

PART B

INTERNATIONAL COMPETITIVENESS

International competitiveness refers to the ability of industries or firms in one country to compete with their overseas counterparts. Increasing competitiveness creates a capacity for industries to expand (in both domestic and export markets), and provides opportunities to raise living standards.

Competitiveness can always be improved by adopting strategies which 'do more with less'. The competitiveness of one sector of the economy can also be improved by adopting strategies which transfer some production costs to others in the community. For instance, the payment of government subsidies or inadequate attention by firms to the environmental consequence of production processes may benefit particular firms, but will impose costs on other sectors of the community. In either case, improved competitiveness is likely to be detrimental to the well-being of the community as a whole.

Traditionally, it has been argued that a country specialises in producing those goods and services which intensively use those resources which are relatively abundant. For instance, it is contended that regions having ample land will support a predominantly agricultural economy. Similarly, the existence of abundant forests has been viewed as providing a basis for a competitive forest products industry. Over time, this explanation has been refined to explain growth in intra-industry trade. For example, economies of scale may explain why a region exports newsprint, yet imports writing paper. Alternatively, transport costs can be used to explain why certain activities may be undertaken, even if not appearing to be intrinsically suited to a region.

More recently, the traditional models have been criticised on the basis that competitiveness is a dynamic concept; in particular, that prosperity is created not inherited. Porter (1990), for instance, argues that competitiveness depends on an industry's or, more particularly, a firm's ability to innovate and upgrade. Although not developed in the context of resource-based economies, components of this analysis apply to such economies.

In addressing the competitiveness of Australia's forest products industries, this part of the report examines many of the factors underlying these concepts of competitiveness. Chapter 4 documents the recent market performance of the forest products industries. Chapter 5 examines in some detail the major element determining the competitiveness of commodities which are extensively traded — costs of production in Australia relative to those of our competitors.

4 MARKET PERFORMANCE

Competitiveness is not just reflected in selling prices. It also incorporates a range of non-price factors such as quality, consistency of product and reliability of supply. Hence, assessments of competitiveness need to take account of both price and non-price factors.

Assessments of competitiveness can be based on a number of measures (eg profitability, comparisons of cost structures, productivity indicators and market share analysis). However, given the data constraints generally encountered, no single measure can provide a definitive assessment of competitiveness. Nonetheless, comparisons involving a number of these measures can provide some guide to competitiveness.

One measure which encapsulates non-price factors, as well as product prices, is analysis based on market shares. The import share of domestic consumption can provide an indication of an industry's competitiveness on local markets, while the proportion of local production that is exported can provide a guide to an industry's export competitiveness. For example, when international transport costs as a proportion of product value are high, and when imports are subject to tariff duties — as is the case with some paper and timber products — high import shares can indicate that the local industry is uncompetitive. Conversely, high levels of exports are often evidence that an industry is internationally competitive. However, since these indicators are also influenced by other factors, such as domestic supply constraints, market shares in a single year may not tell the whole story. Consequently, changes in market shares over a period of years is a better guide to competitiveness.

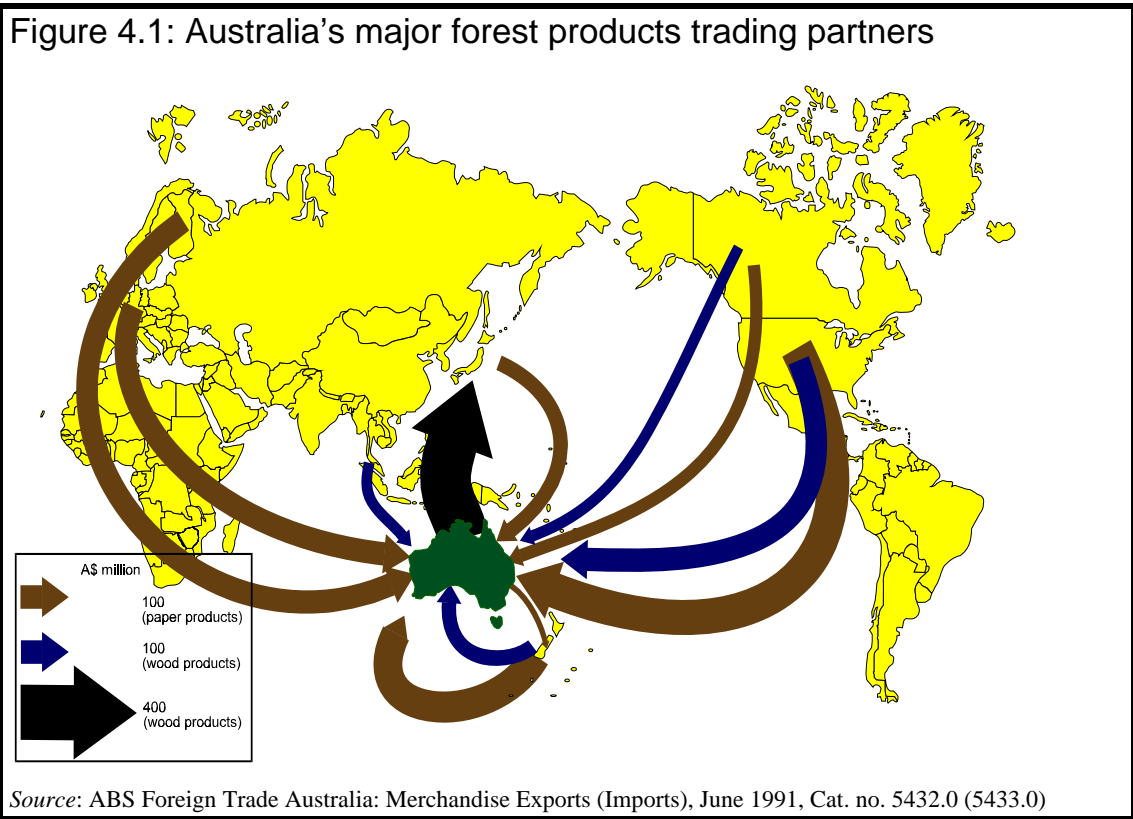
To this end, this chapter uses measures of import penetration (the share of imports in domestic consumption) and export performance (the proportion of local production that is exported) over the last two decades to help assess the competitiveness of Australia's forest products industries. The influence of non-price factors on competitiveness is also considered. The following chapter (Chapter 5) focuses on what is generally regarded as the most important component of competitiveness — comparative cost structures.

4.1 Australia's participation in trade

Australia is a net importer of forest products. The majority of imports (about \$1.9 billion in 1991–92) were paper products. Imports of wood products were

about \$0.5 billion. Imports represented approximately 20 and 25 per cent respectively of the value of domestic consumption of wood and paper products.

Although increasing over the 1980s, total exports of forest products are small relative to imports — around \$0.7 billion. Woodchips account for around 55 per cent of exports. The major trade flows are shown in Figure 4.1.



4.2 Wood products

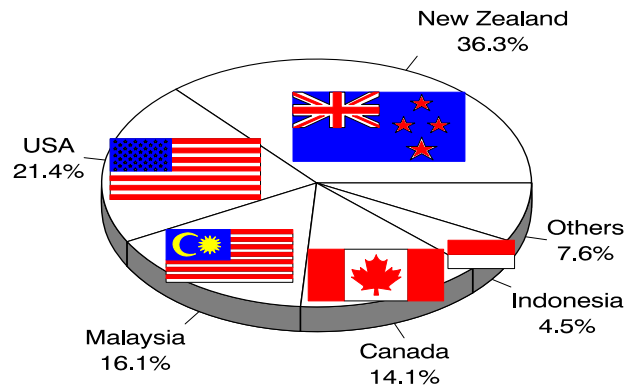
This section initially outlines market shares for all wood products as a whole. Trends in market shares are then shown for major individual wood products.

Aggregate market shares

In 1991–92, consumption of wood products in Australia exceeded \$3 billion. A little less than 20 per cent (\$490 million) was satisfied by imports.

The major sources of imports were New Zealand, the United States, Malaysia, Canada and Indonesia (see Figure 4.2). Together, these countries accounted for over 90 per cent of imports.

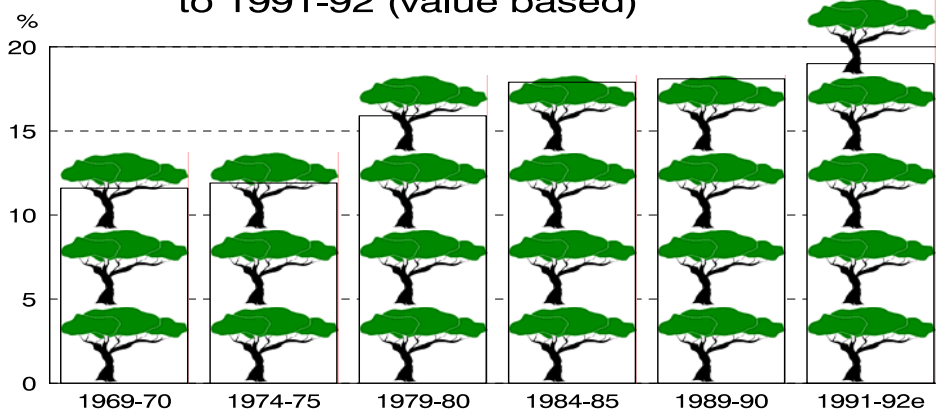
Figure 4.2: Wood products: source of imports, 1991-92



Source: ABS Foreign trade on magnetic tape, exports1 and imports3, various years

In the decade to 1985, import penetration (by value) rose 50 per cent, from around 12 to 18 per cent (see Figure 4.3). This rise was due almost entirely to a significant increase in imports of sawn softwood which, in volume terms, account for around 75 per cent of total wood products imports. The early 1980s saw domestic sawn softwood producers regain some market share, leading to a decline in softwood imports. As a result, overall levels of import penetration in the wood products sector stabilised and have remained fairly constant since the mid-1980s.

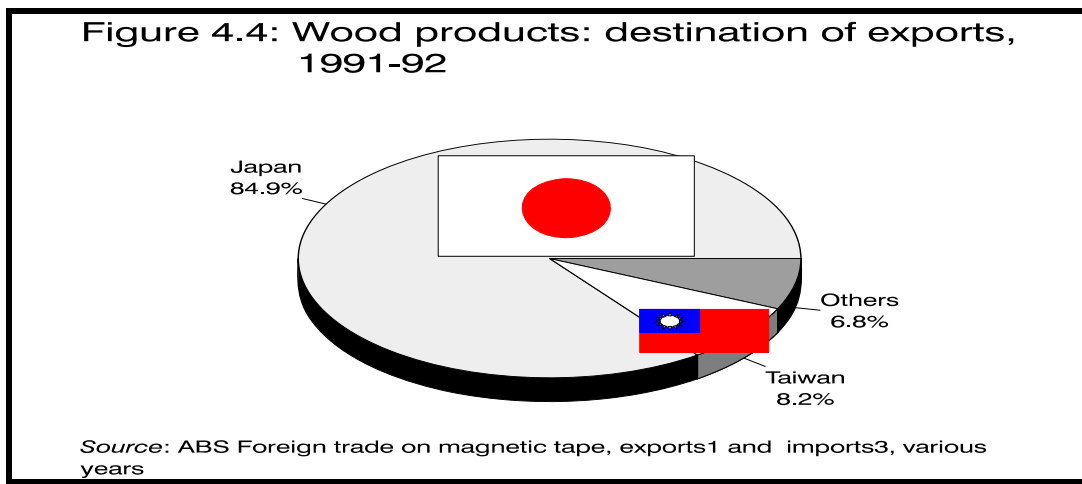
Figure 4.3: Wood products: import penetration, 1969-70 to 1991-92 (value based)



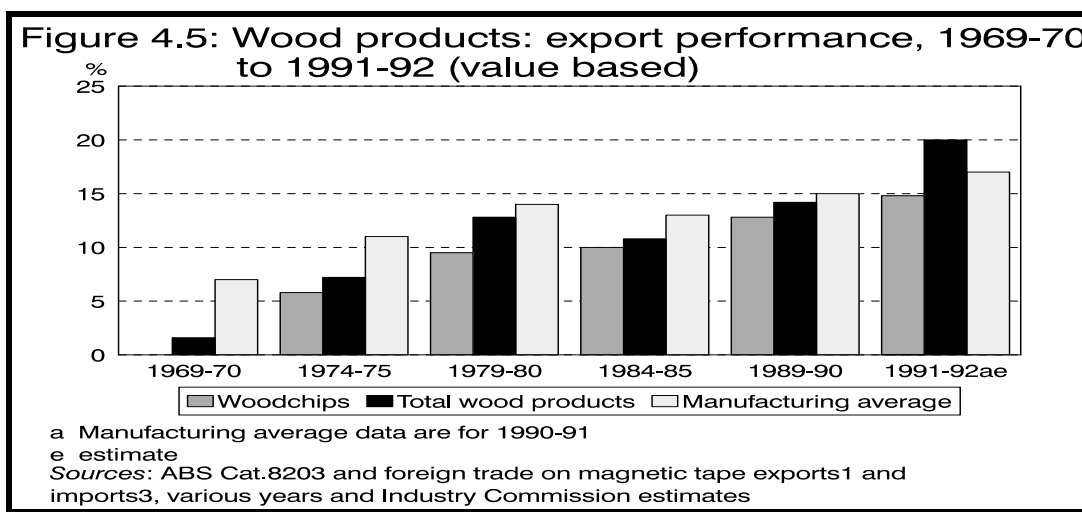
e estimate

Sources: ABS Cat.8203, foreign trade on magnetic tape, exports1 and imports3, various years and Industry Commission estimates

In 1991–92, exports of wood products amounted to \$485 million — representing approximately 20 per cent of local production. Japan is by far the major destination of Australia’s exports (see Figure 4.4). In 1991–92, Japan accounted for 85 per cent of exports. Woodchips constituted the overwhelming majority of those exports. After Japan, the next most important destination of Australian exports of wood products was Taiwan, which accounted for about 8 per cent of exports in 1991–92. Woodchips also made up the bulk of that trade.



