

Rising domestic plantation wood supplies

Implications for Australian production and use of forest products

• Australia's rapidly rising supplies of plantation wood has implications for prices and exports of forest products

Forest plantations have provided progressively more of the wood resource required by Australia's wood and paper industries in recent years. Past projections have indicated that this trend is likely to continue.

Some recent revisions to projected wood supplies from both forest plantations and native forest, however, suggest that this process is occurring even more quickly than previously expected.

Rising plantation supplies

It is now possible that forest plantations could be providing 75 per cent of domestic industrial wood supplies by 2010, compared with expectations of only around 62 per cent several years ago.

The forecast net increase in wood flow is also much larger than previously expected — at around 5.5 million cubic metres — after expected decreases in flows from native forest are taken into account.

The potential increase in plantation wood supplies will have many implications for Australia's wood and paper industries.

If all of the sawlog component of the industrial roundwood supply projected for the period 2005-06 to 2009-10 were to be processed into sawn timber, then sawn hardwood production in Australia would fall by 15–20 per cent and sawn softwood production would rise by 60–70 per cent relative to current levels.

The latter would represent a significant addition to domestic soft sawnwood availability. While some of it could be absorbed by the domestic market (probably at lower prices), a large proportion would be available for export.

Impact on exports

The ability to export the increases in soft sawnwood production will depend on Australia's international competitiveness in Pacific Rim markets.

To compete, Australian sawmillers will need to be able to produce and transport soft sawnwood to export markets at a lower cost than competing nations. This may prove increasingly difficult when softwood plantation production from other nations such as Argentina and New Zealand also come on stream, as expected, in the latter half of the current decade.

Impact on prices

Large increases in domestic production of sawn softwood would also likely alter the relative prices for, and therefore the domestic use of, sawn softwood, sawn hardwood, wood based panels and reconstituted wood products.

Impact on pulpwood

As with soft sawnwood, Australia's competitiveness in production will determine whether increased pulpwood supply is translated into increased pulpwood product exports.

Plantation sourced pulpwood supplies are rapidly increasing in other countries, including Argentina, Chile and South Africa. Additional supplies from these countries may lead to reduced prices for export logs and woodchips if market demand does not keep pace with the growing supply.

If the bulk of the additional Australian pulpwood were to be exported as woodchips, then, relative to

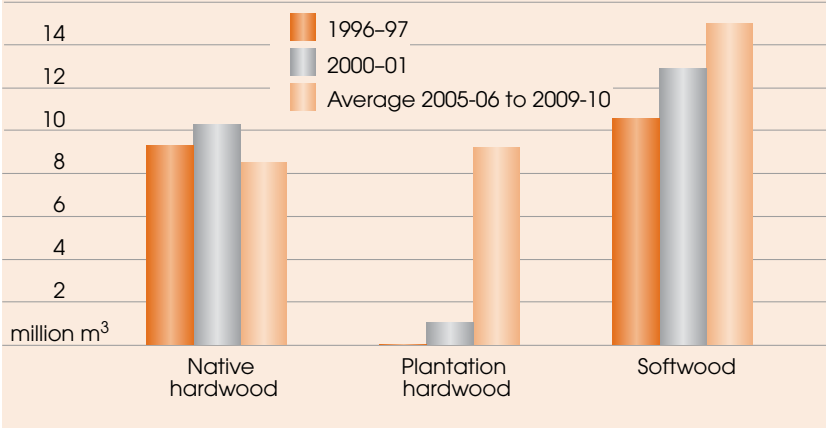
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A

Australian roundwood removals



Removals from native forests are expected to fall as removals from softwood and hardwood plantations rise

current levels, woodchip exports could rise by around 20 per cent.

Industrial roundwood removals

Reflecting steady increases in wood flows from forest plantations in the past decade, Australia's production of industrial roundwood reached 24.2 million cubic metres in 2000-01.

Hardwood plantations have emerged as a 'third source' of industrial roundwood, alongside native forests (which provide mainly hardwood) and the softwood plantations established mainly during the two decades from around the mid-1960s to the mid-1980s.

