful to distinguish two groups among them. In one group are Singapore, Hong Kong, South Korea and Taiwan which have high per capita income levels relative to other countries in the region and are more industrialised. In the other group are the remaining six countries, recognising of course that this group is still far from homogeneous in size, factor endowments or openness to trade.

Manufactured goods are a major element in Australia's trade with the ten Asian developing countries taken as a whole.

In 1977-78, 89 per cent of Australia's imports

7. These four countries are included in the O.E.C.D. grouping of newly-industrialising countries (O.E.C.D., 1979). In the remainder of this paper the term newly-industrialising countries or N.I.C.'s is used for convenience of exposition to distinguish these four countries from the remaining Asian developing countries.
from these countries and 58 per cent\(^8\) of our exports to them consisted of manufactures.

These countries account for much of Australia's total trade in manufactures with the developing countries. Just over one half of manufactured exports to the developing nations go to these ten Asian nations, while the bulk of our imports of manufactures originate there. Thus, data relating to these countries should provide a reasonably reliable indication of the overall impact on Australian industry of increased trade with the developing countries.

a) Imports

The recent rapid growth in imports of manufactured goods from developing Asia has been well documented,\(^9\) although there has been less comment about the changing industrial composition of these imports. Between 1968-69 and 1977-78, Australia's imports of manufactures from the ten Asian countries increased at an average annual rate of 24.5 per cent (at current prices), whereas imports of manufactures from all sources increased at an average rate of only 12.8 per cent per annum. As Table 3 shows, the four Asian N.I.C.'s (Singapore, Hong Kong, Taiwan, and South Korea) have increased their share of Australian imports in each of the 12 two digit industry groups and not merely in those industries which are relatively labour-intensive. On the other hand, the other Asian developing countries have

\(^8\) This average percentage conceals the fact that only about 30 per cent of Australia's exports to China and India consist of manufactures, while more than 85 per cent of exports to Singapore, Hong Kong, Thailand and the Philippines are manufactures.

tended to increase their share of Australian imports mainly in those labour-intensive or natural-resource based industries where they already had a significant share in 1968-69 (e.g., clothing and footwear, wood and wood products and furniture and food (beverages and tobacco)).

This evidence that the pattern of growth of manufactured exports has differed significantly between the four N.I.C.'s and the remaining six Asian developing countries should not be allowed to obscure the fact that the competitiveness of the developing Asian countries is still largely concentrated in the supply of labour-intensive manufactures. It is essentially in three industry groups, clothing and footwear, wood, wood products and furniture, and textiles that these countries combined have a large share of Australia's imports. (Table 3) Moreover, the four N.I.C.'s continue to provide a share of Australia's imports which is larger in these three industry groups than in any others. 10

Nevertheless, capital accumulation, both of human capital and physical capital, and the associated rise in real wages is tending to move the more advanced developing countries of the Asian region into activities requiring higher capital intensity, more advanced technology and greater skills. 11 In paper products and printing, for example, Singapore, Hong Kong and South Korea have significantly

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10. This is true of the two groups of developing nations, but not of all the individual countries in the groups. Singapore, for example, has its largest share of Australian imports in the chemical, petroleum and coal products industry by virtue of its supplies of refined petroleum products. In the case of South Korea, its share of imports of clothing and footwear is the largest for any industry but the second largest share is in basic metal products, where it supplied over 5 per cent of Australia's imports in 1977-78.

11. Increased flows of private foreign direct investment and technology transfers within multinational corporations have been significant elements in this process.
increased their shares of Australia's imports. Taiwan and Hong Kong have both expanded their shares of Australian imports of fabricated metal products since 1968-69. Hong Kong has increased its share of electrical machinery imports while South Korea has expanded its share of imports of basic metal products.

This is not to say that these shifts in comparative advantage will necessarily reduce the pressure on Australia's labour-intensive industries in the future. For one thing, the expected increase in overseas demand for Australia's energy materials and other natural resources will tend to induce an appreciation of the exchange rate and so reduce the profitability of the import-competing industries. Secondly, as the more industrialised developing countries gradually reduce their emphasis on exports of products which make intensive use of unskilled and semi-skilled labour, so other less developed countries in the region are likely to assume greater importance as exporters of such goods.

Before leaving the data on import shares, it is useful to compare the import shares of the four Asian N.I.C.'s in the major Australian industry groups with their shares of imports in the corresponding industries in the O.E.C.D. countries. Although limited information is available for both regions for 1977 and some earlier years it has not yet been possible to convert the O.E.C.D. data from a SITC commodity basis to an industry basis strictly comparable with ASIC. Nevertheless, it is apparent from the preliminary work that in all broadly comparable


13. Balassa (1978). It is worth pointing out that the more industrialised developing countries are likely in due course to become net importers of labour-intensive manufactures, so that the less developed countries should be able to find markets for such exports in those countries as well as in the advanced nations.

14. In the case of Australia, the data are for 1977-78.
manufacturing industry groups, these four countries (Singapore, Hong Kong, South Korea and Taiwan) have substantially increased their share of imports into both Australia and O.E.C.D. in recent years. Yet, in 1977 in nearly all industries these developing countries supplied a significantly larger share of Australia's imports than of O.E.C.D. imports. This latter result is not altogether surprising. In the Australian market, lower transport costs and increasing foreign investment ties provide Asian manufacturers with a greater competitive edge over alternative sources of supply of labour-intensive products. On the other hand, in the markets of most other advanced O.E.C.D. countries the advantages of proximity tend to favour suppliers located in other newly-industrialising countries such as Spain, Portugal, Greece and Brazil.

The discussion thus far has focussed on import shares rather than on import penetration. Yet the latter is more relevant to an assessment of the impact of Asian industrialisation upon Australian industries. Table 4 shows for each 2 digit industry group how imports from developing Asia and from all other countries increased between 1968-69 and 1977-78 as a proportion of total domestic sales. It should be pointed out that although the imports are attributed to individual industry groups, they are not all directly competitive with domestic products.

As the table indicates, import penetration from developing Asia exceeds 10 per cent of domestic sales in only two broad industry groups, clothing and footwear and textiles. At the three digit 15. The only exception appears to be 'other machinery and equipment'.
level there were only 6 industries of a total of 41 in which import penetration exceeded 10 per cent of domestic sales in 1977-78. These were leather and leather products, footwear, knitting mills, clothing, textile fibres and yarns and petroleum refining.

Import penetration from developing Asia has been increasing since 1968-69 in all 2 digit industry groups, although in most cases from a very low base. Import penetration from other countries has also been increasing during this period except in the case of the paper, paper products and printing and basic metal products industries. In general therefore the increased import penetration from Asia has not been at the expense of imports from other sources.

Notwithstanding the introduction of quantitative import restrictions in 1975, total import penetration in clothing and footwear has continued to increase since 1975-76. Over this recent period the increase in import penetration can be ascribed entirely to additional imports from Asia. Imports of these products from other sources have been increasing more slowly than total Australian domestic sales.

Manufacturing industries (at the 3 digit ASIC level) were ranked in order of the increase in import penetration from developing Asian countries between 1968-69 and 1977-78. This ranking was compared with the ranking of these industries in terms of capital intensity and a proxy for skill.\textsuperscript{16} The Spearman rank correlation

\textsuperscript{16} Value added per employee and fixed assets/sales were used as alternative measures of capital intensity, while wages and salaries per employee was used as a proxy for skill.
coefficients, which were significant at the 1 per cent level, showed that the industries which had experienced the largest increases in import penetration were generally those with relatively low capital intensity and low skill intensity.

b) Exports of manufactured goods from Australia

The substantial increase in exports of manufactures has been the major factor contributing to the recent rapid growth of incomes in several of the Asian developing economies. In the period 1970 to 1976, for example, average per capita income increased by more than six per cent per annum in Singapore, South Korea, Hong Kong and Taiwan. In addition to the substantial growth of aggregate income in the Asian region, the propensity to import has also risen in most countries\(^\text{17}\) as a direct consequence of the increased competitiveness of their manufactured exports. The most striking illustration is provided by South Korea where imports as a percentage of GNP rose from less than 14 per cent in 1965 to almost 37 per cent in 1975.\(^\text{18}\)

To what extent has the rapid growth in the total imports of the Asian developing countries resulted in higher exports of manufactures from Australia? Clearly, the rate of growth of Australia's manufactured exports to the region may not match the rate of growth of her imports of manufactures from these countries. In fact the percentage of Australia's exports to developing Asia taking the form of manufactures has declined from 65 per cent in 1975-76 to 58 per cent in 1977-78. This could be partly a consequence of this country's relatively rich natural resource endowment and the growing demand in the newly industrialising countries of Asia for energy goods and other industrial raw materials.

