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Complaints Office

Competitive Neutrality in Forestry

CCNCO
Research Paper

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The Commonwealth Competitive Neutrality Complaints Office

The Commonwealth Competitive Neutrality Complaints Office is an autonomous unit within the Productivity Commission. It was established under the *Productivity Commission Act 1998* to receive complaints, undertake complaints investigations and advise the Treasurer on the application of competitive neutrality to Commonwealth Government activities.

Information on the Office and its publications may be found on the World Wide Web at http://www.ccnco.gov.au

Preface

The Productivity Commission has been researching a number of competitive neutrality issues as part of its role as the Commonwealth Competitive Neutrality Complaints Office (CCNCO). This research is likely to be of general interest to policy makers, agencies implementing competitive neutrality and businesses that compete with publicly owned businesses.

This CCNCO research paper was prepared by Siobhan Davies and Gary Samuels, with assistance from Neil Byron and Garth Pitkethly. It outlines progress in implementing competitive neutrality in foresty and discusses some related issues.

The CCNCO would like to thank competitive neutrality policy advisers in the States and Territories, along with officers in State forest agencies, who provided helpful comments on drafts of this paper. Nonetheless, the views in the paper are those of the CCNCO and do not necessarily reflect the views of the States and Territories. Comments on the paper are welcome.

Mike Woods
Commissioner

May 2001

Contents

Key messages

- States and Territories have agreed to apply competitive neutrality (CN) requirements to their commercial forestry activities. The implementation of CN varies between jurisdictions and encompasses some differences in approach.
- Several studies have pointed to underpricing of logs by State forest agencies in past years. Underpricing can affect the balance between public and private sector wood production. It can also affect the return the community achieves on its forest assets and may adversely influence agency investment and harvesting decisions.
- CN requires forest agencies to act more commercially, including covering all costs and earning a commercially acceptable rate of return on assets. This should reduce the likelihood of agencies underpricing logs, although difficulties in interpreting rates of return and related information can make it difficult to judge if logs have been sold at their full market value.
- To help assess compliance with CN, the market value of logs can be estimated by calculating their residual value — a value derived by subtracting harvesting, transport and processing costs from prevailing international prices of processed wood products.

Summary

Forestry is an important industry at both the national and regional level. Although there is increasing private participation in the industry, a substantial share remains under public ownership:

- Of the 10 million hectares of native forests available for wood production, 70 per cent is publicly owned, with the remainder under private ownership. In addition, there are about 1.3 million hectares of plantation forests, with softwood comprising nearly three-quarters of the planted area. Some 40 per cent of softwood plantations and 80 per cent of hardwood plantations are privately owned.
- Wood production from native and plantation forests accounts for about $3 billion, or 0.5 per cent, of Australia's gross domestic product. Total employment in the industry, including all value adding activities, is around 83 000. In some areas, forestry accounts for up to 40 per cent of employment.

In response to concerns over the sustainability of harvesting in native forests, and as part of the general reform program of the 1980s and 1990s to improve the efficiency of public sector bodies, government forestry agencies have been subject to considerable change over the last decade. This has encompassed initiatives to place forestry agencies on a more commercial footing and to remove or reduce their regulatory responsibilities.

Inter-government agreements such as the National Competition Policy (NCP) package, the National Forest Policy Statement and subsequent Regional Forest Agreements have provided the impetus for many of the changes.

This paper focuses on the application of competitive neutrality (CN) to State forestry agencies. CN seeks to ensure that significant government businesses do not enjoy net competitive advantages (or suffer from a competitive disadvantage) over their private sector competitors simply by virtue of their public sector ownership. Although CN policy is formally a part of the NCP, the key concepts embodied in CN were also important components of earlier institutional reforms.

As forestry agencies are deemed to be significant government businesses, they are subject to CN. This requires them to: charge prices that reflect costs; pay all

relevant government taxes and charges; pay commercial interest rates on their borrowings; earn commercially acceptable returns on their assets; and operate under the same regulatory regime as their private sector counterparts.

Over the 'life' of a forest, the rate of return provides a useful measure of an agency's financial performance. However, *annual* rates of return need to be interpreted with care. For example:

- revenues, and hence rates of return, will fluctuate from year to year because the *quantity* of wood available for harvest will vary, unless the forest age profile is consistent through time;
- with a pronounced cyclical demand for many processed wood products, log *prices* (and hence forestry returns) can also be quite volatile; and
- the use of expected future returns to determine the value of forestry assets introduces an element of circularity into an agency's reported rate of return. More specifically, it means that poor performance by an agency will lower the value of its forestry assets. As a result, the reported decline in returns, relative to the new asset base, is dampened, or perhaps even eliminated.

This 'circularity', coupled with the sensitivity of rate of return measures to factors unrelated to the performance of the forestry agency (eg changes in market conditions), suggests that, for performance monitoring purposes, annual rates of return need to be assessed in the context of longer term trends and other relevant information. This should include details of, and reasons for, changes in asset values and longer term projections of the pattern of future log sales.

The CN requirement that forestry agencies recover all costs and generate commercially acceptable returns should help address past concerns about underpricing of logs by forestry agencies. However, in view of the difficulties in assessing and interpreting rates of return and related information, it may often be difficult to judge whether logs are being sold at their 'full' market value. In these circumstances, a useful way of assessing the market value of logs is to compare log prices with their residual value — a value derived by subtracting harvesting, transport and processing costs from the prevailing international prices of processed wood products.

Underpricing by forestry agencies of logs from native forests has hampered the development of private wood growing enterprises. However, with the reforms of the last decade or so, and with harvesting controls limiting the output of most forestry agencies, other factors — such as the future competitiveness of Australia's wood processing sector — may be more important for the future development of private wood supplies.

1 Introduction

This research paper has been undertaken by the Commonwealth Competitive Neutrality Complaints Office (CCNCO) following a research proposal put to, and agreed by, all States and Territories at the CN Roundtable of December 1999. Subsequently, State and Territory CN complaints units have coordinated their government's informational input to this exercise, as well as provided much appreciated feedback on earlier drafts.

1.1 Background

Wood production from native and plantation forests is a significant industry, contributing about $3 billion, or 0.5 per cent, of Australia's gross domestic product. Some 15 000 people are employed in forestry and logging operations, with another 15 000 in sawmilling, mainly in regional areas (ABS Labour Force Survey 1998). Employment in other forest products industries such as joinery, pulp and paper, and packaging is also significant.

Forest products industries source wood from both public and privately managed forests, although public forests have traditionally accounted for the overwhelming bulk of wood supplies. Only the Northern Territory does not have government-owned commercial forestry operations.