Projected wood flows

Recently revised figures for industrial wood flows indicate expected lower wood flows from native forests over the next decade, but a further steady increase in wood flows from softwood plantations and large increases in wood flows from relatively recently

established hardwood plantations (figure A).

For native forests, the recently announced intentions by the governments of Victoria and Western Australia to reduce the volume of wood being harvested are expected to reduce Australia's annual removals of industrial roundwood from native forests to an average of 8.2 million cubic metres in the period 2005-06 to 2009-10, compared with estimated removals of 10.2 million cubic metres in 2000-01.

In comparison, potential log availability from softwood plantations is projected to average 15.0 million cubic metres a year in the latter half of this decade (Ferguson et al. 2002). This is significantly higher than previously projected (Commonwealth of Australia 1997).

The supply of plantation hardwood pulplogs is also expected to rise significantly as existing hardwood plantations approach the end of their first ten year rotation. Wood flows from hardwood plantations are projected to rise from 1 million cubic metres in 2000-01 to an average of 9.2 million cubic metres a year in the latter half of the current decade (Ferguson et al. 2002).

Consequently, total industrial roundwood removals could potentially increase from 24.2 million cubic metres in 2000-01 to average 32.4 million cubic metres a year in the latter half of the current decade.

Structural wood production

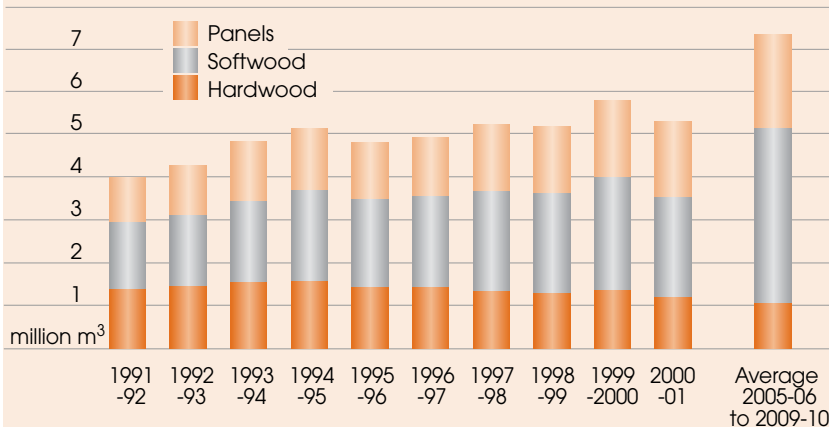
Australia produced 5.3 million cubic metres of structural wood in 2000-01, consisting of 1.2 million cubic metres of sawn hardwood, 2.3 million cubic metres of sawn softwood and 1.8 million cubic metres of wood based panels (figure B).

The average recovery rate (the ratio of sawnwood produced to the volume of sawlogs milled) is estimated to be around 40 per cent from plantation sourced softwood logs and 33 per cent from native forest sourced hardwood logs.

Production of wood based panels includes reconstituted structural wood products that are direct substitutes for

B

Australian structural wood production



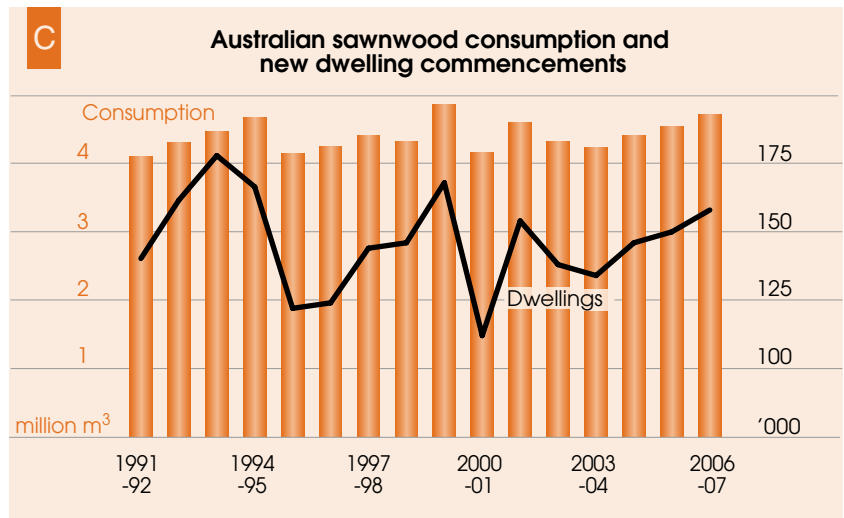
sawn timber, such as laminated veneer lumber and composite beams.