Exports of wood products (see Figure 4.5) have increased considerably over the last two decades — from around 2 per cent of local production in the early 1970s to 20 per cent in 1991–92. This growth is almost entirely attributable to increased woodchip exports.

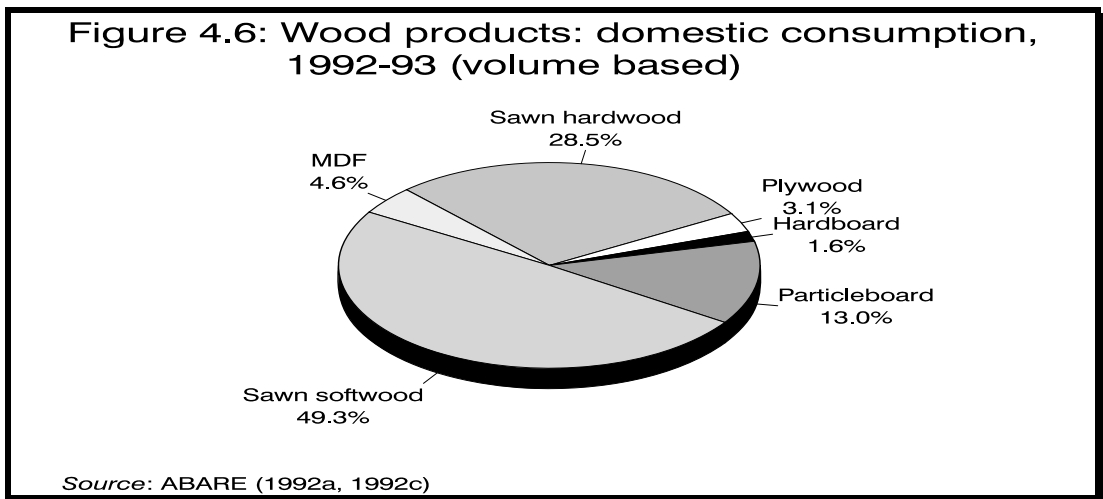


The export performance of wood products now exceeds the manufacturing average whereas, in the early 1970s, exports of wood products represented a

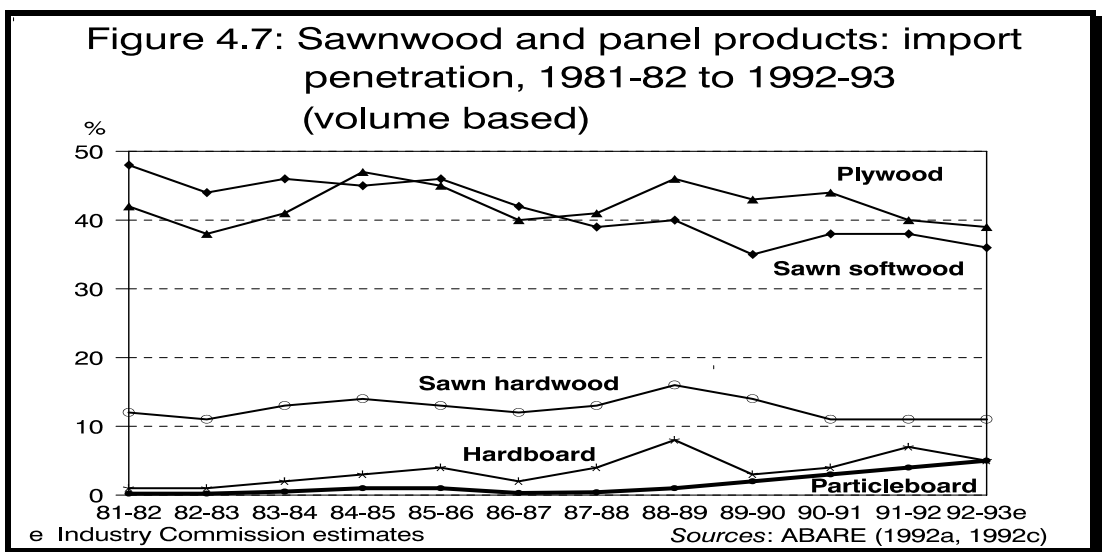
much lower proportion of production than did exports of other manufactured goods.

Market shares for major wood products

Sawn softwood accounts for about half, and sawn hardwood about 30 per cent, of Australia's consumption of wood products (see Figure 4.6). The next largest sector is particleboard which represents about 13 per cent. Other sectors constitute only a small share of the market.



Significant variation exists in the share of the domestic market held by imports of different wood products (see Figure 4.7). Import levels have ranged from 40–50 per cent for plywood and sawn softwood to less than 10 per cent for other products such as hardboard and particleboard. Within most product categories, imports have supplied a fairly stable proportion of domestic needs.



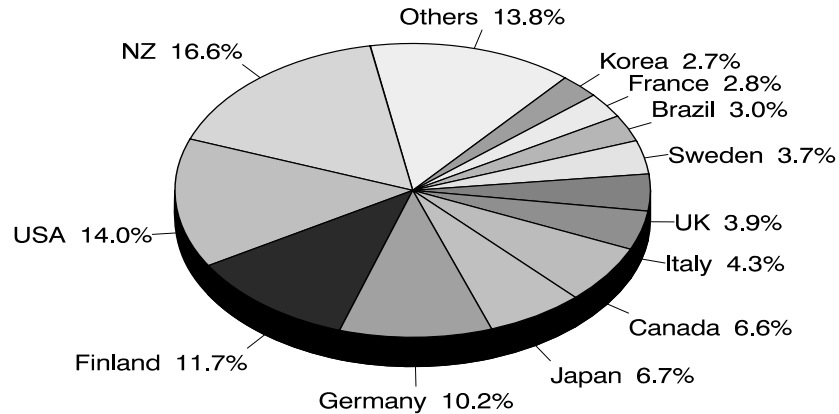
For most products, exports constitute only a minor share of domestic production (see Table 4.1). The exception is woodchips. About one-third of all woodchips produced in Australia are exported. However, most of the remainder are not sold as a final product, they are used internally for further processing (eg for pulp and paper manufacture). The woodchip data in Figure 4.1 refers only to woodchips sold as a final product, hence the extremely high export performance ratio. Exports of other wood products are small relative to woodchips. Nevertheless, during the late 1980s and early 1990s, exports of some wood products increased significantly (eg most panel products and sawn softwood).

| Table 4.1: Sawnwood, panel products and woodchips: export performance, 1981-82 to 1992-93 (volume based) (per cent) | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|
| | 81-82 | 82-83 | 83-84 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 89-90 | 90-91 | 91-92 | 92-93 ^e |
| <i>Sawnwood</i> | | | | | | | | | | | | |
| hardwood | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 0.9 | 1 | 1 | 1 |
| softwood | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 1 | 1 |
| <i>Panel products</i> | | | | | | | | | | | | |
| plywood | 0 | 0 | 0 | 0 | 0 | 0 | 0.9 | 2 | 0.8 | 3 | 2 | 1 |
| particleboard | 1 | 3 | 2 | 1 | 1 | 2 | 0 | 0 | 3 | 6 | 5 | 4 |
| hardboard | 3 | 3 | 6 | 5 | 6 | 7 | 11 | 14 | 3 | 1 | 23 | 19 |
| softboard | 0 | 0 | 0 | 8 | 8 | 8 | 0 | 0 | 0 | 8 | 0 | 0 |
| <i>Woodchips</i> ^{ab} | 100 | 100 | 100 | 99 | na | 100 | 100 | 100 | 96 | na | na | na |
| e estimate | | | | | | | | | | | | |
| a Due to different classifications for production and trade statistics, data for woodchips sold as final product often show exports exceeding production. In these cases, a figure of 100 per cent has been used as the measure of export performance. | | | | | | | | | | | | |
| b Excludes woodchips produced for internal use (eg chips produced for local paper production). | | | | | | | | | | | | |
| Source: ABARE (1992c) | | | | | | | | | | | | |

4.3 Paper products

Domestic suppliers of paper products have traditionally held a lower share of the local market than have domestic wood producers. In 1991–92, local producers supplied about 75 per cent of the \$5 billion of paper products consumed domestically, with the remainder being imported.

Figure 4.8: Paper products: sources of imports, 1991-92

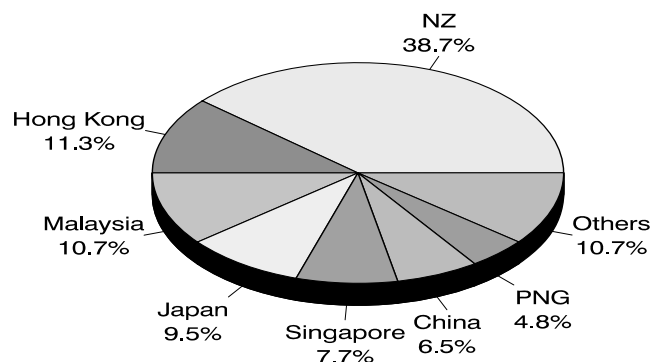


Source: ABS Foreign trade on magnetic tape, exports1 and imports3, various years

The major sources of paper imports are New Zealand, the United States, Finland, Germany, Japan, and Canada (see Figure 4.8). Collectively, these countries supplied about two-thirds of Australia's imports.

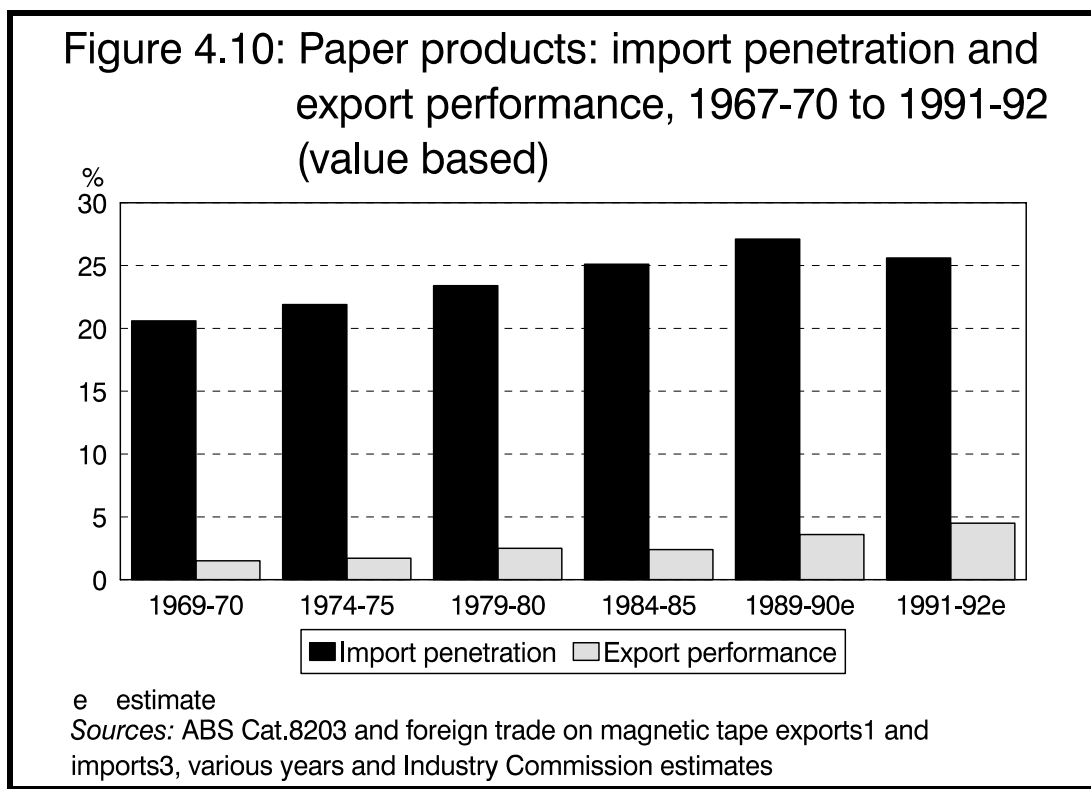
At \$168 million, exports in 1991-92 were relatively modest. The major market for Australian paper exports was New Zealand, accounting for nearly 40 per cent of all exports (see Figure 4.9). Other important markets were Hong Kong, Malaysia, Japan, Singapore and China.