\(^{17}\) China and India appear to be major exceptions to this generalisation at least during the period 1965 to 1975.

\(^{18}\) B.I.E (1978)
materials. Secondly, it partly reflects the pattern of Australia's exports of manufactures to the region. Food products figure prominently in Australia's exports of manufactures to developing Asia. However, in recent years the pattern of Asian import requirements has been changing, with less emphasis on imports of food products and more on machinery, where Australia is not a major supplier. 19 Thirdly, the cascading of tariff rates with higher rates of effective protection for manufactures than for raw materials and semi-processed products seems to be a feature found increasingly in developing countries as well as in advanced countries. 20 This too may hinder the growth of Australia's manufactured exports to the Asian region relative to the growth of exports of primary products or services.

Despite the influence of these restraining factors one might expect to find that in the past decade the rate of growth of manufactured exports to developing Asia has been higher than the rate of growth of domestic output, at least in those Australian manufacturing industries which produce exportables. 21 The reason is simply that these economies have enjoyed a faster growth in incomes than Australia itself or any other group of nations to which we export. 22 Moreover, as indicated previously their import growth has exceeded their GNP growth, with the most rapid growth in import requirements taking place in manufactured goods rather than in foodstuffs and other primary products.

20. Lal (1979)
21. This expectation depends on the fact that Australia's overall international competitiveness did not decline, taking the decade as a whole.
22. The oil-exporting developing countries as a group have probably experienced a faster rate of income growth during part of the period from 1965-69 to 1977-78. One oil-exporting country, Indonesia, is included among the developing Asian economies considered in the present paper.
The data in Table 5 confirm that most Australian manufacturing industries (at the 2 digit level) did increase the proportion of their output which was exported to developing Asia over the period 1968-69 to 1977-78. Nevertheless, at the end of this period only two industry groups, basic metal products and food, beverages and tobacco were selling more than 3 per cent of their output to the ten Asian developing nations covered in this paper.

At the three digit level it is possible to identify more precisely the industries which improved their total export performance between 1968-69 to 1977-78. In some cases, however, the improvement in export performance was attributable mainly to increased exports to the advanced countries rather than to developing Asia (e.g. basic non-ferrous metals). Only four industries, basic iron and steel, basic chemicals, other transport equipment and photographic, professional and scientific equipment significantly increased the proportion of their output exported to developing Asia to the extent that this accounted for more than half of the total improvement in the industry's export performance in the period.

Following analysis at an even greater level of disaggregation (4 digit), the Industries Assistance Commission\(^23\) has recently pointed to the principal characteristics of Australian manufacturing industries which are currently exporting to the developing Asian market economies\(^24\) or have the potential to do so. It suggests that these industries are characterised by a high proportion of


\(^{24}\) The I.A.C. analysis covered eight of the Asian developing economies discussed in this paper but did not include China or India.
tertiary qualified and managerial employees, high capital intensity, low effective rates of assistance and a low degree of concentration. Generally speaking these characteristics accord with a priori expectations, given Australia's greater relative abundance of skilled labour and physical capital in comparison with the developing Asian economies.

c) Trade specialisation

Given the major differences that exist between Australia and the Asian developing countries in factor endowments and per capita income levels it is to be expected that trade between them would be mainly inter-industry trade. Even if attention is confined to trade in manufactured goods, it is apparent that there is little intra-industry trade. This is confirmed by a comparison of Figures 1 and 2. Figure 1 shows that Australia's manufactured exports to Singapore, Hong Kong, South Korea and Taiwan as well as to the six other Asian developing countries consist largely of natural resource based and capital intensive products (notably, food beverages and tobacco, (ASIC 21-22) and basic metal products, (ASIC 29)). On the other hand, imports of manufactures from both groups of countries are concentrated in labour-intensive products (particularly, clothing and footwear, (ASIC 24) and textiles, (ASIC 23)). The very limited amount of intra-industry trade in manufactures identifiable at the 3 digit level is mainly in petroleum refining, photographic professional and scientific equipment, appliances and electrical and industrial machinery and equipment.

However, as trade tends to induce factor price equalisation there could be signs of increasing intra-industry trade between Australia and the more industrialised of the Asian developing economies, Singapore, Hong Kong, South Korea and Taiwan. As we have already noted the rapid growth of manufactured exports from these
newly-industrialising countries has been associated with a reduced emphasis on products making intensive use of unskilled labour and relatively more emphasis on manufactures with a higher capital or skill content. This trend implies that for the Asian developing economies as a whole greater diversification in the composition of manufactured exports is taking place. This increase in diversification is illustrated in Figure 3 by the inward shift of the Lorenz curve relating to imports of manufactures into Australia from developing Asia. However, the same figure indicates that between 1968-69 and 1977-78 exports of manufactures from Australia to the Asian developing countries became more concentrated. This reflects in part the increased significance of basic metal products and food beverages and tobacco in manufactured exports during this period.

By way of comparison, Lorenz curves were also drawn for the trade in manufactures between the Federal Republic of Germany and the developing countries, based on information contained in U.N.I.D.O. (1979). Germany was chosen for the comparison because it is an advanced nation with relatively low barriers to trade with the developing countries. As may be seen in Figure 4, the Lorenz curves for the Federal Republic of Germany have shifted in much the same way as those for Australia. It is particularly evident from the figure that German imports of manufactures from developing countries have become more diversified since 1970.

The similarity of experience between Australia and Germany as far as their manufactured imports are concerned is consistent with the changing comparative advantage of the newly-industrialising countries to which we have already referred. The results of the comparison do not lend much support to an alternative view that
Australia's quantitative restrictions or tariffs have been the primary cause of the increased diversification of our manufactured imports from Asia.

4. The impact on employment

When governments of advanced countries have introduced protective measures which effectively restrict the growth of manufactured imports from developing countries, it has usually been on the grounds that such measures are needed to preserve employment in local industries. In the long-run, however, aggregate employment is not likely to be threatened by changes in the division of the labour which result from developing countries increasing the proportion of their resources devoted to manufacturing. The advanced countries which receive most of these additional exports of manufactures will normally be able to offset employment losses in their more vulnerable import-competitive industries by increasing exports either to the developing countries or to third countries. As Balassa (1979b) has shown, exports of manufactured goods from the developed nations to the developing countries increased more than their imports of manufactured goods from these countries during the period 1973 to 1976. If that trend persists, it may be expected to offset the possible employment losses in the advanced countries which could arise if the labour content per unit of their manufactured exports declines relative to the labour content per unit of their manufactured imports.

However, a legitimate area of concern is that a rapid rate of trade integration with the developing countries may induce effects on the structure of employment in the advanced countries which will
cause social or regional problems. It is certainly possible to argue that gross job displacement in particular industries is relevant and not merely the net employment loss for the economy as a whole. Moreover, it may be the gross job displacement from all causes which helps to determine a country's commercial policy rather than the job displacement attributable to increased imports.

Until recently, there was little quantitative evidence to throw light on the short-term effects on employment in the advanced countries arising from their increased trade in manufactures with the developing countries. Now, however, a number of empirical investigations have been reported and the results conveniently summarised in O.E.C.D. (1979). The various studies have employed a number of different methodologies. For example, the study by the Commissariat General du Plan in France sought to establish first, the direct employment content of French exports to and imports from the L.D.C.'s. A variety of possible scenarios for export and import growth between 1977 and 1985 were used, from which it was possible to compute the net direct employment consequences of the alternative projections of trade growth. The results show that such net employment effects could vary within the range of plus and minus 5 per cent of total employment.

An entirely different methodology was used by Marsden and Andersen (1979) in their investigation of the impact of increased trade upon employment in Australian manufacturing during the period 1968-69 to 1975-76. Following an approach originally developed by Krueger, they seek to decompose actual employment changes in the 12 two-digit

25. In other words, the community may have a 'conservative social welfare function' to use Corden's term (Corden (1974)).


manufacturing industries into four elements - employment changes due to productivity growth, the change in domestic demand, the change in export performance, and the change in import penetration. They found that increased trade in manufactures with a group of eight developing Asian economies\(^{28}\) could only account for a very small part of the substantial loss in manufacturing employment which took place in the first half of the 1970s. A continuing rise in labour productivity and a poor rate of demand growth after 1973-74 appeared to be the principal sources of employment loss.