While private plantations have become a more important source of wood in recent years — partly as a result of the sale of some public plantations — there have been longstanding concerns that underpricing by State forest agencies hampers the development of private plantations. Evidence of such underpricing dates back around 20 years (Byron and Douglas 1981).

There have also been concerns that the underpricing of logs from publicly-owned native forests has the potential to lead to an unsustainable harvest rate, at least in the absence of harvesting controls. Indeed, concerns about the sustainability and environmental impacts of harvesting from native forests were the catalyst for a significant reform program over the 1980s and 1990s aimed at improving the management of State forests.

As well as forest-specific reforms, components of the broader microeconomic reform agenda are influencing the management of State forests, including log pricing practices. This paper looks at one of these reforms — the application of competitive neutrality (CN) requirements to State forest agencies.

1.2 What is CN policy about?

CN policy forms part of the 1995 Council of Australian Governments' agreement on National Competition Policy (NCP), although the concept of competitive neutrality was also a component of the earlier institutional reform program aimed at improving the efficiency of government business activities (COAG 1991).

CN policy aims to promote efficient competition between public and private businesses. Specifically, it seeks to ensure that government businesses do not enjoy competitive advantages (or suffer from a competitive disadvantage) over their private competitors simply by virtue of their public ownership. Under the Competition Principles Agreement (CPA) of the NCP, Commonwealth, State and Territory governments have agreed that, where appropriate, their significant business activities will:

- charge prices that reflect costs;
- pay, or include an allowance for, government taxes and charges such as Goods and Services Tax, capital gains tax, payroll tax, stamp duties and local government rates;
- pay commercial rates of interest on borrowings;
- generate commercially acceptable returns on assets; and
- comply with the same regulations that apply to private businesses (such as the Trade Practices Act and planning and environmental laws).

However, the application of CN in any particular situation is subject to the proviso that the benefits exceed the costs. Moreover, some flexibility is provided to jurisdictions regarding the detailed implementation of the policy. The implications of CN for an individual government business also depend on the nature of that business and on any previous institutional reforms to which it has been subjected. For example, CN may have fewer implications for a corporatised GBE than for a budget sector agency selling some commercial services.

As significant government businesses, State forest agencies are subject to CN. While prior reforms have changed many aspects of forestry management and log pricing, CN may still have ramifications for the supply and pricing of wood. This

paper summarises the implementation of CN in each jurisdiction to date and examines the potential role of CN in addressing log pricing issues.

1.3 Structure of the paper

The remainder of this paper is in four parts.

Chapter 2 presents background information on the forestry industry. It looks at the make-up of the industry and describes the range of institutional reforms undertaken prior to, or independent of, CN.

Chapter 3 summarises some key elements of CN policies as applied to forestry in the individual jurisdictions. It highlights commonalities and differences between jurisdictions, looks at the limited available information about the recent financial performance of State forest agencies and comments on some limitations in the standard performance benchmarks when applied to the forestry sector.

Chapter 4 examines log pricing issues and looks at the impact of log underpricing on private growers. It also identifies some non-price impediments to private investment.

Chapter 5 identifies some emerging policy issues such as the development of more competitive markets for the sale of logs, price transparency and funding of non-wood outputs.

2 Forestry background and institutional framework

Community views about the management of Australia's forests have changed considerably in the 200 years since European settlement. Initially, forests were cleared for agricultural use and urban settlement. As the area of high quality forest declined, some remaining forests were reserved in order to ensure adequate timber supplies for housing and the other infrastructure required for a growing population. More recently, there has been increasing recognition of the conservation and environmental values of forest areas.

Forestry management now involves trade-offs between a range of competing ecological, social, aesthetic and economic objectives. This diversity of objectives, and the fact that many non-wood values are hard to quantify, makes forest management a complex and sometimes controversial task. Increasingly stringent requirements imposed on State forest agencies in relation to accountability, efficiency and, more recently, competitive neutrality add to this complexity.

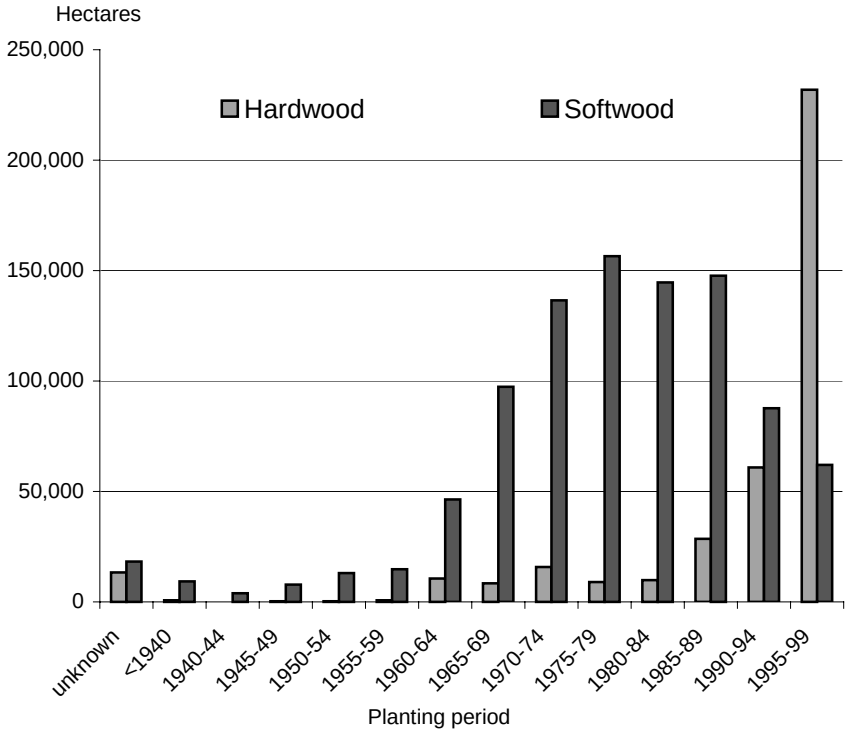
2.1 Nature of forestry and the forest products industries

Size and ownership of forest resources

Around 157 million hectares, or 20 per cent of Australia's land area, is classified as native forest (BRS 1998). Of this, just over 10 million hectares is potentially available for wood production, with some 7 million hectares managed by State forest agencies and 3 million hectares under private ownership (National Forest Inventory – unpublished data).

In addition, there are 1.33 million hectares of plantation forests. About 950 000 hectares of the plantation estate is softwood, with 62 per cent publicly owned. Of the 390 000 hectares of hardwood plantations, 20 per cent is publicly owned. (NFI 2000). Much of the hardwood plantation estate is immature (see figure 2.1), with a significant proportion intended for short-rotation pulplog production rather than for sawlogs.

Figure 2.1 **Plantations in Australia, by period planted**



Sources: NFI 1998; NFI 2000.