Figure 4.9: Paper products: destination of exports, 1991-92



Source: ABS Foreign trade on magnetic tape, exports1 and imports3, various years

In value terms, the share of the domestic paper market supplied by imports has been relatively stable for some years at around 25 per cent (see Figure 4.10). (In terms of volume, the import share has been higher — around 30-35 per cent.)

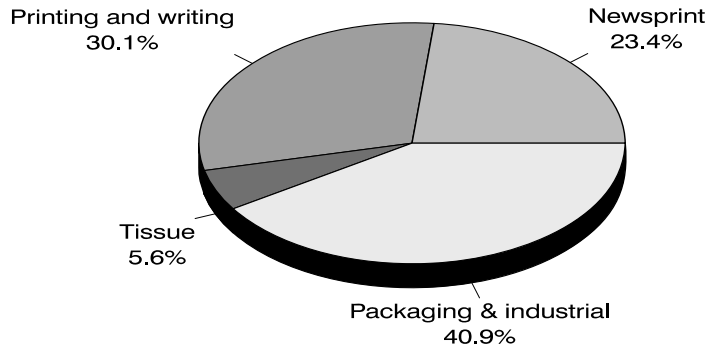


Exports, on the other hand, represented only about 4 per cent of production in 1991–92, well below the manufacturing sector average. While modest, this level is an improvement compared to the 1960s and 1970s when exports accounted for only 1–2 per cent of domestic output.

Market shares for major paper products

In terms of volume, packaging and industrial papers accounted for the largest share of domestic consumption of paper products — 41 per cent in 1992–93 (see Figure 4.11). The next largest sectors were printing and writing papers (30 per cent) and newsprint (23 per cent). The smallest share was held by tissues with around 6 per cent of total market supplies. Recent data based on value are unavailable. However, on a value basis, the most noticeable difference would be a significant increase in the share of the domestic market held by printing and writing papers which, on average, are much higher in value than other categories of paper.

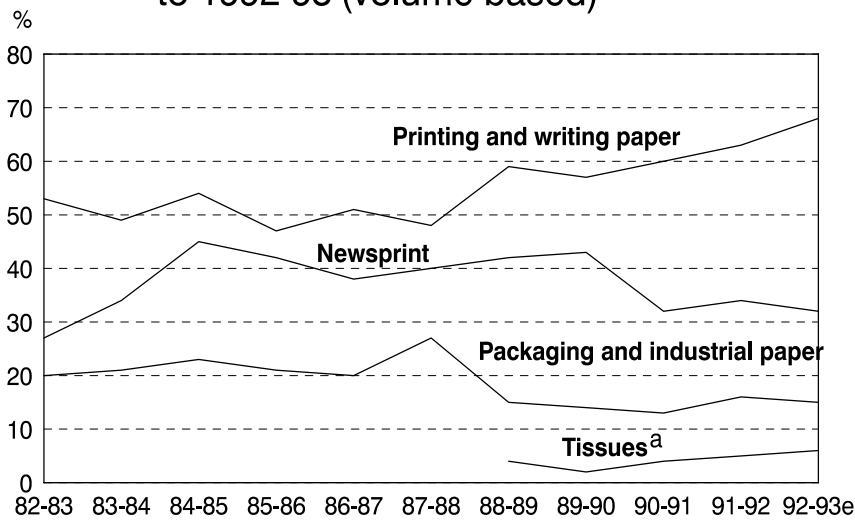
Figure 4.11: Paper products: domestic consumption, 1992-93 (volume based)



Source: ABARE (1992a)

The level of import penetration for paper products varies significantly, from less than 10 per cent for tissue papers, to around 15 per cent for packaging and industrial paper and up to nearly 70 per cent for the higher value printing and writing papers (see Figure 4.12). Over the 1980s, imports of newsprint generally ranged between 30 and 40 per cent of domestic consumption.

Figure 4.12: Paper products: import penetration, 1982-83 to 1992-93 (volume based)

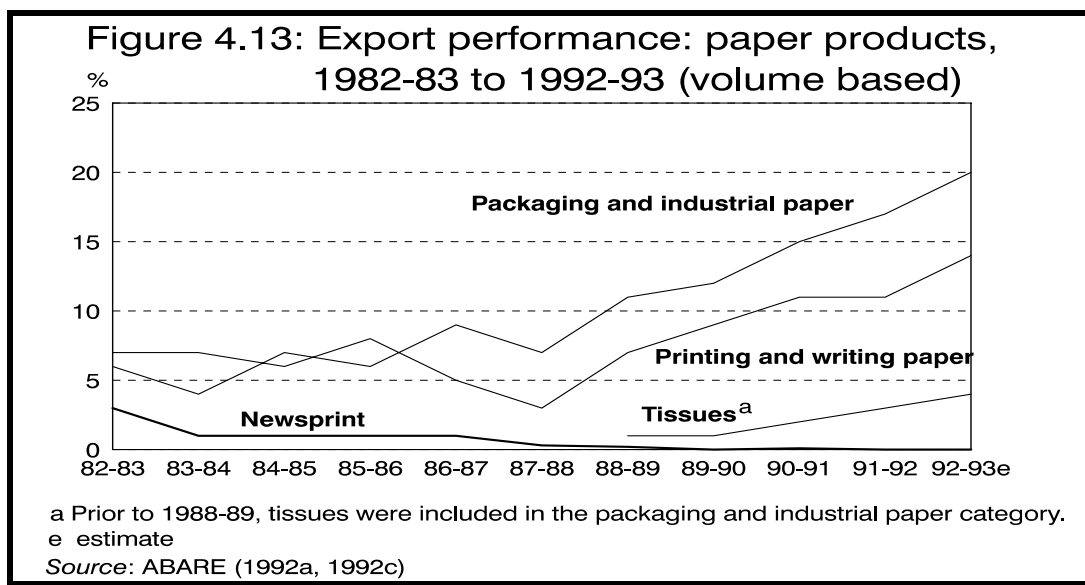


a Prior to 1988-89, tissues were included in the packaging and industrial paper category.

e estimate

Sources: ABARE (1992a, 1992c)

Exports of paper products have mainly consisted of packaging and industrial paper and printing and writing papers. Although relatively small, exports of both have increased steadily over the last five years (see Figure 4.13).



4.4 Influence of non-price factors on competitiveness

Non-price factors have a significant effect on international competitiveness. Many products, in particular specialty products, are sold according to a wide range of non-price characteristics including quality, level of service, brand identity and delivery times.

Quality appears to be regarded by participants as the most important non-price factor. For commodity products, quality and other product characteristics tend to be defined in terms of broadly accepted international standards. However, in the case of specialty products, quality tends to be tailored to particular end uses, or even particular purchasers. In both instances, the ability to deliver a consistent product in terms of physical characteristics (eg the moisture content of timber or the thickness and brightness of paper) is crucial to competitiveness.

The proximity of local suppliers to users provides them with an advantage over overseas suppliers. Even if overseas suppliers are backed by extensive local merchandising arms, it is difficult for them to match the delivery times and levels of customer service local producers can provide. Smaller, quicker and more regular deliveries translate into savings for purchasers, and participants consider this to be a significant advantage of local suppliers.

According to APPM (transcript, p. 449), as local producers they were able to:

... bring certain things to the market that competitors from overseas simply can't. The speed of APPM's supply is something competitors can't match. This can be translated into greater margins for our merchants and customers because they can hold lower stocks if they buy from a local supplier.

Similarly, APM (sub. 36, p. 43) stated that:

... the very low working capital cost to our customers due to efficient local supply, and speed of service have been of major benefit to our converter customers.

There are few available data on the impact of non-price factors on competitiveness. However, according to ANM (sub. 45, p. 5), non-price factors are at least as important as price in determining competitiveness. The company stated that, “as a price taker, competitive cost and service performance is the only way ANM can survive”.

APM (sub. 36, p. 43) was able to quantify what its superiority in terms of non-price competitiveness meant in terms of its cost competitiveness.

... a range of imported board is available at prices up to 10 to 20 per cent below ours but our excellent, reliable service (maximum turnaround is 15 days) and consistent quality have enabled us to retain high market share.

Some participants consider that non-price factors are more important in export markets than in domestic markets. For example, Boral (transcript, pp. 162, 172) stated that:

We are developing export markets into the United States and ... Asia, and the further you go from home the more careful you have got to be about your quality...

It is easy to go to somewhere like the United States and peddle a bit of wood, but it is also easy to ruin a market if the ... back-up service is not there and the quality is not there. ... quality assurance ... is very important in developing export markets.

In recognition of the importance of product quality, many Australian producers have undertaken Quality Assurance programs under the Australian Standard 3902 to improve their competitiveness.

The Furniture Manufacturers Association of Australia (FMAA) argued that ‘economics of volume’ play an important part in quality improvement for some products. The Association stated that large volumes achieved by American timber producers made it possible for them to manufacture for dedicated markets with very specific product grading, resulting in more homogeneous and uniform products. According to the FMAA (transcript, p. 321):

Therefore, [US producers] are able to ... export timber to us in a very competitive way ... the reliability of that input product is [often] much, much higher [than] the local product.

The Association believes that local timber has the potential to meet these quality aspects of American timber, but that the small scale of the Australian hardwood sawmilling industry has constrained its ability to achieve the same quality characteristics as the American product.

NAFI stressed the need for companies to be more market oriented and to better understand customer needs. With regard to sawn timber, for example, NAFI (sub. 24, p. 38) stated:

... the 'commodity' approach to marketing has resulted in a lack of direct service to the end user, and acted as an impediment to better communication between producers and consumers.

Some participants contended that, in some areas, local producers are not competitive. For example, Pacific Magazines and Printing (sub. 32, p. 1) stated that:

Australian paper producers have not been able to manufacture to internationally acceptable quality standards a large range of publication papers ...

However, the available information suggests that, in domestic markets, Australian firms are generally highly competitive with their overseas counterparts in terms of non-price factors.

4.5 Conclusions

Import penetration of wood products increased significantly in the late 1970s and early 1980s. Over the last decade, however, local producers have been successful in halting this trend and, in most cases, import levels have remained fairly constant. In terms of export performance, very few wood products other than woodchips were exported, although there has been an increase in exports of sawn softwood and some panel products in the last few years.

The share of the domestic paper market supplied by imports has been relatively stable. Although the late 1980s saw strong export growth of printing, writing, packaging and industrial papers, the overall level of exports of paper products remains relatively modest. One factor which may explain the relatively low level of exports is the high levels of import penetration. For many producers, this creates an opportunity to expand in the domestic market in which they enjoy certain natural advantages (eg shorter delivery times and, in some cases, tariff assistance and lower freight costs) rather than focus on sales in more competitive export markets.

5 COMPARATIVE COST STRUCTURES

Comparative cost analysis is most suited to products which are sold mainly on the basis of price — products commonly referred to as ‘commodities’. Commodity products are characterised by a large degree of homogeneity and are usually heavily traded on international markets (eg sawn softwood, woodchips and pulp). As technologies become more mature and demand increases, products that were once classed as specialty products frequently become regarded as commodities. Alternatively, as market demand becomes more sophisticated, commodity markets can fragment, thereby creating market niches for ‘semi-commodities’ (eg bleached kraft linerboard).

Specialty products are usually less homogenous than commodity products. Examples include some high value writing papers and furniture-grade wood products. Demand for specialty products tends to reflect non-price factors (eg quality and appearance) as well as price. Consequently, price is generally a less important determinant of competitiveness than it is for commodity products. Given these circumstances, an examination of comparative costs in isolation may not provide a good guide to the competitiveness of specialty products.