The approach used by Marsden and Anderssen makes use of a basic identity to decompose the sources of employment change. It is therefore better suited to describing the elements in the employment change rather than analysing the causal influence of the growth of Asian imports.\(^{29}\) In certain circumstances, the results of such an exercise could give a misleading impression of the relative importance of import growth as a factor affecting industry employment. Suppose, for example that import penetration increases substantially in a particular industry largely as a result of a lowering of the prices of imports relative to those of domestic products. Since this would tend to lower the average price of products sold in the domestic market, it can be expected to increase the apparent domestic demand. At the same time, the lower import price may tend to promote higher productivity growth, if for no other reason than that the least efficient domestic producers could be obliged to close down. Thus, in this method of approach the true employment effects of an increase in imports may be disguised because part of the employment change attributable to imports is (incorrectly) attributed

\(^{28}\) That is, the ten Asian countries discussed in this paper excluding China and India.

\(^{29}\) This is fully recognised by the authors.
to change in demand or to productivity growth. Further, only the direct employment effects of import penetration are considered, while indirect effects arising through income changes and inter-industry linkages are ignored.

Ideally, a detailed general equilibrium approach is needed to evaluate the impact on employment in Australian industry of an expansion of manufactured imports from Asia. Although this question has not been tackled explicitly by the IMPACT team, their work has included analysis of the effects of a tariff cut and an increase in mineral exports, both of which would be likely to induce increases in imports of labour-intensive products from Asia. To that extent the employment effects of such an increase in imports have been captured, although only as part of a broader exercise.

For the present paper it has been necessary to utilise an existing partial equilibrium method to quantify the effect on industry employment of the increased trade in manufactures with developing Asia. The approach adopted by Marsden and Anderssen has been modified here in only one respect. Trade in manufactures between Australia and India and China has been included in addition to that between Australia and the other eight Asian developing countries. The theoretical limitations of the approach should be recognised, but they do not appear so strong as to invalidate the general conclusions outlined below.

Table 6 shows the extent to which the actual employment change in each 2 digit industry can be ascribed to an increase in the share of the domestic market held by total imports, and imports


31. It will be recalled that in this method the actual change in employment in each industry is partitioned into three other elements apart from that attributable to the change in import penetration. The other elements, which are not shown in Table 6 are due to a) the percentage change in output per worker b) the growth rate of apparent domestic demand and c) the percentage change in the fraction of domestic production which is not exported.
from developing Asia. Table 7 indicates the employment effects of the change in the fraction of domestic output exported to all countries and to developing Asian countries in particular.

Since 1968-69 imports from developing Asia have captured a greater share of the domestic market in each of the 12 two-digit industry categories. It follows, given the method of calculation, that in Table 6 the change in employment in each industry attributable to the growth in Asian imports will be negative. However, in most industries the magnitude of this decline in employment was small amounting in all but two instances to an annual average fall in employment of less than 0.6 per cent. In the clothing and footwear and textile industries the increase in penetration by Asian imports appears to have been responsible for a larger decline in employment - almost 1.7 per cent per annum in the former industry and 0.7 per cent per annum in the latter. Even so, a relatively fast rate of productivity growth coupled with a slow increase in domestic demand, were more important factors in explaining the total decline in employment in these industries of more than 4 per cent per annum between 1968-69 and 1975-76.

Table 7 suggests that in most manufacturing industries any rise in the fraction of output exported to developing Asia resulted in only a very slight percentage increase in the industry's employment. This result does not imply however that rising incomes in Asian countries stemming from their export-led industrialisation are having a negligible effect on total employment in this country. First, industrialisation in Asia is leading to additional exports of minerals, agricultural products and services from Australia to the developing Asian economies. Only exports of manufactured
goods are included in Table 7. Secondly, other countries, such as Japan, are major suppliers of manufactured products to the rest of the Asian region. As incomes rise in the newly industrialising Asian countries so exports from Japan are increasing. Australia benefits indirectly from this process through increased exports of coal, iron ore and other inputs to the Japanese manufacturing sector.

When the information in Tables 6 and 7 is put together it shows that the net direct employment loss associated with increased trade with developing Asia was significant in clothing and footwear (1.7 per cent per annum between 1968-69 and 1975-76), textiles (0.8 per cent per annum) and in wood, wood products and furniture (0.5 per cent per annum). On the other hand there were net gains in employment in the industry groups producing food, beverages and tobacco, basic metal products and transport equipment. Taking manufacturing industry as a whole the net direct employment loss from increased Asian trade was only of the order of 0.1 per cent per annum during this period.

If the scope of the analysis were widened to include Australia's trade in manufactures with all other developing countries, in addition to the ten Asian countries so far considered, the net employment change associated with the increased trade would probably be slightly more favourable than this last figure indicates. This can be inferred from the fact that nearly all of the increased import penetration of the Australian market by the developing nations has been the outcome of increased imports of manufactures from Asia, while the improved export performance of some Australian manufacturing industries has partly reflected increased sales to the Middle East as well as to the developing Asian countries.
The conclusion that increased trade with the developing countries appears to have had a very slight effect on employment in Australian manufacturing is in line with the results obtained from similar studies relating to manufacturing industry in the United States and various European countries. 32 Although several different methods of calculation have been employed in these studies, the results do not differ on this fundamental point. Despite the theoretical superiority of a general equilibrium analysis, it must be doubted whether it would yield a different conclusion regarding the net employment effect on Australian manufacturing industry of the increased competitiveness of the developing Asian economies.

5. Effects on industry structure and performance

Little detailed analysis has been carried out in Australia to determine how an industry’s structure and performance is influenced by increased competitive pressure from imports. For example it is difficult to obtain empirical evidence to test the proposition that the threat or actuality of increased import competition has a ‘cold shower’ effect which raises ‘X-efficiency’ in the industry concerned and (perhaps) in other domestic industries which supply it with inputs. 33 Similarly little attempt has been made to spell out in detail how temporary quantitative restrictions are likely to affect the productive efficiency of the firms in the protected industries.

32. O.E.C.D. (1979)

33. The theoretical support for the proposition may also be lacking. As Corden (1974) concluded “there could conceivably, but by no means certainly, be something in the view that protection reduces efficiency and increases managerial slack” (p. 229).
In this section we include some data on the structure and performance characteristics of individual 3 digit ASIC industries which have been subject to significant increases in import penetration from developing Asian countries. Later we examine some characteristics of 3 digit industries which have significantly improved their export performance in relation to developing Asia. The information is given for two periods, 1968-69 to 1973-74 and 1975-76 to 1977-78. In the latter period only, temporary quantitative import restrictions applied to some of the industries in which import penetration was high.

Before discussing the data in these two tables it will be useful to consider how we might expect industry profitability, employment and investment to be affected first, by greatly increased import competition and then by the imposition of temporary quantitative restrictions. The answers on the first count seem at first sight to be obvious - a decline in employment, profitability, new capital formation and in the number of establishments in the industry is likely, other things being equal. However some qualifications to this view should be noted. First, the observed increase in import penetration may be the outcome of some domestic manufacturers discontinuing certain lines of local production and instead purchasing these items from abroad. In this case a decline in employment and investment in the local industry would still be likely, but profitability could be maintained at previous levels, or even increased. Secondly, it is conceivable, though unlikely, that an industry could maintain its level of employment, profitability and investment in the face of increased import competition if it has the capacity

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34. i.e. Industries in which exports to developing Asia have increased significantly as a proportion of total output.
to reduce its input prices sufficiently. For example, if the increased import competition is the result of a revaluation of the exchange rate, then firms with a low value added to output ratio which import virtually all of their components and material inputs, are largely insulated from the effects of lower prices for their final products.

The effects of the imposition of temporary quantitative import restrictions upon an industry's employment, capital formation and profitability are more difficult to predict. Expectations about future levels of protection and about the timing of the lifting of the temporary restrictions may be critical. Suppose it is generally anticipated that the level of protection will fall significantly within a few years. Then fixed capital formation in the industry is likely to be relatively low and the level of employment may not recover despite the introduction of quantitative restrictions. However, profitability as measured by conventional accounting ratios could be high relative to past standards for the industry. This is because the import restrictions may permit a higher profit margin on sales, while there is a strong likelihood of a rise in the ratio of sales to funds employed. The latter is partly explained by the fact that depreciation allowances are likely to exceed the depressed level of new capital formation.

Against this background we can now consider the data on the recent performance of several manufacturing industries which have experienced a significant increase in import penetration, largely from developing Asia. Table 8 provides a list of industries at the 3 digit level.