If all of the sawlog component of the industrial roundwood supply projected for the period 2005-06 to 2009-10 were to be processed into sawn timber, then reduced hardwood sawlog availability from native forests could result in annual sawn hardwood production falling by around 15–20 per cent to average 1.0 million cubic metres, and sawn softwood production rising by around 60–70 per cent to average 4.1 million cubic metres a year.

The increased supply of pulpwood directly and as mill residue could also reduce the cost of producing wood based panels and reconstituted structural products, the combined production of which could potentially average 2.2 million cubic metres a year in the period 2005-06 to 2009-10 (figure B).

Domestic structural wood consumption

The demand for structural wood is derived from the demand for building and construction, and to a lesser extent by the demand for furniture (Love, Yainshet and Grist 1999). Historically, rises or falls in new dwelling commencements show a close relationship with rises and falls in apparent consumption of sawnwood (figure C).



Reflecting a number of influences such as low interest rates and increased grants for new home buyers, new dwelling commencements in Australia rose in 2001-02. However, with interest rates expected to rise, residential construction is forecast to be lower in 2002-03 and 2003-04, but to begin to rise again thereafter.

As a consequence, sawnwood consumption is projected to fall from 4.5 million cubic metres in 2001-02 to 4.1 million cubic metres in 2003-04, but to rise to around 4.7 million cubic metres in the medium term.

The main macroeconomic and other assumptions underlying these projections are shown in box 1.

Demand for structural wood is derived mainly from demand for building and construction

Box 1: Assumptions for structural wood consumption projections

Projections of structural wood consumption are based on the underlying demand for new dwellings, and other uses such as alterations and additions to existing homes, non-residential construction and furniture (Love et al. 1999).

Structural wood consumption is modeled from the number of new single unit and multiple unit dwellings, and income. The demand for new dwellings is projected from expected rates of household formation, with adjustment for replacement of housing stock, and vacancy rates. Rates of household formation are projected from the expected number of persons per household, and projections of population growth.

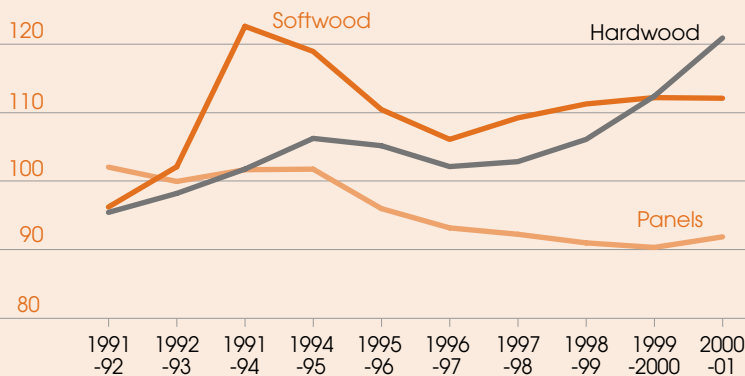
Macroeconomic and demographic assumptions for Australia

		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Population	'000	19 622	19 820	20 015	20 206	20 395	20 579
Households	'000	7 532	7 658	7 784	7 910	8 036	8 162
New dwellings	'000	154	138	134	146	150	158
Ratio of detached to total dwellings		0.71	0.69	0.69	0.69	0.68	0.68
Annual real GDP growth	%	3.8	3.8	3.8	3.5	3.5	3.5
Interest rates ^a	%	7.9	8.3	8.5	8.5	8.5	8.5

^a Prime lending rates to large businesses.
Sources: ABS (2000), ABARE.

D

Australian structural wood price index
Real 1989-90 = 100



With sawn hardwood prices rising relative to softwood and panel prices, consumption of hardwood is expected to fall relative to that of softwood and panels

In the past decade, reduced availability of hardwood sawlogs and increased availability of softwood sawlogs and pulpwood resulted in significant changes in the relative prices of these production inputs, and consequently in the production mix of structural wood products and their prices to consumers. Sawn hardwood prices rose strongly relative to sawn softwood and pulpwood based products such as wood based panels (figure D).