As noted in the preceding chapter, it also needs to be recognised that relative cost is only one factor, albeit a very important one, which determines a product’s price competitiveness in the market place. Taxation arrangements, tariffs, subsidies and other forms of government assistance are other important factors which influence a product’s price.

5.1 Underlying determinants of cost competitiveness

Major factors which influence cost competitiveness include the exchange rate, inflation, technology, resource utilisation, economies of scale, vertical integration and the cost of inputs.

Exchange rate and relative price movements

Movements in exchange rates and differences in rates of inflation between countries can have profound effects on cost comparisons. For example, if Australia’s exchange rate falls, comparisons of Australia’s costs with overseas costs will shift in Australia’s favour.

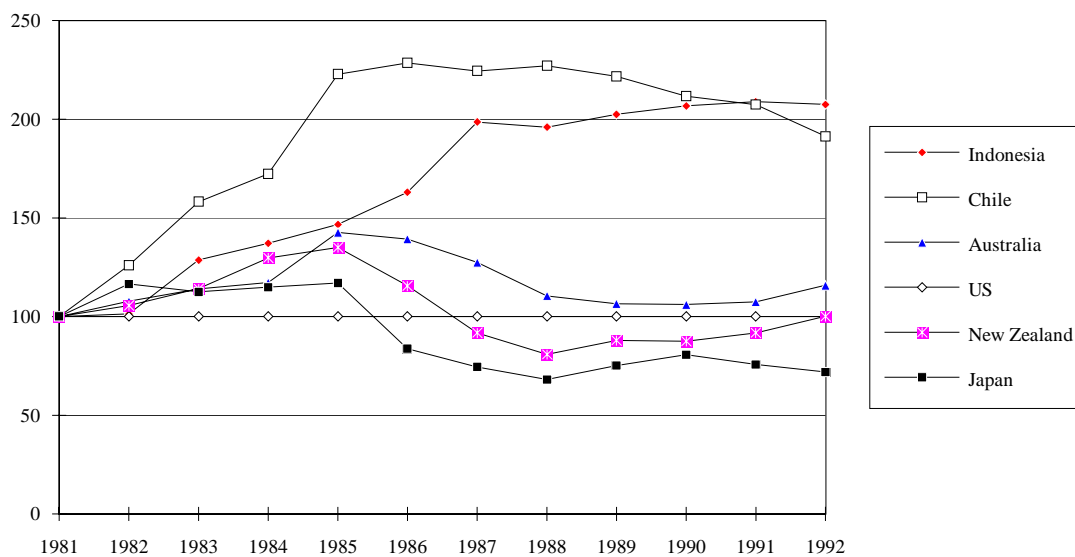
For the economy as a whole, the effects of exchange rate movements and price changes are reflected in changes in Australia’s real exchange rate. Hence, measures of real exchange rates can be used as an economy wide indicator of

changes in international competitiveness, although conditions faced by a particular industry may differ.

Figure 5.1 shows real exchange rate changes for Australia, Chile, New Zealand, Indonesia and Japan, compared with the United States. A (real) depreciation against the US dollar corresponds to a rise in competitiveness and visa versa.

Relative to the US, Australia's competitiveness improved over the first half of the 1980s when the nominal exchange rate fell from 115 to 88 US cents. However, Australia's competitiveness declined between 1985 and 1988 when the nominal exchange rate appreciated and a relatively poor inflation performance continued. By the early 1990s, the competitiveness of the Australian economy had increased relative to other major producing nations such as Japan, New Zealand and the US, but had decreased relative to developing nations with rapidly growing forest products industries such as Chile and Indonesia.

Figure 5.1: Indexes of real exchange rate movements (1981=100)



Source: IMF (1987, 1993)

While a fall in the nominal exchange rate will initially boost competitiveness, this does not necessarily imply that, in the medium to longer term, a country will be better off. This is because a fall in the exchange rate will generally lead to higher import prices and higher levels of inflation. Over time, these factors

tend to erode the initial benefits (in the form of increased competitiveness) resulting from a lower exchange rate.

Technology

The technology of plant and equipment is an important factor in the manufacture of nearly all products. Improvements in technology will often result in increased efficiency and output, reduced operating costs and a higher quality product. For example, modern machines are often computer controlled, resulting in higher labour productivity. In paper production, technological improvements have given rise to wider and faster machines, significantly increasing output per hour.

Integration of the industry: total resource utilisation

A factor affecting the overall competitiveness of the forest products industries is the ability to make full use of available wood resources. In particular, costs will be minimised if wood residues can be sold (or transferred) for use in other processes (eg in the manufacture of particleboard or garden products such as mulch). Furthermore, the cost of the wood itself is likely to be minimised if there is a market for thinnings. The thinning process also promotes sawlog production.

Economies of scale

For most major industrial processes, the unit cost of output falls as the scale of plant increases (assuming a given level of capacity utilisation). This is referred to as economies of scale. Scale economies can arise from many sources including greater specialisation of labour and capital, and economies associated with increased input use or larger plant size.

The nature of an industry can have a significant impact on the potential for scale economies. For example, the consistent size of softwood logs lends itself to relatively large scale mechanised operations. In contrast, the lack of uniformity in much of the hardwood resource limits the potential for increased automation and the achievement of scale economies.

In some circumstances, external factors may mean that larger plants do not lead to lower production costs. For example, the additional wood requirements of a larger capacity mill may increase haulage costs to the point where additional wood costs outweigh the gains associated with larger scale plant. Likewise, higher product distribution costs may offset the benefits (in the form of lower production costs) associated with larger scale operations.

As would be expected, the scale of Australian forest products plants varies considerably. By and large, new plants are larger and more highly mechanised than older plants. Many newer plants, such as some medium density fibreboard and paper mills, while not being the largest in the world, are in keeping with the size of larger plants in major producing nations. However, one area in which Australian plant size is generally small by world standards is the hardwood sawmilling sector.

Vertical integration

In some countries, competitiveness has been improved through vertical integration — the consolidation of a number of separable (but related) activities under one management.

Vertical integration need not imply common ownership. Many of the benefits of vertical integration can be gained through ‘functional integration’, or contractual arrangements between separate firms. For example, a network of small sawmills may join together to invest in (say) centralised kilns or a wood processing plant, or combine in collaborative research and development activities.

Vertical integration may lead to lower costs by: providing firms with greater control over the price and supply of inputs, or markets for outputs; reducing transactions costs between producers and suppliers; and eliminating some processing activities (eg the need for non-integrated paper producers to return pulp acquired from external sources to slush before use).

An increase in vertical integration does not preclude the possibility that some functions will be contracted out. For example, it may be more economical to contract out some non-core activities (eg wood harvesting, residue utilisation/disposal and some plant maintenance tasks).

Vertical integration in the Australian forest products industries varies. The larger producers tend to be highly vertically integrated. Bunnings, for example, is involved in plantation operations, sawmilling, downstream processing (eg drying and laminating), fabrication and assembly operations (eg the manufacture of roof trusses and garden furniture) and wholesale and retail activities. In recent years, there has been a trend towards greater vertical integration with a number of large companies undertaking plantation developments to provide them with greater control over their wood inputs.

Input costs

Input costs are crucial determinants of competitiveness. A modern, world scale plant embodying the latest technology is of little benefit if input costs are

uncompetitive. A range of factors, such as tariffs on imported inputs, limited competition between suppliers and inefficient government pricing policies and regulations can inflate the costs of inputs.

The following data give an indication of Australia's competitiveness in five important areas — wood, labour, chemicals, energy and capital costs. The importance of these inputs varies depending on the product. For example, in hardwood sawmills, wood costs can represent over 50 per cent and labour costs around 30 per cent of total manufacturing costs. In paper manufacture, on the other hand, wood and labour costs are typically each around 10–15 per cent of manufacturing costs.

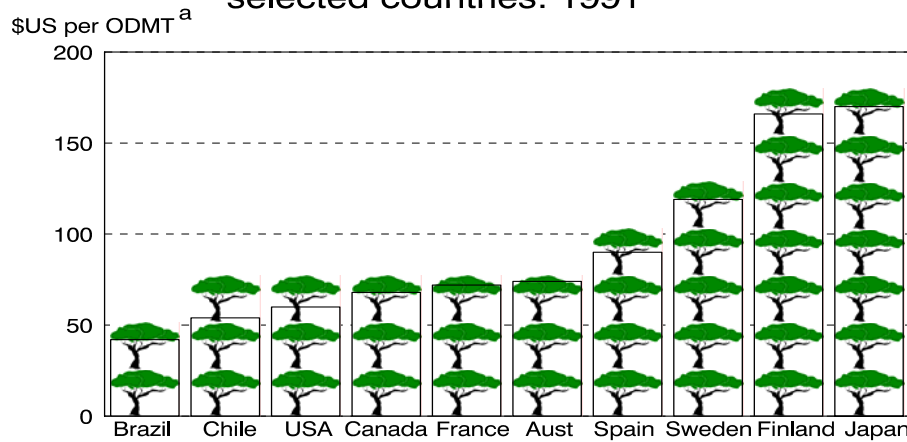
Wood

It is difficult to compile data to allow meaningful comparisons of wood costs between regions within Australia, or between Australia and other nations. The difficulty arises largely because both hardwoods and softwoods can be highly differentiated depending on species and, even within species, there can be considerable differences in quality (eg the proportion of a log affected by defects such as decay, gum veins and termite damage can vary significantly). In this context, Boral (sub. 55, p.2) stated that:

Any comparison also needs to take into account the vastly differing qualities of log offered from various forests around the world. In the case of New Zealand, the *Pinus radiata* logs are of extremely high quality. In some States in Australia — notably Victoria — the logs are of extremely low quality, such that they might well not be accepted by sawmillers in other regions.

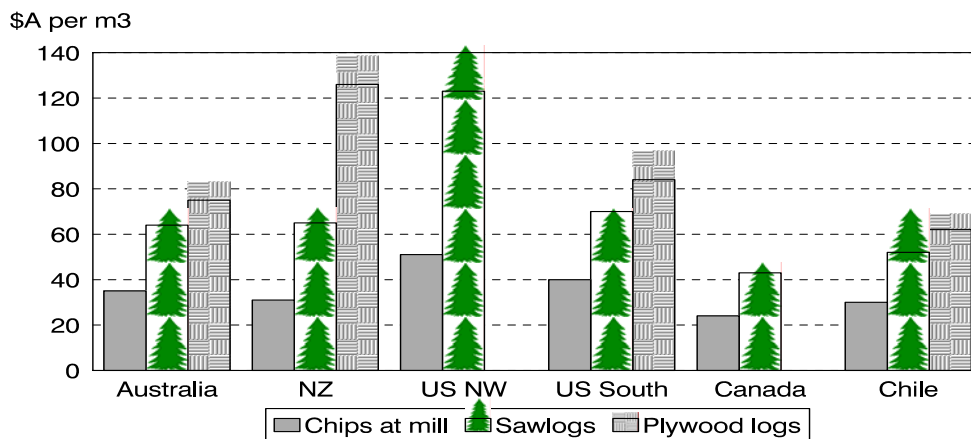
An assessment of relative wood prices is also complicated by the rapid escalation in US prices in the wake of logging restrictions imposed to protect animal habitats in the Pacific north-west. However, the data shown in Figures 5.2 and 5.3 are broadly indicative of the information available to the Commission on the relative prices of hardwood and softwood (delivered to mill) in Australia and other major trading nations.

Figure 5.2: Delivered hardwood roundwood prices for selected countries: 1991



a Oven Dried Metric Tonne
 Source: APPM, sub. 38, p.60

Figure 5.3: International comparison of softwood prices



Source: Jaakko Pöyry 1993

Labour

Meaningful comparative data on Australian and overseas labour costs are also limited. However, information on labour costs in the paper sector submitted by participants and analysis contained in other studies (eg Simons 1990a, 1990b) suggests that, while Australian labour costs per unit of output are higher than those in New Zealand, they are similar or lower than those in most developed countries. Simons (1990b), for example, reported that:

Labour costs per unit of production are in line with other industrialised nations looked at in this study.

As would be expected, unit labour costs in Australia are appreciably higher than those in developing nations such as Indonesia, Brazil and Chile.