35. In fact, employment will usually fall, given a normal rate of increase in labour productivity and the restraining effects on demand growth of a possible increase in average product prices.
which have recently lost a share of the domestic market to imports from developing Asian countries. The five industries at the top of the list are of particular interest. In each case the increase in total import penetration has been relatively large and much of it has been due to imports from Asia. Moreover, these five industries, clothing, footwear, knitting mills, leather and leather products and textiles and yarn all had effective rates of protection in 1974-75 which were higher than the average rate of 27 per cent for all manufacturing industry.

Table 9 provides some details about the recent economic performance of these five industries. First, it may be seen that between 1968-69 and 1973-74 the effective rate of protection declined significantly in each industry, although in the case of the textiles yarns and fabrics industry the decrease was somewhat less than that for manufacturing industry as a whole. In the subsequent period 1975-76 to 1977-78, there was a sharp increase in effective rates of protection for the clothing, knitting mills and footwear industries, both absolutely and relative to the manufacturing average. This was largely the result of the introduction of temporary quotas.

Turning now to the estimated growth of value added per employee, we find that prior to 1973-74 productivity increased more rapidly in clothing, knitting mills and footwear than in manufacturing industry generally, yet the opposite situation has applied since 1975-76. While productivity growth in the leather and leather products industry continued to exceed the manufacturing average in both periods, this industry has not experienced an increase in effective protection since 1975-76.
With the small number of observations, it would be dangerous to infer that there was a causal link between the introduction of quantitative restrictions and the growth of productivity but these preliminary results do suggest the need for further investigation.

Secondly, it appears that in the period since temporary quotas were introduced profitability in the clothing, knitting mills and footwear industries has been slightly higher relative to the manufacturing industry average than it was in the period prior to 1973-74. However, the relative profitability of the leather and leather products industry has fallen since 1975-76 and this may again reflect the fact that this industry, unlike the others mentioned in Table 9, has not gained additional protection in recent years. Thirdly, the data on capital formation indicates that the textiles, clothing, footwear and knitting mills industries have each accounted for a lower share of total fixed capital expenditure in manufacturing since 1975-76 than in the period prior to 1973-74. Finally, employment in all five industries has continued to decline since 1975-76, but in two, footwear and knitting mills, the rate of decline has been less relative to the manufacturing average than it was between 1968-69 and 1973-74.

The combination of changes in relative profitability, capital formation and employment that have taken place in the textiles, clothing and footwear industries since 1975-76 is seen to be consistent with our earlier theoretical expectations, based on the assumption that a reduction in protection is anticipated within a few years. In short, the available evidence does suggest that these industries may be acting in the belief that the days of temporary high protection are limited.
Table 10 provides some data about the recent economic performance of four Australian manufacturing industries which were able to increase significantly the proportion of their output exported to developing Asian countries, during the period 1968-69 to 1977-78. 36 These industries, not surprisingly, have effective rates of protection which are below the average for manufacturing industry. Generally, the effective rate for each industry has been declining both prior to 1973-74 and since 1975-76. In each industry, except photographic, professional and scientific equipment relative profitability has improved in the latest period compared with that between 1970-71 and 1973-74.

It would be helpful to be able to show how the increased exports to developing Asia have contributed to the change in economic performance by each of these industries. Unfortunately this cannot be done on the basis of such data. A major reason is that the improvement in export performance to developing Asia ranges from 4.5 per cent of output in the case of basic iron and steel down to 1.3 per cent in the case of transport equipment. Since these percentages are small, their influence on the structure and performance of the industries would tend to be outweighed by other factors.

6. Conclusion

This paper has focussed on a number of effects on Australian manufacturing industry arising from the increased competitiveness of manufacturing industry in developing Asian countries. Some important aspects have not been considered. In particular, we have omitted consideration of the increased direct foreign investment flows from Australia to developing Asia which are largely a consequence of the

36 In each of the four industries, the increase in exports to developing Asia was greater than the increase in exports to all other countries during this period.
increased competitiveness of manufacturing industry in that region. For example, between 1969-70 and 1977-78, the share of Australia’s private direct investment going to developing Asia increased from 1.6 per cent to 24.0 per cent. The impact of such overseas investment on the Australian economy is the subject of current research in the Bureau of Industry Economics.

Secondly we have not examined here the possibilities for increased intra-industry trade between Australian and developing Asia. Such trade may develop further, particularly as a result of the activities of multinational corporations. Already the development of the world car concept seems to be having some effect on intra-industry trade between Australia and some of the Asian developing countries.

The main conclusions that are to be drawn from this paper are first that the overall impact on employment in Australian industry from the increased competitiveness of the newly-industrialising Asian countries has been slight. The effects have clearly been felt most severely in the clothing, textiles and footwear industries, but there have been some less labour-intensive Australian industries in which trade with developing Asia has tended to improve employment prospects. As was pointed out in the introduction there is no reason to doubt that in the long-run increased trade between Australia and the developing Asian countries will make a positive contribution to incomes and employment prospects in this country. It is less certain that it will cause a net improvement in employment in Australian manufacturing industry.

Secondly, the paper suggests that more research is needed at the micro level to establish the ways in which changes in trade flows and trade restrictions impact upon individual firms and so affect productivity growth and investment decisions. A start might be made with a detailed investigation of the effects of temporary import restrictions.
<table>
<thead>
<tr>
<th></th>
<th>1963</th>
<th>1973</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD countries</td>
<td>80.49</td>
<td>82.25</td>
<td>82.76</td>
</tr>
<tr>
<td>Hong Kong, Singapore, South Korea, Taiwan</td>
<td>1.35</td>
<td>3.33</td>
<td>4.10</td>
</tr>
<tr>
<td>Brazil and Mexico</td>
<td>0.22</td>
<td>0.99</td>
<td>0.92</td>
</tr>
<tr>
<td>India</td>
<td>0.85</td>
<td>0.45</td>
<td>0.49</td>
</tr>
<tr>
<td>Other LDCs</td>
<td>1.85</td>
<td>1.69</td>
<td>1.06</td>
</tr>
<tr>
<td>Eastern bloc</td>
<td>13.38</td>
<td>10.00</td>
<td>9.65</td>
</tr>
</tbody>
</table>

**World Total**

|                  | 100.00 | 100.00 | 100.00 |

Source: Adapted from data in OECD (1979).
Table 2: Export of Manufactures\textsuperscript{a} from Non-Oil-Exporting Developing Countries to North America, Western Europe and Japan, classified by broad commodity groups, 1970 - 1976

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(percentages)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
<td>25.5</td>
<td>42.2</td>
<td>21.3</td>
<td>19.2</td>
<td>24.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textiles</td>
<td>10.3</td>
<td>14.3</td>
<td>13.9</td>
<td>10.3</td>
<td>10.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Products</td>
<td>26.2</td>
<td>3.8</td>
<td>23.9</td>
<td>15.5</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office and Telecomm-</td>
<td>(6.9)</td>
<td>10.2</td>
<td>(6.4)</td>
<td>(3.2)</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>unication equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household Appliances</td>
<td>(9.7)</td>
<td>14.4</td>
<td>(8.6)</td>
<td>(4.4)</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Engineering</td>
<td>(4.1)</td>
<td>4.4</td>
<td>(4.3)</td>
<td>(3.6)</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Products and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific Instruments</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Iron and Steel</td>
<td>3.0</td>
<td>3.3</td>
<td>3.2</td>
<td>4.6</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemicals</td>
<td>6.0</td>
<td>3.4</td>
<td>5.4</td>
<td>6.8</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood Semi-manufac-</td>
<td>2.8</td>
<td>6.9</td>
<td>5.2</td>
<td>5.3</td>
<td>7.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tures and Paper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Semi-manufac-</td>
<td>9.2</td>
<td>11.8</td>
<td>11.2</td>
<td>12.2</td>
<td>10.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Consumer Goods</td>
<td>16.9</td>
<td>15.9</td>
<td>15.8</td>
<td>22.6</td>
<td>13.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>8.4</td>
<td>100.0</td>
<td>100.0</td>
<td>6.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: a. SITC sections 5-8 less division 68.