With these trends projected to continue throughout the current decade, sawn hardwood consumption is projected to decline from 1.2 million cubic metres in 2000-01 to 1.0 million cubic metres in 2006-07, while sawn softwood consumption is projected to rise from 2.9 million to 3.7 million cubic metres.

Consumption of wood based panels and reconstituted wood products is also projected to rise in the medium term,

from 1.5 million cubic metres in 2000-01 to 1.7 million cubic metres in 2006-07 (figure E).

The projected lower rate of increase in consumption of wood based panels and reconstituted wood products relative to that of sawn softwood reflects expectations that higher sawn softwood production will increase the availability of low priced soft sawnwood, and that, while reconstituted structural wood products will remain competitively priced, their use will continue to be constrained to niche markets by building preferences.

Structural wood imports and exports

There has been a long term decline in the share of imports in structural wood consumption, as domestically produced sawn softwood has become more competitive with imports.

At the same time, the share of wood based panels imports in total wood based panels consumption has been rising, reflecting the availability of low cost imported wood based panel and reconstituted structural wood products.

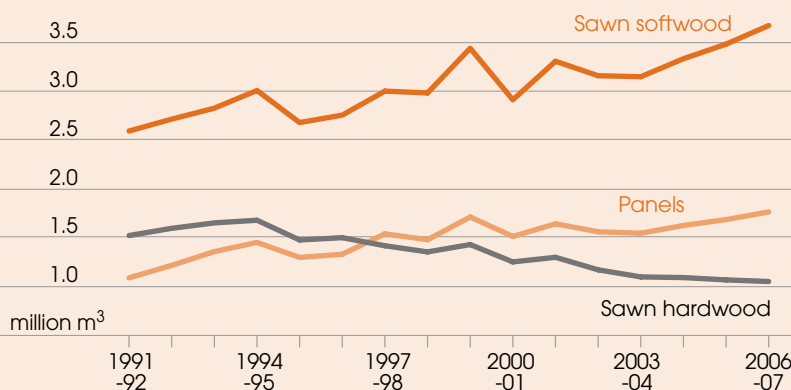
Future trends in Australian trade in soft sawnwood (both imports and exports) will depend largely on the international competitiveness of softwood processing in Australia. Although the share of sawn softwood imports in Australian sawn softwood consumption is expected to continue to decline, it is expected that imported special applications timbers such as Douglas fir and western red cedar will continue to hold around 10-15 per cent of the market.

In the reconstituted structural wood market, imports represent a high share of total consumption and are likely to continue to do so, as the size of the mills required for economic production of many of these products exceeds the likely requirements of Australia's relatively small domestic market.

While some of the projected additional soft sawnwood production is likely to be absorbed by the domestic market (probably at lower prices), a large proportion would be available for export. However, the ability to export soft sawnwood will depend on

E

Australian structural wood consumption



Australia's international competitiveness in Pacific Rim markets.

To compete, Australian sawmillers will need to be able to produce and transport soft sawnwood to export markets at a lower cost than competing nations. This may prove increasingly difficult as sawn softwood from plantations in other nations such as Argentina and New Zealand also comes on stream in the latter half of the current decade.

Australian paper and paperboard production

In 2000-01, Australia produced 2.8 million tonnes of paper and paperboard — newsprint, printing and writing paper, household and sanitary tissue, and packaging and industrial paper.