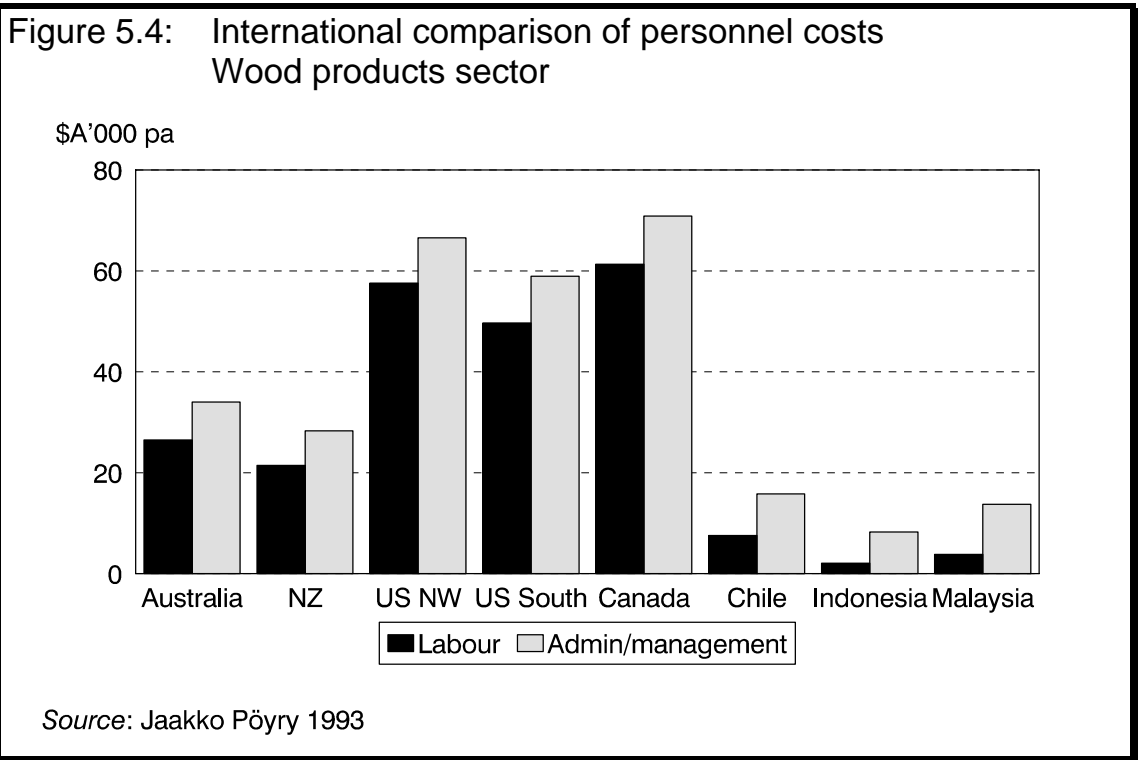
Data supplied by APM for its pulping operations — excluding those formerly operated by APPM — support these findings (see Table 5.1). APM’s average wage cost is lower than the US, but higher than Brazil and Indonesia. However, because staffing levels vary considerably, APM’s total wage cost is lower than Brazil’s (but significantly higher than Indonesia’s).

Table 5.1: Comparison of pulp mill personnel costs (Index: APM=100)^a

| <i>Personnel costs</i> | <i>APM</i> | <i>Brazil</i> | <i>Indonesia</i> | <i>USA</i> |
|---------------------------|------------|---------------|------------------|------------|
| Average cost per employee | 100 | 37 | 11 | 107 |
| Total employees | 100 | 322 | 235 | 132 |
| Total labour cost | 100 | 119 | 26 | 141 |

a Excludes details of mills formerly owned by APPM
 Source: APM (sub. 44, p.65)

Data on labour costs in the wood products sector tell a similar story. Australian labour costs appear to be slightly higher than those in New Zealand, and both countries are highly competitive against North American labour costs. As in paper production, unit labour costs in less developed countries are significantly lower (see Figure 5.4).



Chemicals

An international comparison of chemical costs submitted by APM suggests that Australian costs are considerably higher than those in the US and, in most instances, significantly higher than chemical costs in New Zealand and Indonesia. For example, Australian chlorine costs are 45 per cent higher than in New Zealand and over 350 per cent higher than in the US (see Table 5.2).

Table 5.2: International comparison of chemical costs (\$A per tonne)

| <i>Country</i> | <i>Caustic soda</i> | <i>Chlorate</i> | <i>Chlorine</i> | <i>Salt cake</i> | <i>Burnt lime</i> | <i>Starch</i> |
|------------------|---------------------|-----------------|-----------------|------------------|-------------------|---------------|
| Australia | 600 | 800 | 800 | 183 | 170 | 600 |
| United States | 375 | 600 | 175 | 131 | 100 | 350 |
| New Zealand | na | na | 550 | 188 | 122 | na |
| South Africa | 735 | 663 | na | 164 | 133 | 708 |
| Indonesia | 417 | 481 | na | 231 | 57 | 625 |
| Chile | na | na | na | 350 | 65 | na |
| Brazil | 625 | 838 | 313 | na | 63 | 450 |

Source: APM (sub. 36, p.26)

ANM (sub. 45, p. 22) commented on chemical costs in relation to its new de-inking plant at its Albury mill, stating that:

... the chemical costs expected for the new Albury de-inking plant are 40% higher than for similar operations in Europe and North America utilising virtually identical formulations.

The reasons for the large discrepancies in chemical costs between Australia and other countries is unclear. Tariff duties, transport costs, the extent of competition in Australia and the threat of anti-dumping action may account for some of the differential.

Energy costs

Care needs to be exercised in making international comparisons of electricity prices. National aggregates are often highly misleading because significant variations occur between regions, between customer classes and between firms within classes. For example, the average tariff for commercial/industrial users in Australia in 1991 was 8.4 cents per kWh. However, this figure masks an enormous variation between regions. For example, the average tariff for commercial/industrial users in the Northern Territory was 14.3 cents per kWh compared with 3.8 cents per kWh in Tasmania. Similarly, while Bunnings

presently pays 14.7 cents per kWh for electricity in Western Australia, ANM pays only 3.4 cents per kWh for electricity usage in Tasmania.

While variations of this nature complicate assessments of comparative electricity prices, aggregate data suggest that Australian electricity prices tend to be somewhat lower than those applying in many other developed countries. For example, a recent survey by National Utility Services (NUS) International (Cook 1993) estimated Australian commercial and industrial prices to be 8.57 cents per kWh. The NUS survey ranked Australia as sixth cheapest among 17 industrialised countries surveyed. Prices ranged from 5.68 cents per kWh for Canada to 18.15 cents per kWh for Japan.

Capital equipment

Much of the machinery and equipment used in the forest products industries is imported. Some participants (eg APM) argued that tariff duties on such equipment placed local producers at a competitive disadvantage.

A case study of the construction costs of a BEK pulp mill undertaken for a previous Commission inquiry found that capital equipment costs for an Australian mill would be about \$45 million (around 12 per cent) higher than a Canadian mill. The report (IC 1991e, p. 157) found that these higher costs were due to:

... additional costs for export packaging, ocean and inland freight, dock charges etc ... Additionally, virtually all this imported equipment is subject to import duty. ... The cost of locally produced items (if available) is normally very similar to that of imports plus duty.

The remainder of this chapter focuses on estimates of the cost competitiveness of wood products (Section 5.3) and paper products (Section 5.4). However, prior to discussing these estimates, the following section briefly outlines the data sources used and some of the more important underlying assumptions.

5.2 Basis of cost comparisons

Information on the current competitiveness of wood products is based on a 1993 consultant's report prepared for this inquiry by Jaakko Pöyry¹. For the paper industry, most of the information on current competitiveness was provided by Australian paper producers. Information on competitiveness in previous years is available from two earlier studies, namely: a 1985 Jaakko Pöyry report and a 1990 report undertaken by the Simons consulting group (Simons 1990a).

In most instances, the analyses of existing mills in the Jaakko Pöyry studies are based on mills which are representative of the technologies and scale of mills operating at the time in the countries examined. The analyses are intended to indicate the competitiveness of the existing industry in each country. The analysis of new mills is based on hypothetical, large scale mills using the latest technology. This is intended to provide an indication of the potential competitiveness of a new plant in each country. While information on the cost competitiveness of new timber plants was derived from the recent work prepared by Jaakko Pöyry, similar information was not available for new paper plants. The information reported is that published in Simons (1990a). According to participants, that information is still broadly indicative of the competitiveness of new plants in Australia.

The analysis in all studies was based on the average unit price required to cover all production costs and earn a specified real rate of return on investment. In the 1985 Jaakko Pöyry study, this rate of return was set at 15 per cent. The 1990 Simons study was based on an internal rate of return of 10 per cent. The 1993 Jaakko Pöyry study assumed a real rate of return of 8 per cent.

Relative prices, and hence competitiveness, also depend on the exchange rate used. The 1985 Jaakko Pöyry study used an exchange rate of \$US1.00=\$A0.66, the 1990 Simons study an exchange rate of \$US1.00=\$A0.75 and the 1993 Jaakko Pöyry report employed an exchange rate of \$US1.00=\$A0.725.

The following sections consider the competitiveness of Australian production of wood (Section 5.3) and paper products (Section 5.4). Additional information on these products is contained in Appendixes D and E.

¹ Copies of this report are available from the Commission on request.

5.3 Wood products

This section discusses the competitiveness of major wood products, namely:

- sawn softwood;
- sawn hardwood;
- softwood plywood;
- hardwood plywood;
- particleboard; and
- medium density fibreboard.

Sawn softwood

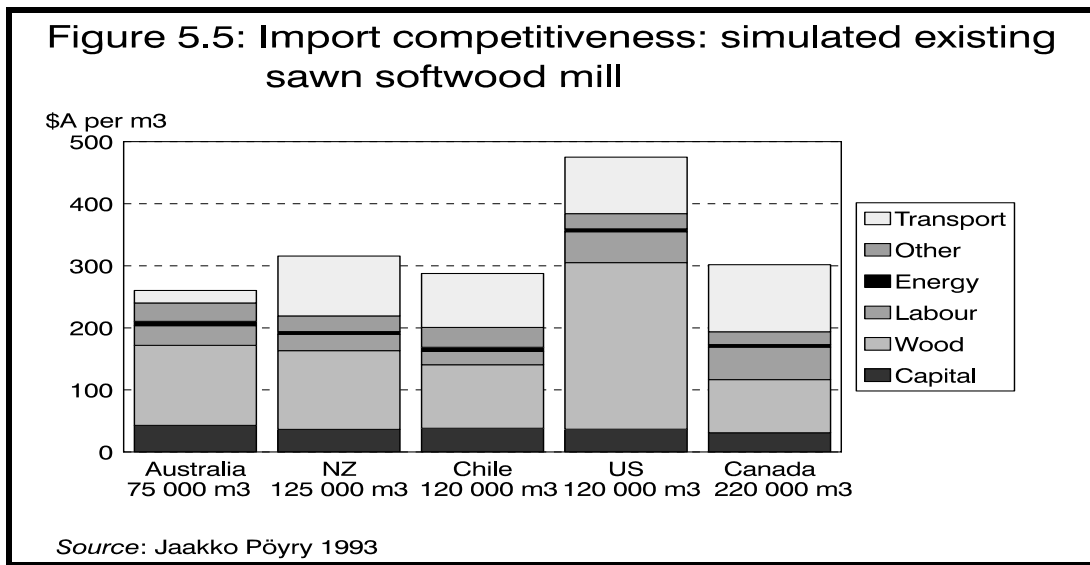
The characteristics of Australia's 240 softwood sawmills vary substantially. The vast majority are relatively small by world standards, with an average output in the order of 4–5000 m³ per annum. There are about 10 mills which are far larger — with annual outputs in the range 50–125 000 m³ — and which account for around 50 per cent of total industry output. These larger mills tend to be relatively new and, unlike the smaller mills, supply a variety of markets and have the potential to compete in export markets. In these circumstances, a mill representative of all softwood sawmills would tend not to reflect either category of existing sawmills. Hence, for the purposes of the Jaakko Pöyry (1993) study, a mill size of 75 000 m³ pa was chosen. A mill of this capacity is representative of the newer larger mills, but not of smaller softwood sawmills.

The selection of a mill of this size has a number of implications for any analysis flowing from the data. For example, the fact that smaller mills are less competitive than the mill depicted, in part, explains why the United States (which was found to be at a significant cost disadvantage) and other 'apparently' less competitive countries (eg New Zealand and Canada) are still able to export large quantities of sawn softwood to Australia (around 40 per cent of domestic market supplies). Differences in the characteristics of the softwood species imported from the United States (mainly oregon) compared with local softwood (mainly radiata pine) also help explain the level of imported sawn softwood.