Source: Adapted from GATT (1978).
Table 3: Australia: Imports of manufactured goods from Asian developing countries as a proportion of total imports of manufactures by industry, 1967-68 to 1976-77

<table>
<thead>
<tr>
<th>Industry (2 digit ASIC)</th>
<th>4 Asian NICs(^a)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Total Asian developing economies(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, beverages and tobacco</td>
<td>5.4 1.1</td>
<td>44.1</td>
<td>12.1 6.0</td>
<td>6.1</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>Textiles</td>
<td>15.7 7.7</td>
<td>+8.0</td>
<td>13.3 12.2</td>
<td>+1.1</td>
<td>29.0</td>
<td></td>
</tr>
<tr>
<td>Clothing and footwear</td>
<td>45.4 25.6</td>
<td>+19.8</td>
<td>16.3 7.2</td>
<td>+9.1</td>
<td>61.7</td>
<td></td>
</tr>
<tr>
<td>Wood, wood products and furniture</td>
<td>17.5 4.7</td>
<td>+12.8</td>
<td>23.7 18.1</td>
<td>+5.6</td>
<td>41.2</td>
<td></td>
</tr>
<tr>
<td>Paper and paper products, printing</td>
<td>6.5 1.4</td>
<td>+5.1</td>
<td>1.6 1.3</td>
<td>-0.1</td>
<td>7.8</td>
<td></td>
</tr>
<tr>
<td>Chemical, petroleum and coal products</td>
<td>11.2 2.5</td>
<td>+8.7</td>
<td>0.7 1.8</td>
<td>-1.1</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>Non-metallic mineral products</td>
<td>5.4 1.5</td>
<td>+3.9</td>
<td>2.6 1.9</td>
<td>+0.7</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>Basic metal products</td>
<td>6.1 0.0</td>
<td>+6.1</td>
<td>2.4 1.5</td>
<td>+0.9</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>Fabricated metal products</td>
<td>10.1 1.5</td>
<td>+8.6</td>
<td>2.0 0.8</td>
<td>+1.2</td>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>Transport equipment</td>
<td>2.9 0.0</td>
<td>+2.9</td>
<td>0.8 0.0</td>
<td>+0.8</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Other machinery and equipment</td>
<td>2.9 0.7</td>
<td>+2.6</td>
<td>0.5 0.3</td>
<td>+0.2</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous manufacturing</td>
<td>16.7 5.6</td>
<td>+11.1</td>
<td>4.2 1.3</td>
<td>+2.9</td>
<td>20.9</td>
<td></td>
</tr>
<tr>
<td>TOTAL MANUFACTURING</td>
<td>9.1 2.2</td>
<td>+6.9</td>
<td>3.5 2.4</td>
<td>+1.2</td>
<td>12.6</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
\(a\) Singapore, Hong Kong, Republic of Korea, Taiwan
\(b\) Indonesia, Malaysia, Thailand, Philippines, China, India, India,
\(c\) Countries listed in \(a\) and \(b\).

Source: Calculated from original data supplied by the Industries Assistance Commission.
Table 4: Australian domestic market: shares held by imports 1968-69 to 1977-78 (percentages)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Total imports Asia&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Imports from developing countries</th>
<th>Imports from all other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, beverages and tobacco</td>
<td>7.7</td>
<td>1.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Textiles</td>
<td>40.3</td>
<td>11.7</td>
<td>9.7</td>
</tr>
<tr>
<td>Clothing and footwear</td>
<td>22.8</td>
<td>14.1</td>
<td>11.7</td>
</tr>
<tr>
<td>Wood, wood products and furniture</td>
<td>10.9</td>
<td>4.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Paper and paper products, printing</td>
<td>17.0</td>
<td>1.3</td>
<td>1.0</td>
</tr>
<tr>
<td>Chemical, petroleum and coal products</td>
<td>33.2</td>
<td>4.0</td>
<td>3.8</td>
</tr>
<tr>
<td>Non-metallic mineral products</td>
<td>10.4</td>
<td>0.8</td>
<td>0.5</td>
</tr>
<tr>
<td>Basic metal products</td>
<td>8.2</td>
<td>0.7</td>
<td>0.2</td>
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<tr>
<td>Fabricated metal products</td>
<td>11.3</td>
<td>1.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>30.3</td>
<td>1.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Other machinery and equipment</td>
<td>45.4</td>
<td>1.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Manufacturing nec</td>
<td>27.0</td>
<td>5.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Total manufacturing</td>
<td>22.9</td>
<td>2.8</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Note:
<sup>a</sup> Indonesia, Philippines, Thailand, Singapore, Malaysia, Hong Kong, South Korea, Taiwan, China and India.

Source: Based on data supplied by the Industries Assistance Commission.
Table 5: Australian industries: Exports to developing Asian economies as a percentage of total output 1968-69 to 1977-78

<table>
<thead>
<tr>
<th>Industry (2 digit ASIC)</th>
<th>1977-78</th>
<th>1968-69</th>
<th>Change in percentage points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, beverages and tobacco</td>
<td>3.8</td>
<td>1.7</td>
<td>+2.1</td>
</tr>
<tr>
<td>Textiles</td>
<td>2.6</td>
<td>2.5</td>
<td>+0.1</td>
</tr>
<tr>
<td>Clothing and footwear</td>
<td>0.1</td>
<td>0.2</td>
<td>-0.1</td>
</tr>
<tr>
<td>Wood, wood products and furniture</td>
<td>0.1</td>
<td>0.1</td>
<td>..</td>
</tr>
<tr>
<td>Paper and paper products, printing</td>
<td>0.2</td>
<td>0.3</td>
<td>-0.1</td>
</tr>
<tr>
<td>Chemical, petroleum and coal products</td>
<td>2.8</td>
<td>1.1</td>
<td>+1.7</td>
</tr>
<tr>
<td>Non-metallic mineral products</td>
<td>0.2</td>
<td>0.1</td>
<td>+0.1</td>
</tr>
<tr>
<td>Basic metal products</td>
<td>6.5</td>
<td>3.4</td>
<td>+3.1</td>
</tr>
<tr>
<td>Fabricated metal products</td>
<td>0.6</td>
<td>0.4</td>
<td>+0.2</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>0.8</td>
<td>0.7</td>
<td>+0.1</td>
</tr>
<tr>
<td>Other machinery and equipment</td>
<td>1.7</td>
<td>1.0</td>
<td>+0.7</td>
</tr>
<tr>
<td>Miscellaneous manufacturing</td>
<td>1.0</td>
<td>0.7</td>
<td>+0.3</td>
</tr>
<tr>
<td>Total Manufacturing</td>
<td>2.3</td>
<td>1.3</td>
<td>+1.0</td>
</tr>
</tbody>
</table>

Note: a. Indonesia, Philippines, Thailand, Singapore, Malaysia, Hong Kong, Taiwan, South Korea, China, India.

Source: Based on data supplied by the Industries Assistance Commission.
<table>
<thead>
<tr>
<th>Industry (2 digit ASIC)</th>
<th>Asian share of imports</th>
<th>Import share of demand</th>
<th>Observed employment growth</th>
<th>Employment growth associated with changes in:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1968-69</td>
<td>1975-76</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>% p.a.</td>
</tr>
<tr>
<td>Food, beverages &amp; tobacco</td>
<td>7.8</td>
<td>15.6</td>
<td>4.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Textiles</td>
<td>20.0</td>
<td>25.8</td>
<td>32.7</td>
<td>38.3</td>
</tr>
<tr>
<td>Clothing and footwear</td>
<td>32.8</td>
<td>57.2</td>
<td>7.3</td>
<td>22.7</td>
</tr>
<tr>
<td>Wood, wood products &amp; furniture</td>
<td>22.8</td>
<td>42.6</td>
<td>8.1</td>
<td>11.5</td>
</tr>
<tr>
<td>Paper &amp; paper products, printing</td>
<td>2.7</td>
<td>6.7</td>
<td>17.0</td>
<td>15.3</td>
</tr>
<tr>
<td>Chemical, petroleum and coal products</td>
<td>4.3</td>
<td>11.9</td>
<td>24.7</td>
<td>20.0</td>
</tr>
<tr>
<td>Non-metallic mineral products</td>
<td>3.4</td>
<td>5.1</td>
<td>9.0</td>
<td>10.1</td>
</tr>
<tr>
<td>Basic metal products</td>
<td>1.5</td>
<td>3.1</td>
<td>7.6</td>
<td>5.9</td>
</tr>
<tr>
<td>Fabricated metal products</td>
<td>2.3</td>
<td>9.5</td>
<td>8.6</td>
<td>11.2</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>0.0</td>
<td>1.0</td>
<td>28.4</td>
<td>28.3</td>
</tr>
<tr>
<td>Other machinery &amp; equipment</td>
<td>0.5</td>
<td>2.7</td>
<td>32.7</td>
<td>42.8</td>
</tr>
<tr>
<td>Miscellaneous manufacturing</td>
<td>6.9</td>
<td>16.5</td>
<td>20.7</td>
<td>25.9</td>
</tr>
<tr>
<td>All manufacturing</td>
<td>4.6</td>
<td>10.3</td>
<td>17.5</td>
<td>21.0</td>
</tr>
</tbody>
</table>

(a) Malaysia, Indonesia, Philippines, Singapore, Thailand, Hong Kong, South Korea, Taiwan, China and India.
(b) These shares are measured in current prices.
(c) These shares are measured at constant 1968-69 prices.