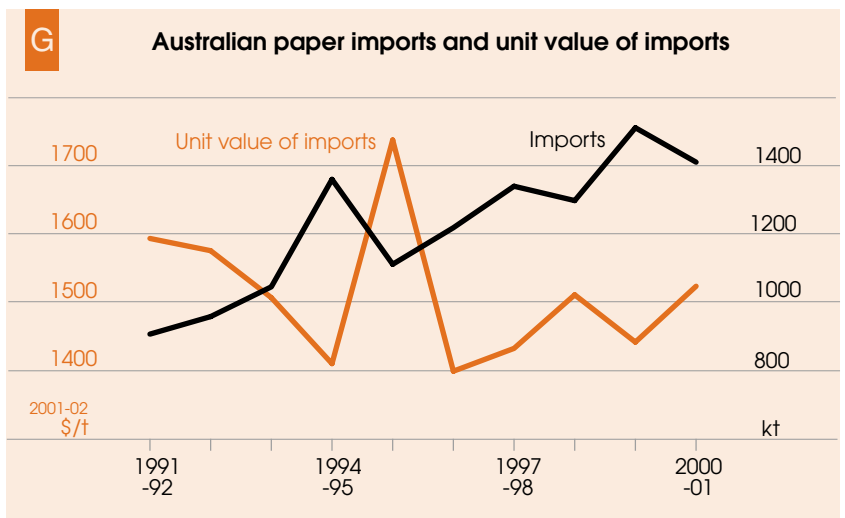
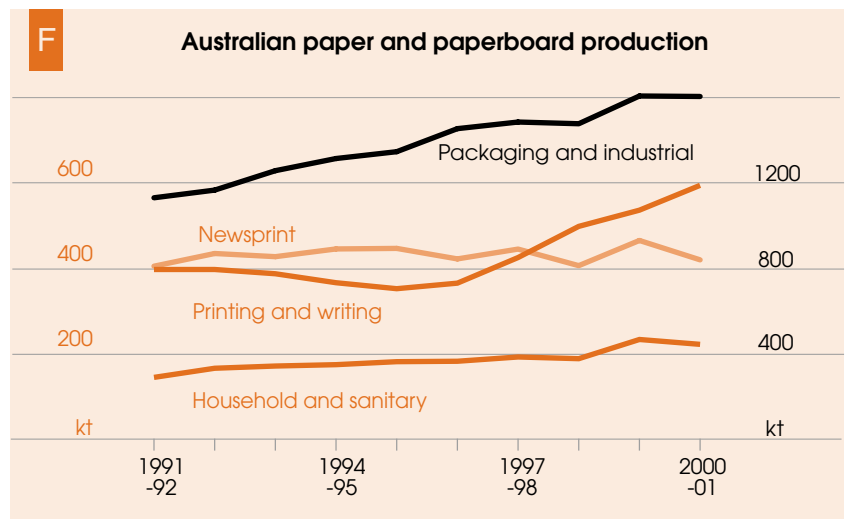
With the exception of newsprint, production of paper and paperboard rose steadily over the past decade (figure F).

Pulplog availability in Australia is projected to increase from 13.5 million cubic metres in 2000-01 to an average of 19.0 million cubic metres a year over the period 2005-06 to 2009-10 (Ferguson et al. 2002).

In the medium term around half of this additional fibre is likely to be exported rather than used domestically. In the long term, there is potential for new processing capacity, providing that world scale production can be achieved within Australia's high environmental impact standards, and that there is a critical mass of resource developed in the region surrounding the prospective processing facility.

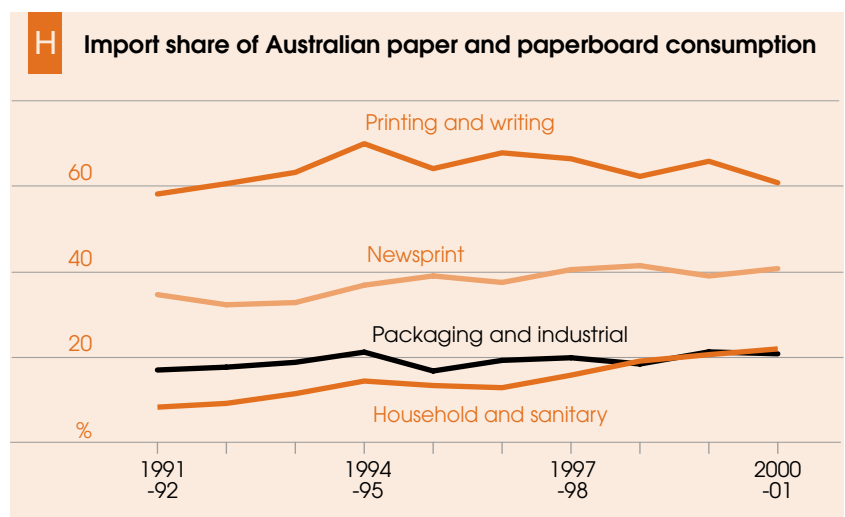
At present, most of the additions to domestic processing capacity announced in the 1990s are now on line. Paperlinx's Maryvale 5 machine started production in the second half of 1998, and is already producing near its first stage design capacity of 180 000 tonnes. Visy's Tumut pulp and paper mill has begun producing 240 000 tonnes of kraft linerboard each year.