Table 2.1 shows the total area of native and plantation forests available for wood production under public ownership in the States and the ACT. The area of native forest includes areas managed for wood production and multiple uses, but excludes areas in which wood production is not permitted. Since 1998–99, the area of public native forest available for wood production has fallen as a result of Regional Forest Agreements (RFAs) between the Commonwealth and individual States on the use of public native forests.

Table 2.1 **Area of publicly-owned native and plantation forests available for wood production, 1998–99**
('000 hectares)

	NSW	*VIC*	*TAS*	*WA*	*QLD*	*SA*	*ACT*
Plantations[a]	253	12	41	83	178	86	16
Native forests[b]	1146	3470	1600	1728	nr	nr	nr

nr not recorded.

a As at September 1999, including 50 per cent of joint-owned tree crops. **b** Includes areas managed for wood production and other uses, but not areas in which logging is prohibited. The totals in the table are higher than in section 2.1 because they predate the RFAs.
Sources: NFI 2000; State Forest Agency Annual Reports.

Domestic production, consumption, exports and imports

In 1998–99, domestic log production totalled around 20 million cubic metres, in gross roundwood equivalent terms. Forty seven per cent of this was hardwood, sourced mainly from public native forests, while 53 per cent was softwood, predominantly from plantations.

Logs can be harvested as either:

- *sawlogs* — for conversion into sawntimber, plywood or veneer (for use mainly in the construction and furniture industries), or railway sleepers ; or
- *pulplogs* — for conversion into woodchips (for export) and fibreboard, particleboard or pulp (for subsequent conversion into paper and paperboard products). Some of these products are also made from thinnings, harvesting residues, sawmill waste and recycled paper and paperboard.

In practice, the distinction between sawlogs and pulplogs rests on an assessment of the amount of sawntimber that can be extracted from a log and its associated processing cost. Thus, logs with relatively little wood of a quality that can be processed into sawn timber and those which need considerable sawing in order to retrieve wood of suitable quality tend to be classified as pulplogs.

Sawlog and pulplog removals, from all sources, were roughly equivalent at nearly 10 million cubic metres each. A little over 9 million cubic metres of log production is exported, mainly as woodchips.

In contrast to the forest management sector, downstream forest products industries are almost exclusively private operations.

In 1998–99, domestic consumption of all wood fibre products represented the equivalent of around 19 million cubic metres. Of this, imports accounted for 8 million cubic metres, or a little over 40 per cent (by volume) of the market (ABARE 1999a). The majority of imports were of high value-added products, such as printing and writing paper.

- Imports of pulp account for about only 6 per cent of wood fibre imports, but imports of paper and paperboard products account for around 64 per cent (by value) of wood fibre imports and nearly 50 per cent of the Australian market for paper and paperboard products.
- Imports of basic sawnwood products account for about 13 per cent (by value) of total wood fibre imports, but around 18 per cent (by volume) of sawnwood consumption in Australia (see table 2.2). Imported sawn timber is mostly Radiata Pine from New Zealand and Douglas Fir from North America.

Table 2.2 **Australian production and trade of sawlog and pulplog products, 1995–96 and 1999–00**

		1995–96	*1999–00p*
Sawlog usage		*'000m^3*	*'000m^3*
Hardwood sawntimber	– Production	1 391	1 351
	– Imports	94	124
	– Exports	28	49
Softwood sawntimber	– Production	2 053	2 562
	– Imports	648	847
	– Exports	26	44
Other sawlog products[a]	– Production	217	231
	– Imports	78	135
	– Exports	5	31
Pulplog (and residue) usage			
Particleboard	– Production	826	978
	– Imports	20	32
	– Exports	112	69
Medium density fibreboard	– Production	377	621
	– Imports	78	138
	– Exports	90	288
		kilotonnes	*kilotonnes*
Pulp, paper and paperboard	– Production	2 320	na
	– Imports	1 294	1 786
	– Exports	242	509
Woodchips	– Production	3 351	4 644
	– Imports	…	1
	– Exports	3 351	4 644

a Includes plywood, veneers and railway sleepers.

p Preliminary.

… Negligible.

Source: ABARE 1999a.

Sawmills, woodchip mills and pulp and paper mills are in most cases 'dedicated' to a particular input mix. As a result, there is often limited scope for a hardwood mill to process softwood logs (or vice versa). This in turn limits the ability of mills to compete with each other for different log types. In addition, the high cost of transporting logs often limits the scope for growers (including forest agencies) to sell logs to mills outside the immediate region or for mills in a given region to source logs from growers in another region.

Nevertheless, the markets for the mills' outputs are highly competitive. For example, as well as competition from imported timber, locally produced sawntimber is widely traded within Australia. The fact that, first, hardwood and

softwood are highly substitutable in the construction sector — where 70 per cent of sawnwood is used — and, second, the scope for using steel and plastic substitutes, adds to the competitive nature of this market. Recent data about the log processing sector are limited. However, the latest available information about the size and structure of the sector is summarised in box 2.1.

While there are relatively few local producers of most paper and paper products, there is strong competition from imports in these markets. Increasingly, there is also competition from non-wood based products, such as plastics in packaging.

Chapter 4 looks at some of the possible consequences of these market features for price formation in the sawlog market, and thereby for investment in private plantations.

Employment and regional significance

Total employment in the forestry and forest products industries (including forest management, logging, milling and all value added activities) is around 83 000 people (BRS 1998). In some areas, the industry is a very significant employer. For example, in the central part of Victoria's North East Forest Region, the timber industry accounts for some 38 per cent of employment (CVRFASC 1998, p 131). Other regions where the forest and forest products industry is significant include:

- the Gippsland and Central Highlands areas of Victoria;
- the Eden, Southern, Richmond–Tweed and Mid-North Coast Regions of New South Wales;
- the Wide Bay–Burnett and Darling Downs–South West Regions of Queensland;
- the Southern and Eastern Regions of South Australia; and
- the Northern and Mersey–Lyell Regions of Tasmania. (ABS Labour Force Survey 1998)

In total, there are around 35 relatively small regional towns in Australia which have more than 20 per cent of their workforce employed in the forest and forest products industries (NFI 1998b).

Box 2.1 The structure of the log milling sector; Australia and by selected RFA region

Australia

There are around 1126 hardwood sawmills, 265 softwood sawmills, 22 pulp and paper mills and 18 panel board mills in Australia.

- Hardwood mills are generally small scale and scattered, while softwood mills tend to be large and integrated with other processing.

New South Wales

Southern Region

In 1997-98, there were 20 mills in total, of which 13 mills processed State forest hardwood logs.