Import competitiveness

Larger Australian softwood mills were found to be the lowest cost suppliers in the domestic market (see Figure 5.5). Although production costs in Australia are somewhat higher than those in Canada, New Zealand and Chile, Australian producers derive an advantage from the relatively high transport costs faced by overseas suppliers. Significantly higher wood costs in the United States put it at

a serious cost disadvantage compared to the other countries analysed in the study.



Export competitiveness

Export market competitiveness is measured in relation to theoretical shipments to South Korea. In that market, Australia loses the natural protection it has in its domestic market, and its underlying cost disadvantage makes it less competitive with the larger mills presented as indicative of those in New Zealand, Chile and Canada. However, Australia is still more competitive than United States producers (see Figure 5.6).

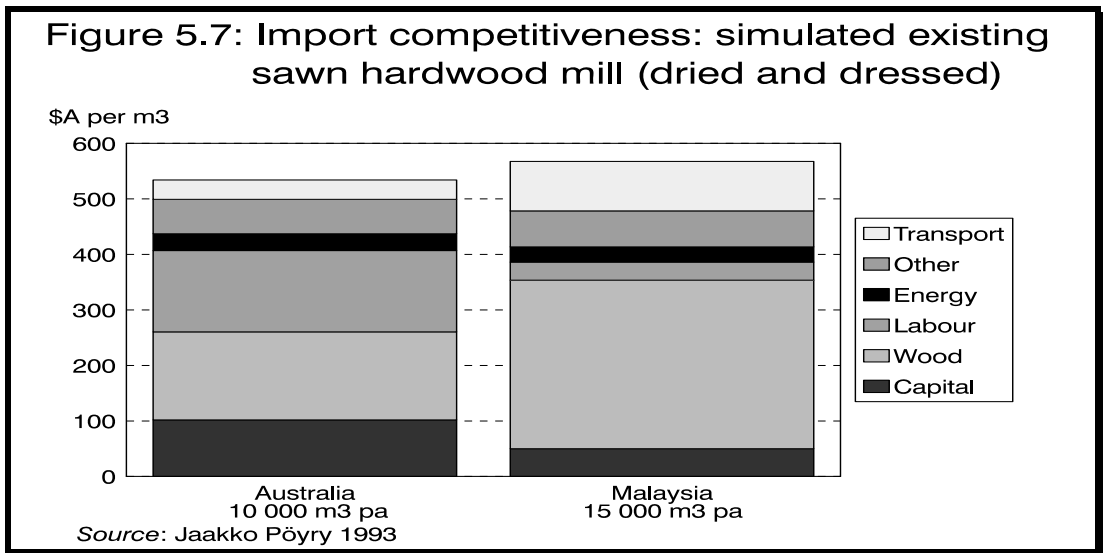


Sawn hardwood

Australia's hardwood sawmilling sector is quite diverse in terms of the activities undertaken, the products manufactured and the scale of mills. For the purpose of the analysis, a mill with an annual capacity of 10 000 m³ was selected. It is common for a mill of this size to possess facilities to dry and dress hardwood.

Import competitiveness

In the domestic market, Australia is assessed as having a cost advantage of about 10 per cent over Malaysia — the world's biggest exporter of tropical hardwood. This is attributable to the impact of transport costs on imported product. Although wood costs are much lower in Australia, lower labour and capital costs result in Malaysian production costs being lower than Australia's (see Figure 5.7).



However, the competitiveness of hardwood needs to be assessed not only in relation to imported hardwood, but also having regard to the price of softwood. Sawn softwood is a direct substitute for hardwood in many end uses (eg roof trusses and house frames). In keeping with the significant inroads made by softwood in traditional hardwood markets, the Jaakko Pöyry study suggests that local softwood producers have a significant cost advantage over hardwood producers in supplying the domestic market.

Export competitiveness

On export markets, the study assesses Australian hardwood to be at a cost disadvantage to both hardwood produced in Malaysia and softwood produced by Australian and major overseas suppliers (see Figure 5.8).

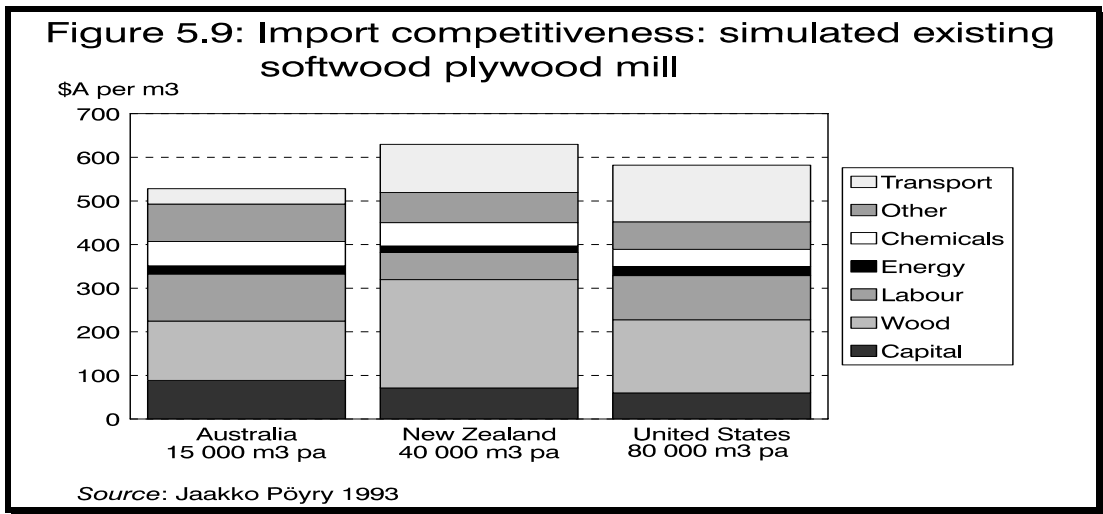


Softwood plywood

There are nine mills in Australia either entirely or mainly producing softwood plywood. Four of these mills have a capacity of over 10 000 m³ pa and account for 65 per cent of total capacity. Hence, the assessment of local softwood plywood costs is based on a mill with an annual capacity of 15 000 m³.

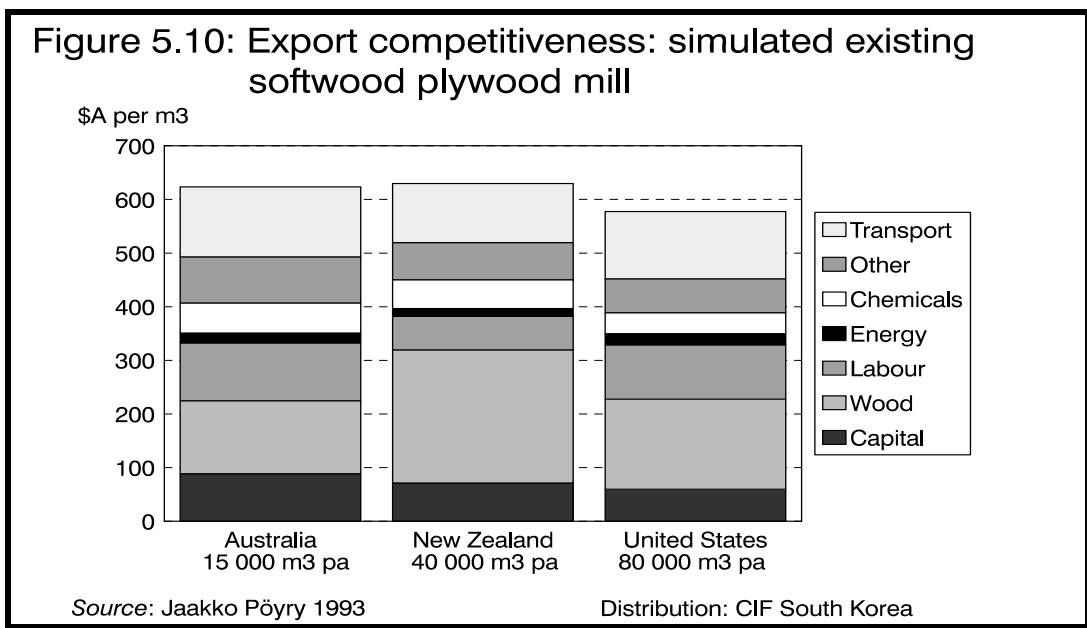
Import competitiveness

Australian softwood plywood producers are estimated to have a significant cost advantage in domestic markets compared to their major competitors, which are disadvantaged by transport costs (see Figure 5.9). Relatively low wood costs in Australia also contribute to the competitiveness of the local industry. Local production costs are slightly lower than in New Zealand, but higher than in the United States.



Export competitiveness

On export markets, Australia is estimated to lose most of the competitive edge it had in the domestic market because it no longer has a transport cost advantage (see Figure 5.10). In supplying the South Korean market, Australia is estimated to be at a disadvantage to the United States, but to have a slight cost advantage over New Zealand.

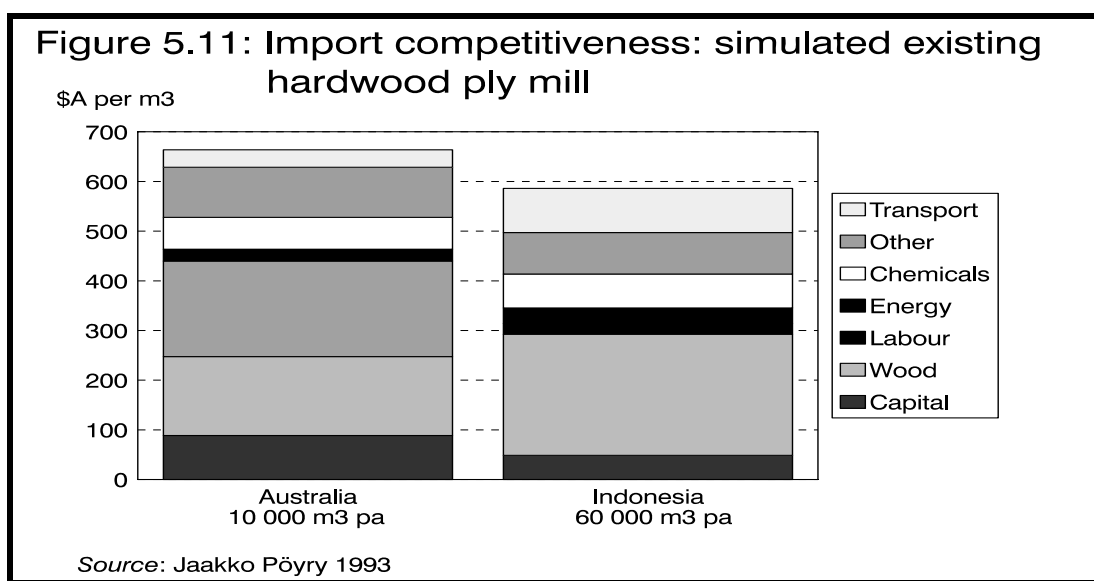


Hardwood plywood

There are few producers of hardwood plywood in Australia. The competitiveness of Australia's existing industry was assessed on the basis of a plant with an annual capacity of 10 000 m³.

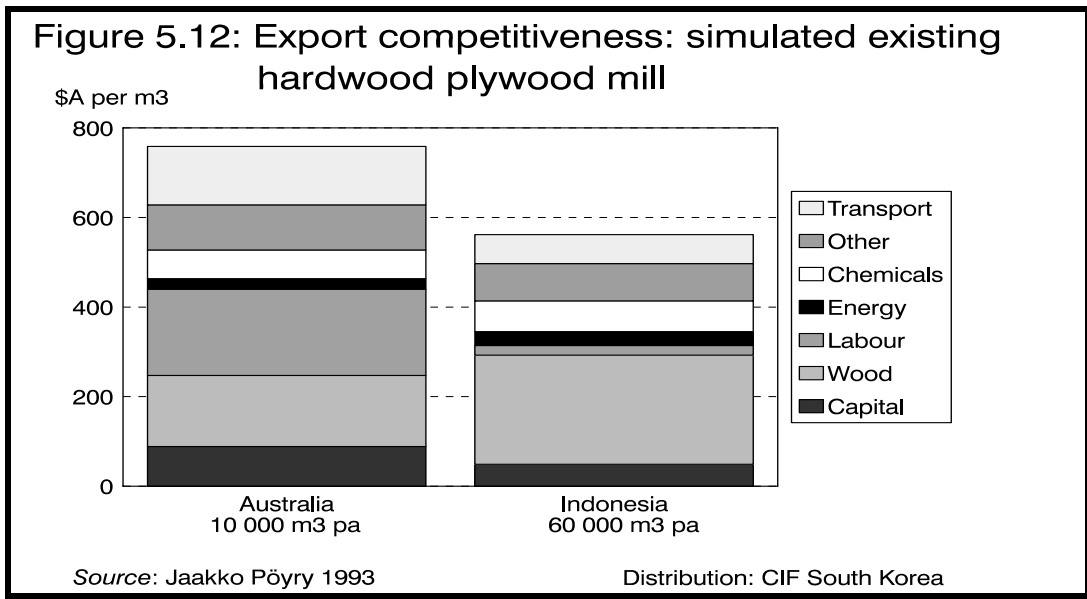
Import competitiveness

Indonesia is the major supplier to Australia of imported hardwood plywood (nearly 30 000 m³ in 1991–92). The substantially larger Indonesian mill is estimated to have a production cost advantage of around 15 per cent over Australian producers of hardwood plywood, and an advantage in delivered costs of about 10 per cent (see Figure 5.11).