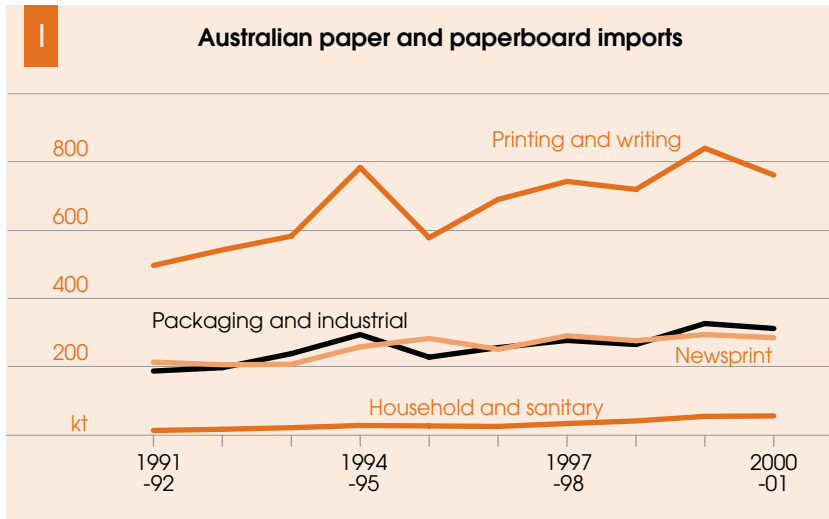
With no further major expansion of domestic production capacity anticipated in the medium term, imports are expected to remain an important component of paper and paperboard consumption.



Australian imports of paper and paperboard

Australia imported 1.4 million tonnes of paper and paperboard in 2000-01, more than double the quantity imported in 1991-92. While following an upward trend, imports have also varied in response to world prices, which in turn





reflect fluctuations in world paper supply.

Printing and writing paper imports constitute more than a half of all paper and paperboard imports. The quantity imported was 839 000 tonnes, but fell to 760 000 tonnes in 2000-01 (figures G-I).

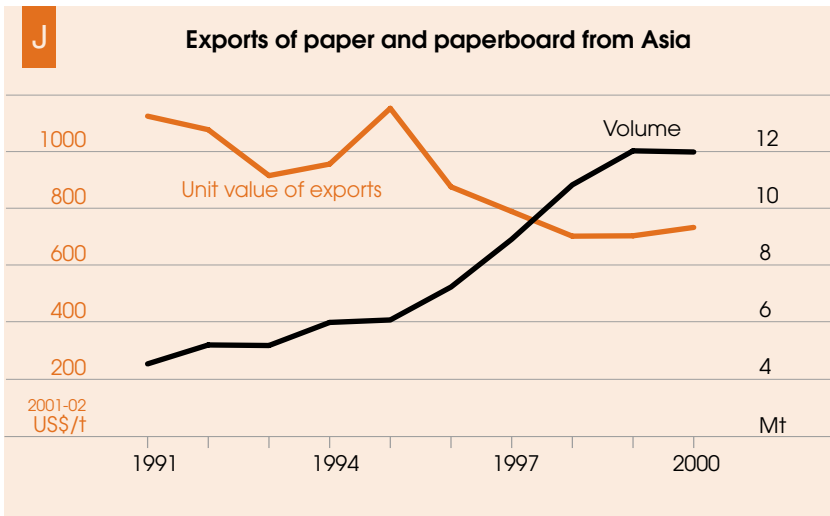
Imports are expected to account for a large share of the domestic paper

market in Australia in the medium term. Large increases in production capacity in Asia have put downward pressure on regional paper prices, and encouraged increased Australian imports from this region. Exports of paper and paperboard from Asia more than doubled between 1991 and 2000, to 12 million (FAO 2001). At the same time export unit values, in US dollars, fell markedly (figure J).