- 30 per cent of the latter's sawlogs were purchased from private forests in the region.
- 7 mills were small and took only 1 per cent of logs harvested (almost all from private growers).
- 6 mills were of medium size and took 12 per cent of logs harvested (two-thirds from private growers).
- 7 mills were large and accounted for 87 per cent of logs harvested (16 per cent from private growers).
- Sawmills employed 237 persons, of whom 171 were employed in large mills, 47 in medium-size mills and 19 in small mills.

Eden Region

In 1995-96, there were 13 hardwood sawmills and 1 woodchip mill.

- sawlog intake was 36 700 cubic metres, while the pulplog intake was 463 000 cubic metres.
- 8 sawmills were less than 5000 cubic metres capacity.
- 5 sawmills were greater than 5000 cubic metres capacity.
- 77 people were employed in pulpwood processing and 57 in hardwood sawmilling.

Upper and Lower North East Regions

- 55 per cent of the regions' forests are privately owned, supplying 35 per cent of the regions' sawlogs.
- In 1997-98, there were 128 mills in the Lower North East Region (south of Bellingen).
- 12 of these mills employ more than 50 per cent of the workforce; 50 mills employ 1 or 2 people each.

Victoria

East Gippsland Region

In 1994–95, there were 22 hardwood sawmills, of which 21 received logs from State forests.

- Approximately 97 per cent of their logs were sourced from State forests within the area, with the remaining 3 per cent from private forests or from forests outside East Gippsland.
- They produced 134 000 cubic metres of sawntimber and employed around 360 persons.

Central Highlands Region

In 1996–97, there were 41 hardwood sawmills within the region, which processed 290 000 cubic metres of sawlogs. The region's 618 000 cubic metres of pulplogs were processed by 4 pulp mills located outside the region.

- 96 per cent of the sawmills' log intake was from State forests in the region, 2.5 per cent from private forests and 1.5 per cent from forests outside the region.
- The sawmills employed about 680 persons.

North East Victoria Region

In 1996–97, there were 9 hardwood sawmills receiving sawlogs from native forests in the region, 4 sawmills receiving residual logs only and 3 pulpwood operators processing hardwood residual logs and sawmill residues.

- The sawmills' intake of sawlogs totalled 209 000 cubic metres, of which only 34 per cent (or 71 000 cubic metres) was sourced from within the region.
- The pulpmills' intake was 1 700 cubic metres of residual logs sourced from within the region, plus 28 600 cubic metres of residues from local sawmills.
- In total, the sawmills employed 455 persons.

There were also 8 softwood mills with an intake of 850 000 cubic metres sourced from with the region.

Continued

Box 2.1 **continued**

Queensland

In 1993–94, there were 396 licensed primary processing plants in Queensland, comprising 274 fixed sawmills, 8 reconstituted timber product operations and 114 mobile sawmills.

South East Queensland (SEQ)

In 1996–97, there were 120 primary processing plants, of which 90 processed native timber and 30 processed plantation timber.

- Sawlog processing capacity was 931 000 cubic metres; pulplog capacity was 1.2 million cubic metres.
- 339 000 cubic metres of hardwood (60 per cent sourced from private forests), and 1.5 million cubic metres of softwood, were processed.
- Nearly 50 per cent of the hardwood sawmills processed only 5 per cent of the logs harvested.
- Sawmills in SEQ employed 2235 persons, less than a quarter of whom were employed processing hardwood from public forests in SEQ.

Western Australia

In 1997–98, there were 107 sawmills in WA. The industry is dominated by a small number of large companies which operate a number of mills. There was one major hardwood chipping facility operating in the south west, along with some small portable chippers.

- 90 per cent of the hardwood logs (sawlogs and chiplogs) came from public land.
- Sawlog capacity in the south west was 395 000 cubic metres; pulplog capacity was 1.3 million cubic metres.
- Total native sawlog production in WA's RFA region was 603 000 cubic metres.

Tasmania

In 1995–96, there were 162 sawmills and veneer mills (153 hardwood and 9 softwood), 3 pulp and paper mills and 4 woodchip mills in Tasmania.

- In 1994–95, the 5 largest hardwood sawmills processed 75 per cent of the State's sawlog supply.
- Approximately 80 per cent of sawlog removals were from State forests, with the remainder being sourced from private forests.
- The mills' sawlog capacity was 545 000 cubic metres; pulplog capacity was 3.3 million cubic metres.

Sources: ABARE 1996, 1999c; Bull et al 1998; Commonwealth of Australia 1998; CWARFACS 1998; Dann et al 1997; Gooday et al 1998.

Non-wood values

Forests — particularly native forests — have significant non-wood values. These include recreation, water quality, carbon sequestration, grazing and bee keeping. In addition, some forest areas protect: aboriginal and heritage values; aesthetic values; wildlife habitat and biodiversity; and medicinal and educational values.

Some of these alternative values are, or can be, commercialised — such as bee keeping, recreational use and grazing. Initiatives to commercialise other uses such as the protection of water catchments and carbon sequestration are in the development phase.

2.2 Current institutional framework in forestry

Recent institutional reforms

State forest agencies have been subject to many institutional changes over the last decade to improve efficiency and protect non-wood values. Table 2.3 provides a summary of these changes, which have focussed on structural and regulatory reforms.

Structural reform has mainly involved the separation of commercial and regulatory functions. In some cases, this has been a precursor to the foreshadowed corporatisation of State forestry operations — as of early this year, Tasmania had the only fully corporatised State forest agency.

Other significant changes associated with the reforms include:

- *Management practices* — this has encompassed a focus on better management of assets, including a requirement to earn commercial rates of return. Forest agencies now include a value for land and timber in their asset base. In some cases, this accounts for up to 80 per cent of the total assets of the forest agency; and
- *Pricing policies* — most jurisdictions are moving towards market-based pricing for at least some of their wood outputs. In Tasmania for instance:

> Pricing and log allocation methods applying to public forests have undergone significant reforms in recent years, following the implementation of … 'the Strategy'. …The Strategy provides a clear direction for the development of market-based pricing and allocation methods for logs from public forests and from private forests. (Tasmanian Public Land Use Commission 1996, p. 80)

Other developments

These institutional changes have been, and will continue to be, influenced by a number of other developments, including:

- the National Forest Policy Statement and associated RFAs;
- the '2020 Vision' for plantation forestry in Australia;
- the NCP's legislation review and CN requirements; and
- the Australian Accounting Standard for Self-Generating and Regenerating Assets, AAS 35.