Source: Based on Marsden and Andersson (1979) and BIE (1978).
<table>
<thead>
<tr>
<th>Industry description (2 digit ASIC)</th>
<th>Asian share of exports&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Proportion of output exported&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Observed employment growth</th>
<th>Employment growth associated with changes in proportion exported to:&lt;br&gt;Asian countries</th>
<th>Other countries</th>
<th>All countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, beverages &amp; tobacco</td>
<td>9.5</td>
<td>16.3</td>
<td>19.2</td>
<td>23.5</td>
<td>1.14</td>
<td>0.36</td>
</tr>
<tr>
<td>Textiles</td>
<td>19.8</td>
<td>16.7</td>
<td>13.7</td>
<td>12.2</td>
<td>-4.01</td>
<td>-0.11</td>
</tr>
<tr>
<td>Clothing &amp; footwear</td>
<td>17.2</td>
<td>20.2</td>
<td>1.0</td>
<td>0.7</td>
<td>-4.37</td>
<td>-0.01</td>
</tr>
<tr>
<td>Wood, wood products &amp; furniture</td>
<td>12.9</td>
<td>1.7</td>
<td>1.1</td>
<td>3.2</td>
<td>-0.07</td>
<td>-0.01</td>
</tr>
<tr>
<td>Paper &amp; paper products printing</td>
<td>31.4</td>
<td>17.8</td>
<td>1.3</td>
<td>1.2</td>
<td>-0.22</td>
<td>-0.03</td>
</tr>
<tr>
<td>Chemical, petroleum &amp; coal products</td>
<td>22.0</td>
<td>19.9</td>
<td>5.7</td>
<td>10.1</td>
<td>-0.68</td>
<td>0.12</td>
</tr>
<tr>
<td>Non metallic mineral products</td>
<td>14.1</td>
<td>37.1</td>
<td>0.8</td>
<td>1.0</td>
<td>-0.58</td>
<td>0.03</td>
</tr>
<tr>
<td>Basic metal products</td>
<td>15.9</td>
<td>15.5</td>
<td>21.6</td>
<td>29.7</td>
<td>0.92</td>
<td>0.23</td>
</tr>
<tr>
<td>Fabricated metal products</td>
<td>12.1</td>
<td>25.6</td>
<td>4.0</td>
<td>2.7</td>
<td>-0.64</td>
<td>0.03</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>19.7</td>
<td>29.3</td>
<td>4.1</td>
<td>4.8</td>
<td>-0.14</td>
<td>0.09</td>
</tr>
<tr>
<td>Other machinery and equipment</td>
<td>23.3</td>
<td>26.8</td>
<td>4.8</td>
<td>8.0</td>
<td>-0.54</td>
<td>0.16</td>
</tr>
<tr>
<td>Miscellaneous manuf.</td>
<td>16.7</td>
<td>22.6</td>
<td>4.2</td>
<td>3.7</td>
<td>0.74</td>
<td>0.02</td>
</tr>
<tr>
<td>All manufacturing</td>
<td>14.6</td>
<td>17.3</td>
<td>9.6</td>
<td>12.5</td>
<td>-0.51</td>
<td>0.12</td>
</tr>
</tbody>
</table>

<sup>a</sup> Hong Kong, Republic of Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand, China and India.
<sup>b</sup> These shares are measured in current prices.
<sup>c</sup> These shares are measured at constant 1968-69 prices.

Source: Based on Marsden and Andersson (1979) and BIE (1978).
Table 8: Australian manufacturing industries subject to significant increases in import penetration from developing Asian countries 1968-69 to 1977-78

<table>
<thead>
<tr>
<th>Industry (3 digit ANIC)</th>
<th>Increase in import penetration 1968-69 to 1977-78(a) (percentage points)</th>
<th>Effective rate of protection 1974-75(b) (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Developing Asia</td>
<td>Other countries</td>
</tr>
<tr>
<td>1. Increased import penetration, mainly from developing Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Footwear</td>
<td>12.0</td>
<td>6.8</td>
</tr>
<tr>
<td>Knitting mills</td>
<td>12.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Clothing</td>
<td>11.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Leather and leather products</td>
<td>34.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Textiles, yarn, woven fabrics</td>
<td>7.4</td>
<td>4.9</td>
</tr>
<tr>
<td>2. Increased import penetration, mainly from other countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber products</td>
<td>2.6</td>
<td>5.1</td>
</tr>
<tr>
<td>Other fabricated metal</td>
<td>2.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Appliances and electrical</td>
<td>3.0</td>
<td>13.8</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>7.3</td>
<td>10.2</td>
</tr>
<tr>
<td>3. Increased import penetration from developing Asia</td>
<td>Decreased import penetration from other countries</td>
<td></td>
</tr>
<tr>
<td>Wood and wood products</td>
<td>5.0</td>
<td>-0.9</td>
</tr>
<tr>
<td>Manufactures, oils and fats</td>
<td>5.7</td>
<td>-7.0</td>
</tr>
<tr>
<td>Plastic and related products</td>
<td>7.3</td>
<td>-2.2</td>
</tr>
<tr>
<td>Other transport equipment</td>
<td>4.4</td>
<td>-17.1</td>
</tr>
</tbody>
</table>

Source: Calculated from data supplied by the Industries Assistance Commission.

Notes:
(a) Preliminary estimates
(b) Subject to revision.
Table 9: Structure and performance characteristics of industries subject to import penetration mainly from developing Asia during the periods 1968-69 to 1973-74 and 1975-76 to 1977-78.

<table>
<thead>
<tr>
<th>Industry (3 digit ASC)</th>
<th>Annual average rates of growth (%)</th>
<th>Average share of fixed capital expenditure</th>
<th>Average profitability(%)</th>
<th>Change in effective rates of protection (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of establishments(a)</td>
<td>Employment (b)</td>
<td>Value added per employee (c)</td>
<td>%</td>
</tr>
<tr>
<td>Knitting mills</td>
<td>-1.5</td>
<td>-1.5</td>
<td>1.0</td>
<td>5.7</td>
</tr>
<tr>
<td>Clothing</td>
<td>7.5</td>
<td>1.5</td>
<td>0.1</td>
<td>6.9</td>
</tr>
<tr>
<td>Footwear</td>
<td>-0.5</td>
<td>-5.9</td>
<td>3.9</td>
<td>6.9</td>
</tr>
<tr>
<td>Leather, leather products</td>
<td>-1.3</td>
<td>-2.1</td>
<td>-3.8</td>
<td>-4.5</td>
</tr>
<tr>
<td>ALL MANUFACTURING</td>
<td>0.7</td>
<td>0.1</td>
<td>1.2</td>
<td>-3.3</td>
</tr>
</tbody>
</table>

Source: Manufacturing Establishments RHE; Profitability and Capital Structure of the Australian Manufacturing Sector, IAC; IAC Annual Reports 1973/74 to 1977/78.