With no new Australian pulpmills under construction, pulp imports are projected to continue to be an important source of pulp for Australian paper production over the medium term.

Australian pulp imports trended downwards in the first half of the 1990s until the closure of the Burnie pulp mill in 1998-99, when imports increased.

Pulp imports are currently around 300 000 tonnes a year (figure K). The additional imports have been from countries that were not major pulp suppliers to Australia before 1998-99, such as Brazil, Chile and Indonesia.



Australian demand for paper and paperboard

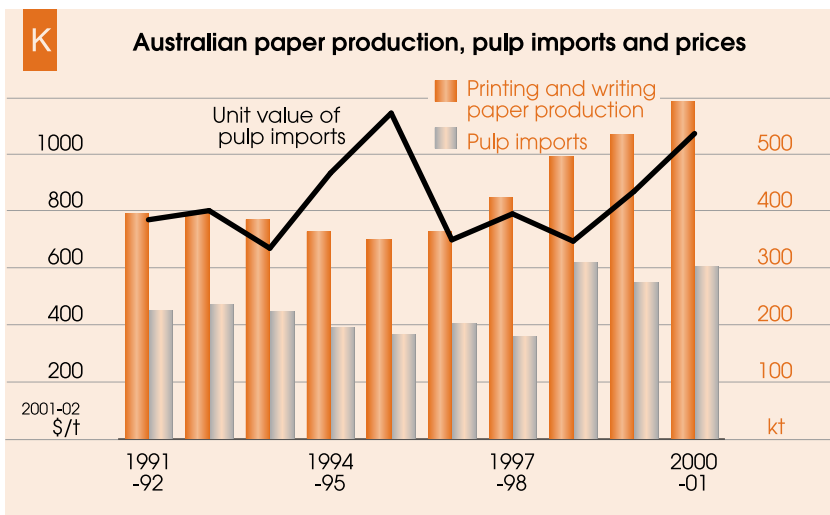
Australia's apparent consumption of paper and paperboard was 3.7 million tonnes in 2000-01, equivalent to 192 kilograms per person, lower than the OECD average of 263 kilograms per person (figure L).

Although Australian preferences for paper consumption may be different from those in other OECD countries, Australian consumption per person is expected to move toward the OECD average as per person incomes rise (figure M).

With the Australian economy projected to grow over the medium term, albeit at a slower rate than over the past decade, the consumption of paper and paperboard is projected to increase to around 4.2 million tonnes by 2006-07 — that is, at an average annual rate of 2.2 per cent over the medium term.

Printing and writing paper

In the past decade, apparent consumption of printing and writing paper has grown at an average rate of around 5 per cent a year, but at its current level



of 65 kilograms per person in 2000-01 is still well under the OECD average of 84 kilograms per person.

Greater use of computer printers, faxes and photocopiers in offices and homes is likely to continue to increase the demand for uncoated paper. Australian consumption of printing and writing paper is projected to reach 1.4 million tonnes or 68 kilograms per person, in 2006-07.

Household and sanitary paper

The household and sanitary market remains by far the smallest component of total Australian paper consumption despite recording the fastest growth rate over the past decade. Australians consumed 252 000 tonnes of household and sanitary paper in 2000-01, or 13 kilograms per person, compared with the OECD average of 17 kilograms per person.

Packaging and industrial paper

Australian consumption of packaging and industrial paper was 1.5 million tonnes in 2000-01, or 78 kilograms per person, well under the OECD average of 127 kilograms per person. Most of this difference is explained by Australia's proportionally lower exports of manufactured products, which account for a substantial amount of packaging paper use in other OECD nations.