Table 2.3 **Institutional reforms undertaken by State and Territory forest agencies[a]**

State/year	*Institutional reforms*
New South Wales	
1988	• Finances restructured to separate commercial from public good components.
1991	• Forestry Commission adopts a decentralised structure.
1993–94	• Separation of policy and regulatory responsibilities from operational responsibilities. Commercial arm of Forestry Commission named 'State Forests NSW' (SFNSW) and established as a Government Trading Enterprise, involving agreement to an annual Statement of Financial Performance mandating the achievement of nominated returns on investment and performance monitoring. • Contracting out of many of SFNSW's support activities including office cleaning, maintenance, computer support, training, road and building construction, expert advice etc. SFNSW's commercial services units - including Nurseries, Aircraft Services, Workshop Services, Fleet Management and Civil Engineers - established as separate businesses, competing with external suppliers for internal work. Also given option to sell their services to external organisations.
1994	• Streamlining of State forestry regulation under *Forestry Regulation Act 1994.*
1995	• *Timber Plantations (Harvest Guarantee) Act* passed involving removal of some controls on the harvesting of native forests.
1998	• *Forestry and National Parks Estate Act 1998* prescribes the establishment of an Integrated Forestry Operations Approval for operations managed by SFNSW in defined native forest areas.
1999	• *Reafforestation and Plantations Act 1999* establishes a single regulating statute for the establishment, management and harvesting of timber on public and private land in NSW.
Victoria	
1993	• Government-owned plantations placed under the Victorian Plantations Corporation.
1994	• Full cost recovery for forest roads introduced.
1995	• Contracted-out Aerial Photographic Inventory; nurseries formerly managed by the Department of Conservation and Natural Resources privatised.
1996–97	• Aerial photo interpretation contracted-out. Forestry research and development reorganised on a purchaser/provider basis.
1997–98	• Contractor supervision of timber harvesting trialed on coupes in East Gippsland, bringing accountability for environmental outcomes closer to operators.
1998	• Victorian Plantations Corporation privatised.
1999	• Forestry Victoria (FV) established as a service unit within the Department of Natural Resources and Environment to handle its commercial forestry functions. FV's financial accounts separated from the Department's accounts.
Queensland	
1995	• Commercialisation of DPI Forestry (DPIF), including removal of regulatory functions and imposition of rate of return, dividend and tax equivalent requirements. • Department of Natural Resources given legislative role for monitoring all non-commercial forestry activities.
1997	• DPIF declared a 'significant business activity' under s.39 of the *QCA Act 1997*, making it subject to a comprehensive CN process, including investigation of CN complaints by the Queensland Competition Authority (QCA).

Continued

Table 2.3 **continued**

State/year	*Institutional reforms*
Western Australia	
1994–95	• Introduction of 10 year contracts for all mills to provide certainty and security for investment in value adding processes.
2000–01	• *Forest Products Act 2000* (proclaimed in November 2000) established the Forest Products Commission (FPC), which replaced CALM as the forestry agency responsible for commercial forest activities. The FPC has no regulatory functions.
South Australia	
1993	• Sawmills, other timber processing, marketing and related functions of SA Timber Corporation and Forestry SA merged into the state-owned Forwood Products Pty Ltd.
1995–96	• Forwood Products privatised. • Application of tax equivalence to the forestry activities of Forestry SA and contracting out of services such as site preparation, planting, pruning and weed control.
1996–97	• Competitive tendering introduced for sale of new logs by Forestry SA.
1998	• Forestry SA becomes a Business Unit within the Department of Administrative and Information Services.
1999	• Minister for Government Enterprises announces Forestry SA to become a public corporation on 1 July 2000.
2000	• Corporatisation of Forestry SA delayed until 2001.
Tasmania	
1991	• Public Land Use Commission established.
1993–94	• Forest Practices Board established to perform regulatory functions.
1995	• Forestry Tasmania, a corporatised GBE, replaced the Forestry Commission.
1996–97	• Forestry Tasmania finalises a new wood supply agreement with Australian Newsprint Mills. The agreement removes exclusive geographic rights to pulpwood from Crown forests and provides for general supply of both hardwood and softwood.
ACT	
1997–98	• Purchaser/provider arrangement developed for the provision of forestry management services by the Department of Urban Services. • ACT Forests established as a separate government business enterprise within the Department of Urban Services to manage commercial forestry operations. • Full identification and budget funding of CSOs delivered by ACT Forests and full cost attribution implemented.
1999	• Full tax equivalent regime applied to ACT Forests from 1 July 1999.

a There is no government-owned commercial forestry operation in the Northern Territory.

Sources: IC 1995, 1996, 1997; PC 1998; and information supplied by State and Territory Governments.

Recognition of the need for a sustainable balance between wood production and non-wood uses has driven some of these initiatives. Reflecting this objective, changes in land use status (from areas available for wood production to conservation areas) have reduced the area of public native forest available for wood production by some 30 per cent over the last three or four years.

Another important driver of reform has been the industry's desire for resource security to underpin investment in new plant and equipment and to remain commercially viable in the longer term.

National Forest Policy Statement

The 1992 National Forest Policy Statement (NFPS), signed by the Commonwealth and all State and Territory governments, provides a 'blueprint' for the future management of Australia's forests, particularly its native forests.

The underlying goal of the NFPS is the development of an economically viable and ecologically sustainable forest industry. To achieve this, it sets out the following pricing principles to guide forest resource use:

- market-based prices that cover the full cost of efficient wood production, including a fair return on capital;
- transferable (tradeable) harvesting rights (when this does not result in the creation of excessive market power); and
- flexible allocation of harvesting rights, involving competitive bidding arrangements for 'appropriate' amounts of the resource. Where prices continue to be set through administratively determined allocation systems, the NFPS specifies that prices should comply with the earlier principle of full cost recovery, including a fair return to the community.

Regional Forest Agreements

The NFPS also provides for the integrated management of forest resources through comprehensive regional assessments of forest regions and Commonwealth-State Regional Forest Agreements (RFAs).

These agreements are intended to provide greater certainty and security about both forest conservation and timber resource supply. More specifically, RFAs are intended to:

- reduce uncertainty for industry and duplication in government processes for land use decision-making;
- produce long-term solutions which meet the requirements of governments, the community and industry, and which are consistent with the principles of ecologically sustainable development;
- equitably balance competing objectives and coordinate the policies and activities of governments;

- maintain regional, environmental, heritage and social values; and
- provide secure access to resources for the forest industry. (DPI Forestry 1998)

The successful negotiation of RFAs is a pre-requisite for the export of hardwood woodchips beyond 2000 from the forests concerned. To support the RFA process, the Commonwealth and State governments have provided a total of $316 million, largely for adjustment assistance and industry development in regions affected by RFAs. However, funding has also been available for plantation development and the conservation of native forests on private land (as in Tasmania).

The RFAs that have been signed to date are listed in table 2.4. There is only one RFA still under negotiation, South-East Queensland.