Notes:
(a) All establishments, including those employing less than 4 persons.
(b) Increases at constant prices estimated by deflating the annual increase in value added at current prices for 3 digit industries by a price deflator for the corresponding 2 digit class for the periods 1968/69 to 1973/74 and 1975/76 to 1976/77. Data for 1977/78 is still unavailable.
(c) Fixed tangible assets less disposals - average share of all manufacturing capital expenditure for period.
(d) Operating profit/funds employed - average of annual figures.
(e) Preliminary estimates.
(f) Profitability for knitting mills and clothing combined.
<table>
<thead>
<tr>
<th>Industry (3 digit ANZIC)</th>
<th>Number of establishments</th>
<th>Employment</th>
<th>Value added per employee</th>
<th>Average share of fixed capital expenditure</th>
<th>Average profitability</th>
<th>Change in effective rate of protection (percentage)</th>
<th>Effective rate of protection (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1968/69-1975/76</td>
<td>1975/76</td>
<td>Value added per employee</td>
<td>Average share of fixed capital expenditure</td>
<td>Average profitability</td>
<td>Change in effective rate of protection (percentage)</td>
<td>Effective rate of protection (percentage)</td>
</tr>
<tr>
<td>Basic chemicals</td>
<td>-0.1</td>
<td>1.2</td>
<td>0.1</td>
<td>3.2</td>
<td>6.9</td>
<td>11.2</td>
<td>5.7</td>
</tr>
<tr>
<td>Basic iron &amp; steel</td>
<td>0.3</td>
<td>-6.6</td>
<td>1.6</td>
<td>-4.1</td>
<td>4.1</td>
<td>-0.9</td>
<td>13.2</td>
</tr>
</tbody>
</table>
| Photographic, professional and scientific equipment | 0.7 | -0.9 | 3.8 | 1.6 | 6.6 | 7.0 | 0.5 | 0.8 | 20.0 | 14.8 | -5 | -3 | 6 | 1
| Other transport equipment | 1.3 | 3.6 | -1.5 | -3.4 | 6.4 | 1.9 | 3.9 | 1.4 | 10.1 | 22.1 | -10 | -11 | 21 | 1
| ALL MANUFACTURING        | 0.7 | 0.1 | 1.2 | -2.1 | 3.9 | 6.0 | - | - | 12.3 | 13.0 | -9 | -2 | 27 | 1


Notes:
(a) All establishments, including those employing less than 4 persons.
(b) Increase at constant prices estimated by deflating the annual increase in value added at current prices for 3 digit industries by a price deflator for the corresponding 2 digit class for the period 1968/69 to 1975/76 and 1975/76 to 1976/77.
(c) All establishments employing 4 or more persons.
(d) Operating profit/funds employed - average of annual figures.
(e) Preliminary estimates.
(f) Profitability of basic iron and steel and non-ferrous metals combined.
Figure 1: Proportion of Total Australian Manufactured Exports to Developing Asia 1968-69, 1973-74, 1977-78

Group of 4 N.I.C.'s

Group of 6 Developing Asia

2 Digit

ASIO

1966-69
1973-74
1977-79
Figure 2: Proportion of Total Asian Manufactured Imports into Australia. 1968-69, 1973-74, 1977-78.

- 2 Digit
  ASIC

Group of 4 N.I.C.'s

Group of 6 Developing Asia

- 1968-69
- 1973-74
- 1977-78

- 40 per cent
Figure 3: Australian Manufactured Imports from and Exports to Developing Asia, 1968-69, 1977-78.

Source: Based on original data supplied by the Industries Assistance Commission.
Figure 4: West Germany’s Manufactured Imports from and Exports to Developing Countries, 1970, 1977.

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COMMENTS BY DISCUSSION OPENERS

1. Peter McCawley

The NICs - the so-called Newly Industrialising Countries - are attracting a lot of attention these days. This paper is about the NICs and Australia. Economists tend to think that the pattern of growth exhibited by the NICs is a Good Thing, and that other non-NIC developing countries should follow their lead. A different view is taken by left-wing political economists and political scientists, who say that the pattern of growth in the NICs is bad for the workers in both the NICs, and all other countries as well (including Australia). The conventional wisdom amongst economists about all of this was neatly presented in a report published by the OECD last year, The Impact of the Newly Industrialising Countries, which is useful reading for anyone interested in the subject.

The rapid growth of the NICs, and in particular the rapid growth of their manufactured exports, is important for Australia because four of them (Singapore, Hong Kong, Taiwan and South Korea) are Asian and have been exporting more goods in recent years to Australia. For a hundred years and more, the difference between "free traders" and "protectionists" has hovered in the background of Australian politics, so it is not at all surprising that at a time of domestic recession, import penetration from low-wage Asian countries should be a cause of political division at home. This paper attempts to survey in a cool and measured fashion some of the consequences for Australia of the increased competitiveness of certain developing Asian countries.

The paper is divided into four main sections. After an Introduction, Section 2 sets the scene for the rest of the paper by sketching the broad picture of growth in manufactured exports from developing countries during the 1970s. The pattern, which is by now a fairly well-known one, can be summarised as follows.
1. During recent years, growth of manufactured exports from developing countries has substantially outstripped the growth of manufactured exports in the opposite direction. In other words, in some respects, the traditional picture that we have of trade between North and South in which poor countries export raw materials in exchange for manufactured goods is changing. It is, however, noteworthy that despite all the fuss about the impact of the NICs, the overall dominance of rich Western nations in the world market for manufactured goods has not at all diminished (see Table 1 of the paper).

2. There are big differences in the export performance between developing countries in Asia. On one hand there are the NICs, and on the other there are important developing countries such as China and Indonesia where the growth strategy has been anything but export-led.

3. The composition of manufactured exports from developing countries has been changing in a fairly well-defined manner; as Table 2 shows, the importance of clothing and engineering products has been growing, while the share of textiles (although not, of course, the absolute amount) has been falling.

Section 3 of the paper moves closer to home and concentrates on the pattern of trade in manufactures between Australia and ten selected Asian countries. As one would expect, the authors find it useful to distinguish between the four NICs and the rest, and also as one would expect, they find that it is really only the NICs which are important to the story.

In first looking at imports into Australia in this section, the authors remind us that the competitiveness of the developing Asian countries is still concentrated in the supply of labour-intensive manufactures, i.e. clothing, footwear, textiles, and wood products. Although this picture is slowly changing for some countries - Singapore is one example where
real wages and levels of skills have risen markedly in recent years - the pressure on Australia's labour-intensive industries will not ease. Even if the NICs price themselves out of the world market for textiles, footwear and garments during the next decade, there is a phalanx of other Asian countries ready to step into their shoes: China, India, Malaysia, the Philippines, and so on. In Table 4, the authors look at the level of import penetration in Australian industries; they find that generally speaking the level of import penetration is fairly low. In only two 2-digit industry groups does the level of import penetration exceed 10 per cent, and a statistical test shows that the industries which have experienced the largest increases in import penetration are those with low capital and skill intensity.

Turning to exports, we are reminded that the rate of growth in the Asian region has been generally fairly high during the 1970s, and the question therefore arises of to what extent Australian exports of manufactured exports have been caught up on the coat tails of this Asian growth. The answer, unfortunately, is "not much", and the basic reason is that other countries are better at supplying Asia's needs for manufactured goods than is Australia.

The broad changes in the pattern of trade specialisation between Australia and developing Asian countries are summarised in Figure 1; Australian exports became more concentrated during the 1970s, while imports became more diversified. Figure 2 reflects a similar, although less marked, pattern for Germany.

The really ticklish question is tackled in Section 4: what has been the impact of the increases in manufactured trade with Asia on employment in Australia? Because the answer to this question can only be found within a rather elaborate general equilibrium model, and because the authors preferred to use a simpler partial equilibrium approach in the present paper, they can only arrive at a broad answer to this question.
They conclude (the data are in Tables 6 and 7) that overall, the net direct employment loss in Australia during the period from the late 1960s to the mid 1970s was very small. Nevertheless, they do draw attention to the need to distinguish between the net employment displacement and the gross employment displacement. It can happen, if structural changes within an economy are large, that the former is very small while the latter is very large. Gross job displacement will, quite likely, impose social costs which may be important in affecting community response to structural industrial change.

In Section 5, the final substantive section of the paper, some structure and performance characteristics of several particular 3-digit industries which have been especially affected by trade with Asia are examined. There are no surprises in this section; it is comforting to find that the changes in patterns that one would generally expect from economic theory did occur. To the extent that firm conclusions can be drawn (and the authors caution us against seeing causal relationships in data which need further investigation) it appears that Australian industries which are less efficient need high protection, while those which are more efficient can manage with less protection.

The general theme of the paper is very reasonable, and hopefully it will combat some of the paranoia about the subject that exists in Australia. Nevertheless, the issues that are raised are very politically sensitive, and one sometimes despairs of reasonable public debate on them. I wonder whether academic economists are doing enough to contribute to public discussion of these matters? But we don't sell ourselves very well, and we certainly have a rather serious public relations problem. If we really want to influence public policy we will have to communicate more effectively on some of the main issues which worry the public.
Firstly, we need to be more careful to distinguish between
(a) academic statements, made on the basis of certain assumptions, and
(b) prescriptive statements, urging (or at least, implying) that certain
policy measures be implemented. As academics, we are on firm ground when
talking about the former, but venture into more dangerous territory when
talking about the latter. And yet it is often not clear on what basis
we are speaking. For example, in the language of economists 'aggregate
employment' usually refers to net employment after gross changes have
been allowed for, and when we say that such-and-such a policy 'cannot be
justified', we usually mean 'political considerations aside'. Between
specialists the use of a sub-language is efficient, but it can be a
source of much confusion and misunderstanding when used outside of the
specialist circle. Many non-specialists whom we should be talking to —
the public, politicians, trade unionists and businessmen — do not
understand our language, and are easily convinced that what we say is
ivory-tower theorising with little relevance to the real world. Moreover,
other academics often don't understand us very well either, because many
political scientists, sociologists and historians are suspicious of the
'narrow' view of the world that they suspect economists of having.
Perhaps they should all try harder to understand us, but perhaps we should
be more careful to spell out exactly what we mean — especially if we
want to be taken seriously in the public arena.