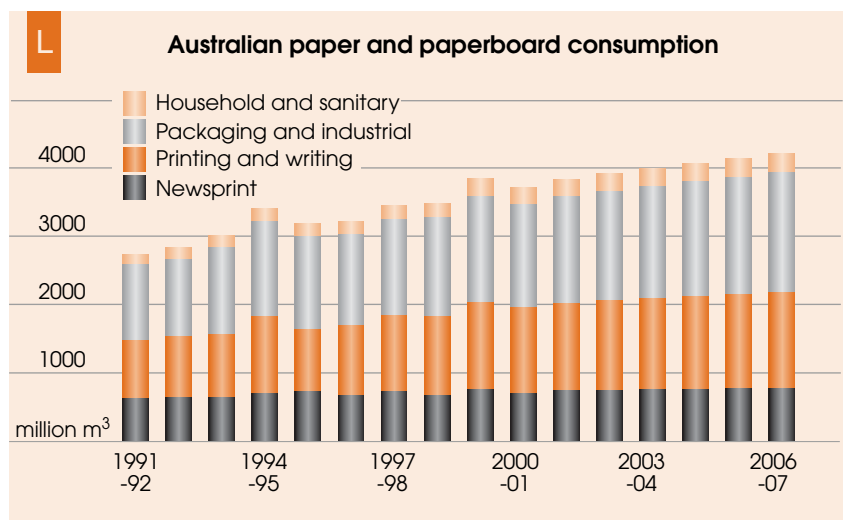
Consumption of packaging and industrial paper is projected to rise from 1.5 million tonnes in 2000-01 to a little under 1.8 million tonnes, or 85 kilograms per person, in 2006-07.

Australian exports of pulpwood

Rising domestic wood supplies in the past decade have led to significantly higher exports of pulpwood in both log (roundwood) and woodchip form.

Australia exported 10 million tonnes of woodchips in 2000-01, almost double the amount exported in 1991-92. Exports of roundwood, mainly pulplogs, reached 1.1 million cubic metres in 2000-01, up from insignificant levels a decade ago.

As with soft sawnwood, Australia's competitiveness in production will determine whether the projected

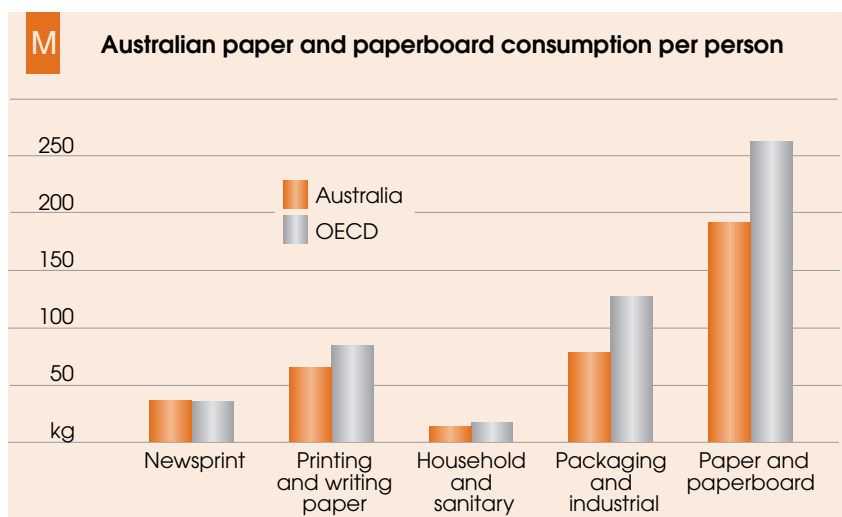


increase in pulpwood availability in the latter half of the current decade is translated into increased pulpwood exports in the same period.

Plantation sourced pulpwood supplies are rapidly increasing in other countries, including Argentina, Chile and South Africa, and these additional supplies may lead to reduced prices for export logs and woodchips if market demand does not keep pace with the growing supply.

If the bulk of the additional Australian pulpwood were to be exported as woodchips, then relative to current levels, woodchip exports could rise to average around 12.2 million tonnes a year in the latter half of the current decade — that is, by around 20 per cent over current levels. This projection assumes that roundwood exports in the form of logs will continue to increase in the medium term, to average 1.5 million cubic metres a year in the period 2005-06 to 2009-10.

Rising domestic wood supplies have led to significantly higher exports of pulpwood in both log and woodchip form



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