Table 2.4 **Regional Forest Agreements**

State/Territory [a]	*RFAs signed (date)*	*RFAs under negotiation*
New South Wales	• Eden Region (*August '99*) • North East NSW (*March '00*) • Southern Region *(April '01)*	
Victoria	• East Gippsland (*February '97*) • Central Highlands (*March '98*) • North East Region (*August '99*) • Gippsland (*March '00*) • West Victoria (*March '00*)	
Queensland		• South East Queensland[b]
Western Australia	• South West Forest Region (*May '99*)[c]	
Tasmania	• Tasmania (*November '97*)	

[a] South Australia, the Northern Territory and the ACT do not have government-owned commercial native forest operations and therefore have no requirement for RFAs. [b] The Comprehensive Regional Assessment process has been completed for South-East Queensland, but there is no agreement yet between the Commonwealth and Queensland Governments. The Southern Brigalow Forest Region of Queensland was also to have been covered by an RFA, but there is no intention to proceed at this stage. [c] The WA Government unilaterally revised this agreement in July 1999.

Sources: Regional Forest Agreements Homepage; Environment Forest Taskforce website.

'Plantations for Australia: The 2020 Vision'

Increased pressure to reserve native forests for non-wood uses, as well as the limited availability of suitable land for public plantations, has led to a greater emphasis on the role of private plantations in expanding log supplies.

In July 1996, the Commonwealth and State governments agreed on a national goal of trebling the nation's plantation estate by 2020 through both large-scale industrial

plantings and small plantings on farms. Key factors identified as necessary to achieve significant growth in the private plantation estate included:

- boosting the availability of suitable land;
- increasing the commercial attraction of private investment in plantations;
- developing a plantation culture within local communities and improving information on plantation profitability and prospects; and
- removing policy impediments to the expansion of private plantations in areas such as taxation, property rights and inefficient pricing of substitute products (including logs from State forests).

National Competition Policy

In April 1995, the Commonwealth and State and Territory Governments adopted the NCP package. The package entailed wide-ranging changes to increase competition in the economy, including reforms designed to consolidate and build on institutional restructuring in the government business sector such as:

- prices oversight of GBEs that may have monopoly power;
- separation of policy and regulatory functions from the delivery of government goods and services (see table 2.3); and
- increased scrutiny of competition between government businesses and private firms to ensure compliance with NCP principles relating to CN and the removal of legislative restrictions on competition (see table 2.5).

Australian Accounting Standard — AAS 35

As noted in chapter 1, a key CN principle is that prices for commercial government goods and services should at least cover costs. This raises the issue of what are the 'true' cost of forestry activities and how they should be accounted for.

For many government business activities, setting prices that cover costs is straightforward. While determining forestry operating costs is straightforward, a significant component of the total cost base comprises the resource itself — that is, the land and standing timber. Unlike assets used by most government businesses, the market value of the land and timber often cannot be determined by reference to either a book value or the cost of acquiring a comparable asset. This is particularly the case for native forests which are 'gifts of nature'. The valuation of land and standing timber in forests was considered by Roberts et al (1995). This assessment formed the basis of a new accounting standard for self-generating and regenerating assets (SGARAs), described in Australian Accounting Standard (AAS) 35.

AAS 35 applies to all SGARAs, other than those held primarily for aesthetic, heritage, ecological, environmental or recreational purposes, where asset valuation is particularly problematic (AARF 1998). Thus, in the forestry sector, the standard applies to forests managed for commercial uses, such as wood production, but not to those within national parks or otherwise managed solely for non-commercial uses.

The new standard, which applies to reporting periods ending on or after 30 June 2001, amongst other things, requires forest agencies to:

- Calculate the net market value (NMV) of their forests on the basis of what they could sell them for as a going concern. Where no market price for a 'whole' forest exists, the standard specifies that agencies can use wood prices to determine a NMV. AAS 35 suggests that the best measure of NMV is the net present value (NPV) of the forest: that is, the value of discounted cash flows from harvested logs minus the costs of forest management and harvesting.
- Undertake valuations each year to ensure that asset values account for changes in timber prices and biological growth or decay.
- Base their valuations on the use of wood for sawlogs (unless the market value of the forest when harvested for pulplogs is higher).
- Apply an appropriate discount rate (for example, the long-term bond rate adjusted for forestry-related risks) when calculating forest asset values from expected future cash flows.
- Disclose the nature of any proxies used to estimate a forest's NMV, together with significant assumptions made in deriving the estimate.
- Provide details of any regulatory or other restrictions (such as environmental controls on harvesting) that have a significant impact on a forest's NMV, including the area of the forest subject to the restrictions.

AAS 35 provides a consistent framework for forest asset valuations across jurisdictions, but gives forest agencies considerable flexibility in implementing it. This has led to differences in asset valuations between agencies, and has particular implications for the implementation of CN by forest agencies. These matters are discussed in the next chapter.

Table 2.5 **Progress in reviewing potentially anti-competitive State and Territory forestry legislation**

State & Territory[a]	*Legislation*	*Potential anti-competitive concerns*	*Review progress*	*Outcomes and recommendations*
New South Wales	No forestry-specific legislation listed for NCP legislative review[b]	–	–	–
Victoria	*Forests Act 1958*	Department of Natural Resources and Environment's exclusive management of State forests. Determination of sawlog supply levels and prices. Allocation of logs under licensing arrangements.	Completed	Recommended separation of commercial regulatory/policy functions; market-based pricing of forest products; and guidelines for greater transparency in the allocation of licenses and permits. The Victorian Government is currently developing its response to the review.
	Forest Agreement Act (softwoods) and *Forest Agreement Act (hardwoods)*			Both Acts were removed from the review schedule as any amendments would breach the State Government's contractual obligations.
Queensland	*Forestry Act 1959*	Allocation system for native sawlogs.	Completed	Allocation system found not to affect competition – exemption from Trade Practices Act retained and extended for 10 years (pending authorisation by the Australian Competition and Consumer Commission)
		Tradac stumpage system.		No longer exists.
Western Australia	*Sandalwood Act 1929*	Entry restriction – the proportion of annual sandalwood harvest that may be taken from private land. Licensing arrangements.	Completed	Legislation to remove the restriction has been prepared.
	Conservation and Land Management Act 1984	Permits, licences and contracts; resource quotas etc.	Commenced	Awaiting the results of a Ministerial inquiry into apiarist regulation.
	CALM Amendment Bill 1999 and *Forest Products Bill 1999*	Restrictions, requirements and powers of CALM and FPC.	Completed	Under consideration by Govermnent.
	Forest-related State Agreement Acts		Completed (only a sample of Acts reviewed)	Deemed to be 'in the public interest'.