Export competitiveness

On export markets, Australia's competitive disadvantage is further exacerbated through the loss of the freight advantage enjoyed in the domestic market. In Asian markets, Indonesia is estimated to have a price advantage of about 25 per cent (see Figure 5.12). Despite this disadvantage, an Australian producer that has developed the technology to peel regrowth eucalypt — Big River Timbers — stated that it has been successful in winning export orders in Asian markets in the face of competition from Indonesian suppliers. Another company, Briggs and Sons, have also successfully exported plywood to Asia, North America and the United Kingdom.

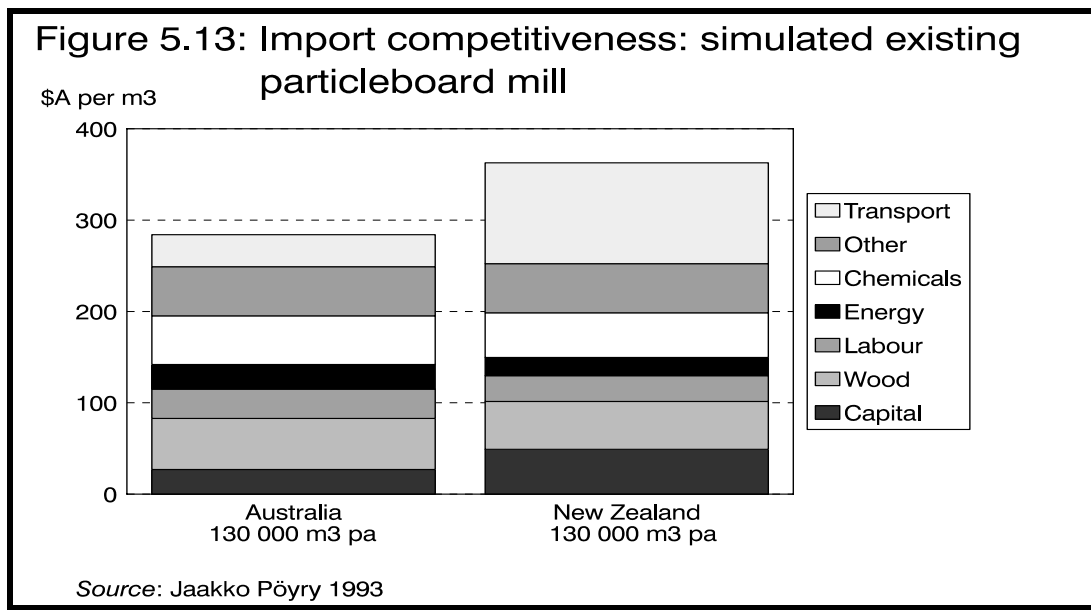


Particleboard

There are presently seven particleboard mills in Australia, all of which use woodchip residues from sawmills as their main fibre source. This leads to a relatively high quality product compared with particleboard produced from sawdust — a common practice in other countries. The assessment of competitiveness of existing Australian mills is based on a plant with an annual capacity of 130 000 m³.

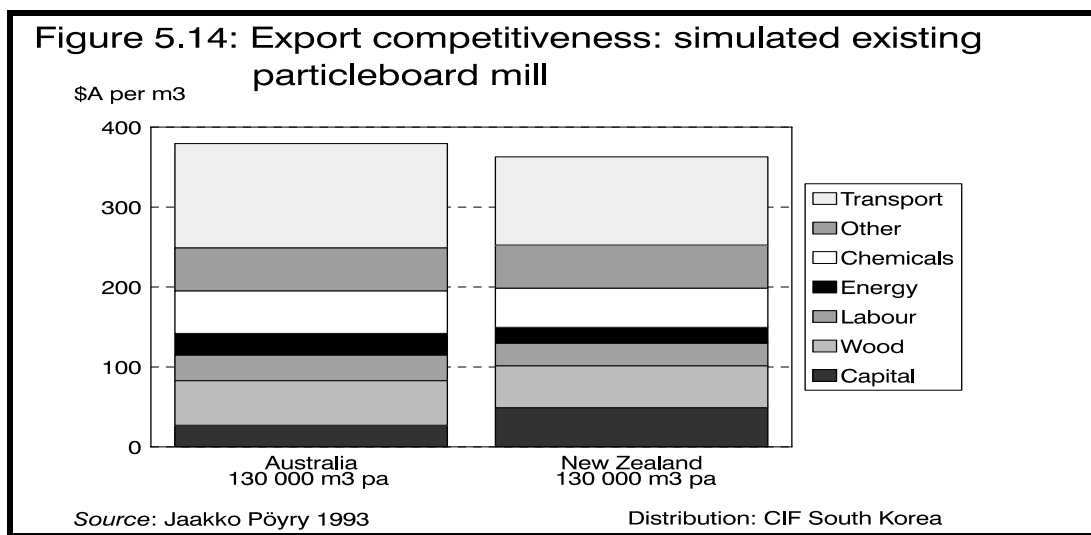
Import competitiveness

Australia is estimated to have a marginal advantage in production costs compared with New Zealand, its major competitor. However, because of international shipping costs, local producers are estimated to have a significant price advantage in domestic markets (see Figure 5.13). Due to the bulkiness and relative low value of particleboard, transport costs account for 30 per cent of the landed price of New Zealand particleboard.



Export competitiveness

In supplying the South Korean market, Australian producers face transport costs of a similar order to those that New Zealand producers suffer in exporting to Australia. This dissipates the advantage Australia enjoys in its domestic market, leaving Australia at a slight competitive disadvantage in Asian markets (see Figure 5.14).



Medium density fibreboard (MDF)

Australia has four MDF mills, all with a capacity of between 100 000 and 140 000 m³ per annum. A mill with an annual capacity of 130 000 m³ was used to assess the sector's current competitiveness.

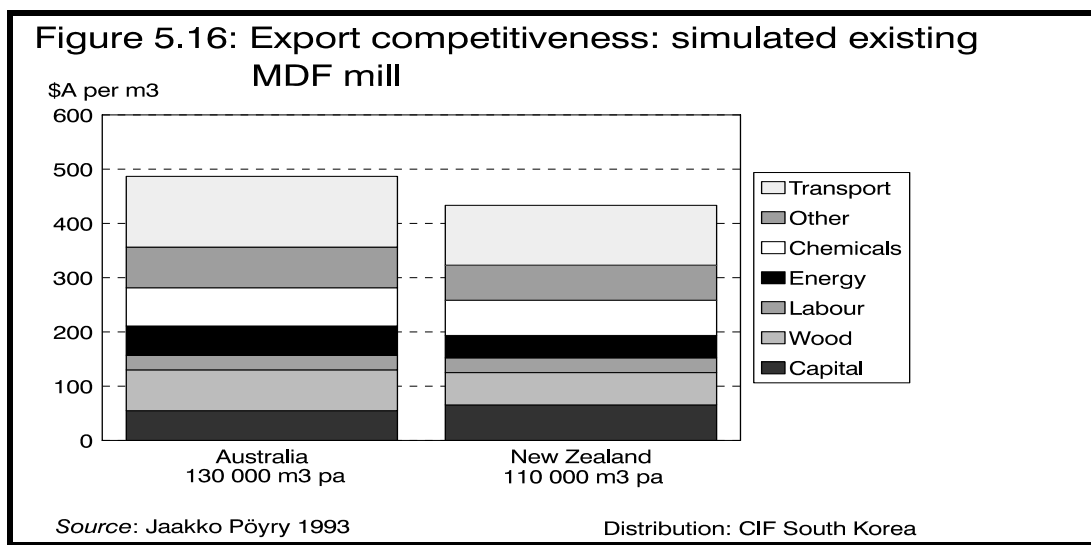
Import competitiveness

Although production costs in Australia are higher than in New Zealand, Australia has a competitive edge over New Zealand in the domestic market (about 10 per cent) due to the impact of trans-Tasman shipping costs. Lower production costs in New Zealand reflect cheaper energy and wood costs (see Figure 5.15).



Export competitiveness

On export markets, New Zealand's cost advantage places Australian MDF at a 10 per cent price disadvantage in supplying South Korea (see Figure 5.16).



Competitiveness of new plant

To provide some indication of the potential competitiveness of Australian producers of wood products, the study also assessed the costs of new 'greenfield' plants in Australia compared with new plants in a range of competing nations. In all cases, it was assumed that the new plants would be of a larger scale than those used to assess the competitiveness of existing plant. Where relevant, the analysis also incorporates other factors which may enable new plants to improve their competitiveness (eg better utilisation of wood resulting from co-location with other wood processing operations and cost reductions associated with the use of improved technologies).

The study found that, with the exception of hardwood plywood and sawnwood, the use of new plant by both Australian producers and their overseas competitors would not substantially change the assessment of relative competitiveness based on existing plant. The study estimates that the competitiveness of Australian hardwood plywood would be improved significantly by new plant, although it would still rank as the least competitive sector. While the competitiveness of sawn hardwood also improves significantly, it is still not competitive against sawn softwood.

Details of the costs of new plants in Australia and overseas countries which are large international suppliers are provided in Appendix D.

Assessment of cost competitiveness

In essence, the study undertaken for the Commission by Jaakko Pöyry found that, based on delivered costs, plants assumed to be representative of existing

Australian plants have a competitive edge (in terms of price) over leading overseas manufacturers in supplying the local market for all sectors examined except for hardwood plywood. The study also found that the cost of sawn hardwood appears to be significantly higher than its major competitor in many end-uses — locally produced sawn softwood (see Table 5.3).

Table 5.3: Present competitiveness of Australian wood products

| <i>Competitiveness</i> | <i>Comments</i> |
|--|---|
| Most competitive sector | |
| <ul style="list-style-type: none"> • Particleboard | Very competitive in domestic markets, slight disadvantage in export markets. |
| Moderately competitive sectors | |
| <ul style="list-style-type: none"> • Softwood plywood | Competitive in domestic markets, slight disadvantage in export markets. |
| <ul style="list-style-type: none"> • MDF | Competitive in domestic markets, but at a slight price disadvantage in Asian markets. |
| <ul style="list-style-type: none"> • Sawn softwood | Competitive in domestic markets, but at some price disadvantage in Asian markets. |
| Least competitive sectors | |
| <ul style="list-style-type: none"> • Sawn hardwood | At a slight competitive advantage against imported hardwood in domestic markets, but in many uses is at a significant disadvantage to softwood in both domestic and export markets. Specialty niche markets may offer some opportunities. |
| <ul style="list-style-type: none"> • Hardwood plywood <p>in</p> | At a competitive disadvantage against Indonesia in domestic markets, and a significant price disadvantage in Asian markets, except for specialty markets. |
| <i>Source:</i> Based on Jaakko Pöyry (1993) | |

In most cases, Australia's competitive advantage arises not because its underlying costs are lower, but because overseas transport costs offset higher local production costs. Thus, on export markets, where this advantage is lost, Australia is at a competitive disadvantage in the supply of all products. The disadvantage is least for softwood plywood and particleboard.

The major factors contributing to higher costs for Australian wood products producers are high energy costs compared to the United States, Canada and New Zealand and high transport costs relative to most other countries included in the study. For example, it costs about the same to ship a cubic metre of sawn softwood from Australia to Korea as it does from Chile to Korea, despite the fact that Australia is much closer to Korea than Chile. Thus, while proximity to Asian markets should be an advantage for Australia, in some cases high transport costs negate this advantage.

The simultaneous installation of new plant in Australia and in exporting nations does not substantially change the relative competitiveness of Australian producers. The major exception is hardwood plywood. Its competitiveness is estimated to improve, although it would still be at a significant cost disadvantage in both domestic and export markets.