The problem goes beyond the use of a specialised language. Economists,
rather more than most other social scientists, tend to be self-confident
in their statements about policy, and slide rather easily from academic
statements to prescriptive ones. Prescriptive statements — advice to
prime ministers and presidents who must face the electorate in a year or
so — must allow for political, administrative and legal aspects of a
problem, as well as just the economic ones. When pressured on some
particular question, we economists tend to plead that we were naturally
setting these other aspects to one side, but it is hard to avoid the impression that many academic economists do mean quite a few of their conclusions to be taken in both an academic and a prescriptive sense. The ceteris paribus assumption so strongly underlies much of what we say that we come to gloss over the fact that it is there, hovering in the background much of the time.

Secondly, we need to recognise more than we do that because we cannot measure utility, our attempts to weigh up costs and benefits of economic policies are really only a rough approximation to the true situation much of the time. What is the psychic cost of adjustment to a worker who is obliged to shift from a job in one industry to a different job in another? Presumably the cost is higher for workers who must also relocate from one region to another? But what about a situation where company housing is provided in the new region? And so on. The authors of the paper, in Section 4, note the difference between gross job displacement and net job displacement; the difference is clearly an important one when attempting to explain much of the hostility to industrial structural adjustment programs. But who is to measure the costs of gross job displacement? Economists are rather ill-equipped to do the job, and yet we often assume that it is only the net effects that matter. An easy assumption of this sort is really most unscientific. Scholars from other social sciences at least tend to be more willing to admit that they are backing hunches rather than accurately measuring anything.

Thirdly, there is one rather straightforward matter on which we seem to have been ineffective in communicating to the Australian public: the rapidly-improving living conditions (resulting from increases in real wages) in some parts of Asia, particularly the NICs. It is presently very fashionable amongst some sections of the labour movement in Australia and amongst trendy middle class intellectuals to decry the exploitation of Asian workers by multinational companies, and to argue that the growth
of capitalism in Asia is inimical to the interests of both Asian and Australian workers. How convenient! Australian trade unionists, mainly concerned to protect the interests of workers who are — by any sensible international comparison — relatively well off, manage to argue that the "export of jobs to Asia" is bad not just because of the employment effects in Australia, but because it is bad for Asian workers as well. It is, of course, true that working conditions and wages in Asia are generally well below those in Australia, but one way to guarantee that this situation will persist for much longer than would otherwise be the case is to deny Asian workers jobs. As Joan Robinson once remarked, the only thing worse than being exploited in developing countries is not to be exploited at all. In this context, the following points need to be more widely publicised in Australia as an antidote to the nationalistic "don't export jobs" view:

- Imports by Australia from Asia create jobs in Asia, and poor people need jobs;
- Working conditions are often best in the rapidly-growing export industries in Asia;
- In particular multinational companies often provide the best working conditions in the region; it is the small-scale home market oriented firms which usually provide the worst working conditions;
- Living standards have been rising rapidly in the export-oriented countries, and those rising living standards have been passed back to workers; Singapore is perhaps the best example of this, but it is true for other countries as well.

There is one other point made in passing in the paper which is an important one, and which is not yet widely appreciated in Australia: important parts of Asia are no longer poor, and yet productivity is continuing to rise quickly. The real problem for Australian industries is not the
low wages that are paid in Asia, but the improvements in efficiency and in the quality of goods produced in the region. During the last decade we have merely seen the start of dynamic industrial development in the NICs and selected other Asian nations. The rising industrial challenge from Asia will not pass away if we adopt a "wait and see" strategy. It will intensify in the coming years; Australia must adapt, or retreat into more and more protectionism.
COMMENTS BY DISCUSSION OPENERS

2. J. Brennan

The paper by Johns and Metcalfe is essentially an historical analysis of Australia's trade in manufactures with developing countries during the period 1968/69 to 1975/76. The structure of Australia's trade in manufactures is considered in some detail prior to an evaluation of the impact of increased imports of manufactures from Asia on employment in Australia. The central conclusion, based largely on work by Marsden and Anderson (1979), is "that the overall impact on employment in Australian industry from the increased competitiveness of newly industrialising Asian countries has been slight".

Prior to considering the central conclusion, attention is drawn to an assertion in the introduction that, due to Asia's proximity to Australia "the increasing competitiveness of their manufacturing industries is likely to have even more impact on this country than on industry in Europe or North America". While the proximity of Asia to Australia intuitively suggests that the impact of their increasing competitiveness should be greater in Australia than in North America or Europe, this was not clearly apparent in the past and may not be true of the future. In 1976 penetration of the Australian market by Hong Kong and Singapore was significantly higher than their penetration of the US market but this may be largely a reflection of their entrepot roles. It is interesting to note that Korea's and Taiwan's combined market share in Australia was only 2.9% compared with 4.3% of the US market and 4.5% of the Japanese market.

Quite apart from import restrictions and tariffs, there are a number of reasons why one might expect Australia to be an unimportant market for the export oriented developing Asian economies. First, proximity does
not necessarily imply low transport costs and, secondly, the Australian market is both small in aggregate and fragmented. For all but the most standardized of products there are significant advantages of market specialization and thus one finds that in 1976 Japan and the USA accounted for more than half of the exports from Korea and Taiwan. In fact one of the most striking features of the Asian trade pattern is the extraordinary dependence of many countries on the US market which accounted for between 29% and 36% of export sales by Korea, Taiwan, Hong Kong, the Philippines and Indonesia.

Turning to the future, industrialization of Asia will certainly have an impact on Australia but the magnitude of this impact may be determined more by the degree of access which the Asian countries are afforded to markets other than Australia rather than the cost structure of the Asian countries themselves.

As previously indicated, Johns and Metcalfe reached the conclusion that the overall impact on employment in Australian industry from the increased competitiveness of the newly industrialising Asian countries has been slight. The employment effects of exports to and imports from Asia, detailed in Tables 6 and 7, are based on an accounting type allocation using an identity in which the changes in employment are equal to the weighted sum of the continuous growth rate in unit labour requirements, apparent market demand, the import share and the export-output ratio. Changes are analysed between only two points of time, namely 1968/9 and 1975/6 and the analysis depends upon important assumptions of which one is that exports, imports and domestic production are perfect substitutes within a given industry. Similarly imports from Asia are assumed to be perfect substitutes for those from other countries.

At best the evidence would seem to support only the restricted conclusion that the direct impact on employment between 1968/9 and 1975/6 of increasing imports from, and exports to, the Asian developing countries has been slight.
The changes in the level of imports and exports may in some of the industries have very little relationship with the increasing competitiveness of the Asian economies. In modifying the paper's original conclusion it is important to recognize that higher levels of imports are not a measure of increasing competitiveness of overseas suppliers but rather a measure of the extent to which domestic producers have failed to meet competitive pressures. It may be that such failure is due almost solely to domestic conditions, that the higher level of imports would have occurred regardless of developments in Asia and that the main impact of increasing competitiveness in Asia is to be seen in terms of trade diversion.

Notwithstanding the above, the allocation of employment effects to changing levels of imports and exports has two fundamental problems which are both related to timing. Although industrialization in Asia may have been proceeding at a relatively steady pace during the period under analysis, the same cannot be said for either employment in Australia or the market share of imports. Had the analysis been conducted on an annual basis incorporating time lags for employment effects the overall conclusion may have been very different. Insights might also be gained into the question of causality, the domestic reaction to changing levels of imports, the pattern of productivity change and the extent to which the latter should be seen as a response to foreign competition rather than domestic cost factors.

Finally, it is worth noting that the paper may have underestimated export potential by a larger factor than the effect of imports on employment. Given that neither Australian manufacturers nor our financial institutions are noted for their export orientation, the exchange rate fluctuations of the 1970s may have caused such disruption that experience during the period 1968/9 to 1975/6 is a very misleading indication of the developing opportunities in Asia for Australian manufacturers.