Continued

Table 2.5 **continued**

State & Territory	*Legislation*	*Potential anti-competitive concerns*	*Review progress*	*Outcomes and recommendations*
South Australia	*Forestry Act 1950* and *Local Government (Forestry Reserves) Act 1944* have not been listed for review.	–	–	According to the SA Government, there are no obvious competition restrictions in these Acts.
Tasmania	*Forest Practices Act 1985*	Forest Practices Code, Timber Harvesting Plans, Private Timber Reserves and Forest Practices Officers.	Completed	Justified in the public interest as representing the minimum level of control necessary.
	Forestry Act 1920	Granting of forest permits and licences, and registration of sawmills.	Completed	Most of these restrictions are to be removed from the Act.
		Minimum supply requirements for eucalypt veneer logs and sawlogs to the veneer and sawmilling industries.		Justified as being in the public benefit during the RFA process.
	Other relevant Acts deemed largely redundant or repealed.			

a There is no forestry-specific legislation in the Northern Territory or the ACT. A number of broader Acts applying to ACT Forests are yet to be reviewed. **b** The NSW Government has been reforming some regulations affecting forestry in NSW, separate to the NCP timetable.

Source: Based on information supplied by State and Territory CN agencies.

3 Application of CN to forestry

3.1 Implementation by jurisdictions

Under the CPA, jurisdictions have some flexibility in implementing CN. This has led to some differences in approach. In forestry, differences in implementation have arisen in relation to asset valuation and cost attribution. Prima facie, such differences could have significant implications for the cost base and, therefore, for the calculation of log prices that conform to CN principles.

To comply with CN requirements, a forest agency must charge prices (royalties) for sawlogs and pulplogs which, over the longer term, generate revenues that at least cover the costs of managing its forests for wood supply and provide a commercial return on assets, including land and timber. Table 3.1 gives information on how each jurisdiction is approaching this task based on information supplied by State and Territory CN units and the Annual Reports of the forest agencies in each jurisdiction.

Progress in implementing CN is mixed, with the institutional framework still evolving in South Australia and a relatively new entity in place in Western Australia. Victoria recently finished redrafting its CN policy. Its commercial forestry activities are now subject to review to ensure they are managed in accordance with the new regime.

Jurisdictional differences in the application of CN to forestry agencies include the:

- institutional models within which CN compliance is being pursued;
- pricing and log allocation mechanisms;
- transparency of CSO funding;
- determination of target rates of return;
- allocation of overheads to commercial wood outputs (see box 3.1);
- approaches to achieving regulatory equivalence;
- monitoring arrangements; and
- asset valuation methodology used.

Table 3.1 **Application of CN to State forest agencies**

State/agency	*Institutional model*	*Pricing and dividend requirements*	*Financial targets*	*Tax & debt equivalence*	*Regulatory equivalence*	*Asset valuation methodologies*
New South Wales						
State Forests of NSW (SFNSW)	SFNSW is a ***GTE***.	***Softwood*** is sold under long term 'take or pay' contracts, typically for a 10 year term plus a 10 year option, with a price review each year. ***Royalties*** are based on the international market price less production costs, with adjustments for regional variations in timber quality and market outlook. ***Hardwood*** logs are sold under long term supply agreements (up to 20 years). **R*oyalties*** are also based on the residual value of log timber, differentiated by species, size and price zone. ***Annual cash dividends*** are generally calculated using a standard ratio of 70% of realised profits.	***Financial targets*** for SFNSW are set annually via a negotiated Statement of Financial Performance. SFNSW ***fully funds its operation*** through cash generated from trading (net of the dividend paid to the State government) and from commercial borrowing. Assessment of a 'realistic' ***rate of return*** recognises the long return cycle for forestry plantation investment. The NSW Government considers that it is inappropriate to calculate returns as a ratio of today's profits to the current asset base, which may contain a large component of plantations currently in development.	All ***indirect State taxes*** are payable to the Office of State Revenue. A tax equivalent regime is applied for ***Commonwealth taxes.*** A ***Government Guarantee Fee*** is payable to NSW Treasury when SFNSW's credit rating falls below the State government's rating. SFNSW is not liable for ***local government rates*** on land that it operates (except in the case of joint ventures)***,*** but makes a significant contribution to local government infrastructure.	The ***regulation*** of native forests and plantations differs, but, according to SFNSW, this does not result in a commercial advantage for SFNSW. ***Native forests***: under the *Forestry and National Park Estate Act 1998,* SFNSW (but not private operators) is subject to *Integrated Forestry Operations Approval* by NSW regulatory agencies. Private operators are subject to the requirements of a range of other Acts. ***Commercial plantations***: the new *Plantations and Reafforestation Act 1999* establishes a single regulating statute for Crown and private plantations.	Mature timber in commercial ***softwood plantations*** is valued using a market valuation model which calculates net changes in value resulting from price and volume movements. Immature plantations are valued on the basis of historic cost. The commercial value of ***hardwood plantations*** and ***native forests*** (including land, timber and roads and bridges) is based on current market prices, representing 'value in use'. This recognises restrictions, on use, in addition to any special attributes of the assets valued.

State/agency	*Institutional model*	*Pricing and dividend requirements*	*Financial targets*	*Tax & debt equivalence*	*Regulatory equivalence*	*Asset valuation methodologies*
Victoria						
Forestry Victoria	Forestry Victoria (FV) is a ***service unit*** within the Department of Natural Resources and Environment (DNRE).	Victoria recently completed a review of its CN policy. DNRE's commercial forestry activities will now be reviewed to ensure they are managed consistently with the new policy. There will be an independent review of royalties and charges in 2000/01.	Under review.	Under review.	Under review.	Under review, but standing timber in both native forests and plantations was most recently valued using ***net present value (NPV)*** methodology. Assumptions were: • nominal 8% discount rate (1998-99); and • 80 year rotation (native forests).
Queensland						
DPI-Forestry (DPIF)	DPIF is a ***commercialised business unit*** within the Department of Primary Industries.	***Pricing*** for major forest product sales is determined via competitive processes. However, some fees and charges are still administratively determined. ***CSOs*** must be transparent and funded from the Consolidated Fund.	A ***long run rate of return benchmark*** has been established for evaluation of projects and performance. The benchmark is reviewed every four years. ***Annual rate of return targets*** are determined as part of performance contract negotiations.	DPIF is subject to payroll tax and other relevant ***State taxes***. ***Charges on debt*** reflect DPIF's stand-alone credit rating, rather than that of the State Government, via the inclusion of a loan guarantee fee (currently 0.5%).	DPIF is subject to ***regulatory requirements (including environmental requirements)***. Queensland Treasury said DPIF is disadvantaged relative to the private sector.	Plantation values are determined using ***net realisable value (NRV)*** methodology. ***NPV*** *is* used for performance monitoring of the total business. Native forest asset values are not calculated.[a] Harvest costs are treated as a cost of current production.
Western Australia						
Forests Products Commission (FPC)	The FPC is a ***commercial Statutory Authority*** (established in November 2000).	Approval has been given for an independent review of ***pricing principles*** for native forest logs. Payment of ***dividends*** required.	FPC must meet ***operational and performance targets*** in the Strategic Development Plan and Statement of Corporate Intent.	The FPC is required to pay all ***duties and taxes, local rate equivalents*** on premises it occupies (but not forest land) and ***charges for loan guarantees***.	No information provided.	**NPV** applies to standing timber in native forests and most plantation assets. Some plantation assets are valued at historical cost.