5.4 Paper products

This section discusses the competitiveness of major paper products, namely:

- hardwood kraft pulp;
- newsprint;
- packaging and industrial papers;
- woodfree printing and writing papers; and
- light weight coated papers.

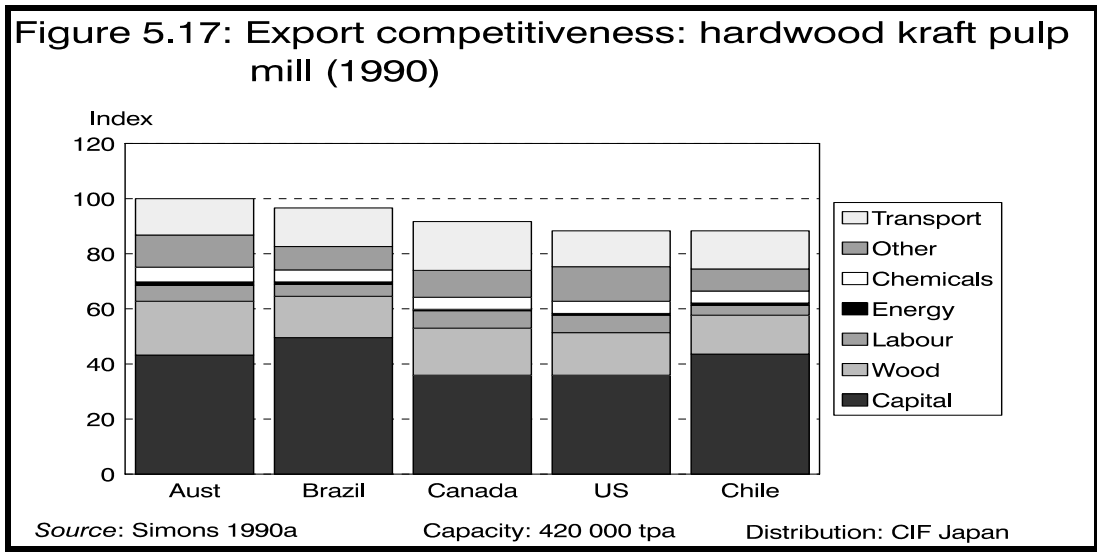
Hardwood kraft pulp

Pulp is produced and widely traded to provide the fibre input for non-integrated paper mills. Demand for pulp is heaviest in countries which have large paper making industries, but limited domestic fibre supplies (eg Japan).

The Commission does not have data to assess the competitiveness of existing Australian pulp mills, all of which are part of larger integrated pulp and paper operations. However, Figure 5.17 shows the export competitiveness of a new, export-oriented hardwood pulp mill estimated in the Simons (1990a) study. The scale of the mill used in the analysis is similar to that proposed for Wesley Vale and under consideration elsewhere (eg in south-west Western Australia).

The 1990 study assessed that Australia would be slightly less competitive (though not uncompetitive) with new mills of the same capacity in Brazil, Canada, Chile and the United States. In contrast to some of the other commodities examined in this chapter, there is relatively little difference

between countries in the relative contribution to total costs made by each of the major cost components.



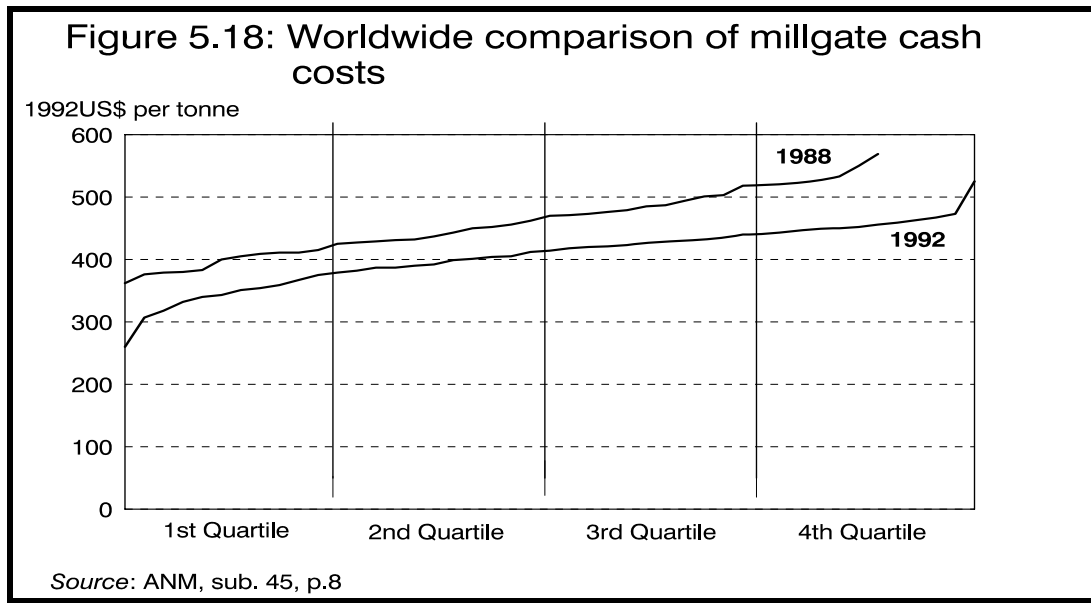
Newsprint

Newsprint is a commodity heavily traded on international markets. World production is dominated by Canada and the United States, which collectively produce 45 per cent of world output. Australia imports 30 per cent of its domestic newsprint requirements. Most of Australia's newsprint production is undertaken by ANM.

ANM provided a summary of cost data for mills representing over 90 per cent of the world's newsprint capacity. The data, which relate to 1988 and 1992, cover around 80 to 90 newsprint mills (see Figure 5.18).

In 1988, the millgate cash costs of ANM's Albury mill were in the third quartile of all newsprint mills surveyed. Millgate costs at the mid point of the third quartile were about 15 per cent higher than costs at the mid point of the first quartile in 1988. ANM's older and smaller capacity Boyer mill was almost the highest cost mill in the survey.

Since 1988, ANM has reduced its costs, particularly in its Tasmanian operations. This is reflected in the higher ranking of both of its mills in the 1992 survey. In that survey, the Albury and Boyer mill were ranked in the second and third quartiles respectively. The 12 per cent drop in the (real) average cost of newsprint between 1988 and 1992 (as indicated by the downward shift in the supply curve in Figure 5.18), implies that the cost reductions achieved by ANM were somewhat larger than 12 per cent.



ANM stated that, as it expects the supply curve to drop by a further 15 per cent over the next four to five years, it must continue to achieve real annual cost reductions in excess of 3 per cent if it is to maintain its competitive position. According to ANM, the greatest potential for further reducing input costs is in the areas of fibre and transport costs. The company is currently installing plant at its Albury mill to enable it to manufacture newsprint from recycled fibre.

Packaging and industrial papers

The major producer of packaging and industrial paper products in Australia is APM. In standard bulk grades (eg kraft linerboard), where international trade is significant, price is an important determinant of competitiveness. However, for some paperboard grades, board qualities (eg physical properties and printability) are important elements influencing competitiveness.

Table 5.4 ranks the competitiveness of APM's plants in both domestic and international markets. The table suggests that APM is among the most competitive ten per cent of the world's producers of kraft linerboard, corrugating medium and

Table 5.4: Competitiveness ranking of APM^a

| <i>Product</i> | <i>Domestic market</i> | <i>Export market</i> |
|--------------------|------------------------|----------------------|
| Kraft linerboard | 1 | 1 |
| Corrugating medium | 1 | 1 |
| Plasterboard liner | 1 | 1 |
| Cartonboard | 3 | 3 |

a The rankings refer to deciles, that is, a ranking of 1 indicates competitiveness corresponding to the top 10 per cent of producers.

Source: APM (sub. 44, p. 57)

and plasterboard liner. Production of cartonboard is less competitive, with the company placed in the third decile, or the top 30 per cent of producers in the world. According to APM, it is at a 10 to 20 per cent price disadvantage in the domestic market compared to imported cartonboard. However, it claims that the quality of both its service and product have enabled it to retain a high domestic market share in the face of cheaper cartonboard imports.

Table 5.5 provides a more detailed picture of the international competitiveness of packaging and industrial papers.

Table 5.5: Cost comparison: APM and other low cost producers

| <i>Product</i> | <i>Market</i> | <i>Most competitive countries</i> | <i>Cost index APM</i> | <i>Cost index other competitors</i> |
|--------------------|---------------|---|-----------------------|-------------------------------------|
| Kraft linerboard | Singapore | Australia, USA, Brazil | 100 | 103 |
| Corrugating medium | Singapore | Australia, Taiwan, Thailand | 100 | 118 |
| Plasterboard liner | Singapore | Australia, USA, UK | 100 | 118 |
| Cartonboard | Hong Kong | Australia, USA, Austria, Indonesia, Italy | 100 | 98 |

Source: APM (sub. 44, supplementary paper 3, p. 2)

In Asian markets, APM has a significant cost advantage in corrugating medium and plasterboard liner compared to other low-cost producers. In the case of kraft linerboard production, APM is slightly more competitive than other suppliers. The company is at a slight disadvantage in supplying cartonboard to Asian markets.

Woodfree printing and writing paper

Some woodfree paper grades, for example copy paper, are commodity papers, with price playing a leading role in determining competitiveness. Others, however, continue to be regarded as specialty papers. For these latter products, client service, delivery times and other non-price factors are important elements in determining competitiveness.

Woodfree papers are now only manufactured in Australia by APM. The company produces copy paper and a range of specialty grade papers.

Data on the cost competitiveness of local production are limited and exclude details of the plants formerly owned and operated by APPM. Table 5.6 compares APM's Maryvale operations with key low cost overseas producers in the production of copy paper. The data show that APM is at a slight cost disadvantage compared to the other designated countries, except Indonesia. According to APM, this cost disadvantage puts it in the second quartile in terms of cost competitiveness in domestic markets and in the third quartile in international markets. (It is generally accepted that a mill needs to be in the first quartile to be internationally competitive.)

Table 5.6: Comparison of copy paper production costs

| <i>Country</i> | <i>No. of machines at mill</i> | <i>Combined capacity (tpa)</i> | <i>Total paper cost (Index)</i> |
|---------------------------|--------------------------------|--------------------------------|---------------------------------|
| Australia (APM– Maryvale) | 1 | 80 000 | 100 |
| Brazil | 2 | 148 000 | 95 |
| Indonesia | 1 | 117 000 | 104 |
| South Africa | 2 | 148 500 | 96 |
| United States | 1 | 261 000 | 93 |

Source: APM (sub. 44, p. 67)

Light weight coated papers

Light weight coated paper (LWC) is only produced in Australia at the Wesley Vale mill in Tasmania. The Commission does not have any cost data to compare the competitiveness of existing plant. However, the share of the domestic market held by locally produced LWC paper has fallen in the face of increased competition from European and Scandinavian producers. This has occurred in an environment where the prices of most grades of printing and writing papers have failed to keep pace with inflation, wages and production costs.

Assessment of competitiveness

The competitiveness of Australian paper products varies considerably between different grades. Some are highly competitive on both domestic and international markets, while others are significantly less competitive and are facing stiff competition from imports.

Although comprehensive data are unavailable for some products, overall, the evidence suggests that there have been improvements in competitiveness in many areas over recent years.

The competitiveness of different products within each category of paper differs. However, Table 5.7 summarises, in a broad manner, the thrust of the information on competitiveness available to the Commission.

| <i>Competitiveness</i> | <i>Comments</i> |
|---|--|
| Most competitive sectors | |
| <ul style="list-style-type: none"> • Packaging and industrial papers | Competitive on both domestic and international markets. |
| <ul style="list-style-type: none"> • Hardwood kraft pulp | Little demand for market pulp in Australia because all paper mills are integrated. New, world scale, export-oriented pulp mill has potential to be internationally competitive. |
| Moderately competitive sector | |
| <ul style="list-style-type: none"> • Newsprint | Competitive on domestic markets due to natural protection. Improvements in competitiveness required for export success. |
| Least competitive sectors | |
| <ul style="list-style-type: none"> • Most light weight coated and woodfree printing and writing papers | Copy paper and many LWC papers (exceptions include some specialty papers such as those produced by APM at the Shoalhaven plant formerly owned by APPM) are under strong pressure from imports. |

The major factors disadvantaging Australian paper producers relative to their overseas counterparts are high wood costs, relative to those in developing countries, and high transport costs, compared to both developing and developed countries. Labour costs generally compare favourably with other developed nations, although they are higher than in many developing countries. Factors which help influence current wood and transport costs in Australia are discussed in the following two chapters.