Table 3.1 **continued**

State/agency	*Institutional model*	*Pricing and dividend requirements*	*Financial targets*	*Tax & debt equivalence*	*Regulatory equivalence*	*Asset valuation methodologies*
South Australia						
Forestry SA	Forestry SA is a ***commercialised business unit*** within the Department of Administrative and Information Services. It is to become a ***public corporation*** in 2001.	***Log prices*** are market based, through an expression of interest process. There are no ***CSOs*** for commercial plantation activities, but some affect non-wood activities. They currently have no impact on log prices.	Appropriate ***rate of return and debt levels*** are being negotiated as part of the establishment of Forestry SA as a public corporation.	Forestry SA has been subject to a ***tax equivalent regime*** for a number of years.	No information provided.	Standing timber in mature plantations is valued using ***NRV*** methodology. The value of timber in immature plantations is calculated at compounded establishment and maintenance cost.
Tasmania						
Forestry Tasmania	Forestry Tasmania is a ***GBE***.	Forestry Tasmania is subject to the full State ***dividend regime***.	A ***Ministerial Charter*** specifies the broad policy objectives of ***maximising the sustainable return to the State***, having regard to the State's economic and social objectives.	Forestry Tasmania is subject to the full ***State Taxation Equivalent Regime*** and ***State Guarantee Fee Regime***.	The *GBE Act* provides for the same ***regulatory regime*** for GBEs as private firms.	Standing timber is valued at ***NPV*** in both native forests and plantations, using a real discount rate of 6.31% (1998-99), and an 80 year rotation for native forests (28 years for plantations).
ACT						
ACT Forests	ACT Forests is a ***GBE*** within the Department of Urban Services. ***Purchaser/provider separation*** is being implemented.	***A policy of full cost attribution*** applies. However, ***prices*** are determined by market forces and do not necessarily cover costs. Full budget funding of direct ***CSOs*** has applied since 1997–98.	No information provided.	A full ***tax equivalent regime*** has applied to ACT Forests since 1 July 1999.	ACT Forests has no ***regulatory responsibilities***. It is subject to various pieces of legislation.	Mature plantations are valued using ***NRV*** methodology.

NRV: net realisable value; **NPV**: net present value.

a The Queensland DPI (1999a, p. 53) cited difficulties arising from the need to assess volume and growth characteristics as the reason for not valuing native forests.

Sources: CALM 1999; DAIS 1999; DNRE 1999; DPI 1999b; DUS 1999; Forestry Tasmania 1999; SFNSW 1999; and information from State and Territory agencies.

Box 3.1 **Cost attribution by State and Territory forest agencies**

From a CN perspective, as long as agencies are covering all of the costs associated with their commercial activities, the way they choose to allocate joint costs across their various commercial (ie wood) outputs is a commercial decision, not an issue for CN.

However, a number of the State forest agencies are part of larger Government departments. Whether, and how, departmental overheads are allocated to the forest agency will affect the agency's cost base. In addition, as forest agencies produce a variety of non-wood outputs, the allocation of their forest management costs between wood and non-wood outputs can also affect the cost base for wood outputs.

In turn, the cost base can influence commercial decisions by agencies. For example, the 'excessive' allocation of agency overheads to non-wood outputs and the consequent reduction in the cost base of the commercial activity (wood production) could encourage agencies to set prices that are 'too low'. In the absence of harvesting controls, this may stimulate demand for logs and, thus, encourage over-harvesting, sometimes to the detriment of private growers.

The available information on jurisdictions' approaches to cost attribution is shown below.

Cost attribution by State forest agencies

	NSW	*VIC*	*TAS*	*QLD*	*WA*	*SA*	*ACT*
Full cost attribution	yes	yes	yes	yes	yes	yes	yes
Joint costs allocated between:							
Forestry/other	*na*	*yes*	*no*	*yes*	*np*	*na*	*np*
Native forests/plantations	*no*	*no*	*no*	*yes*	*no*	*na*	*na*
Wood/non-wood	*np*	*np*	*np*	*np*	*yes*	*np*	*np*

np no information provided; **na** not applicable.

Sources: CALM 1999; DAIS 1999; DNRE 1999; DPI 1999b; DUS 1999; Forestry Tasmania 1999; SFNSW 1999; and information provided to the CCNCO.

3.2 Performance of forest agencies

Each forest agency has adapted, or is in the process of adapting, its financial reporting standards to meet CN and various other government requirements in regard to performance outcomes. The broad framework in which performance monitoring is undertaken in each jurisdiction is outlined in box 3.2.

CN guidelines have been interpreted by governments as requiring that rates of return on assets should be used for monitoring forest agencies' performance. In some jurisdictions, governments have set minimum rate of return targets for forestry

agencies. Even where such targets are not set, jurisdictions have accepted the rate of return on assets as an appropriate measure of financial performance.

Box 3.2 **Monitoring of CN compliance by State and Territory forestry agencies**

Monitoring arrangements vary across jurisdictions.

In South Australia, there is currently no monitoring of CN implementation. However, this is expected to change following the corporatisation of its forestry agency. In Western Australia, the new Forest Products Commission's (FPC) performance will be monitored against a Strategic Development Plan (confidential) and a Statement of Corporate Intent (tabled in Parliament). The FPC is required to report on its performance to Parliament twice a year.

Monitoring is more detailed in New South Wales, Queensland, Tasmania and the ACT.

- In New South Wales, NSW Treasury monitors the implementation of CN by SFNSW through the Statement of Financial Performance process.
- In Queensland, the State Treasury evaluates DPIF's commercial performance against negotiated criteria every six months, while the Department of Natural Resources monitors DPIF's forestry activities (such as its Sustained Yield Systems), as well as its compliance with environmental standards.
- In Tasmania, Forestry Tasmania is subject to monitoring by the State's Prices Oversight Commission. It also provides quarterly reports to Treasury on performance against agreed indicators.
- In the ACT, monitoring is conducted via assessment of financial performance in accordance with the requirements of the *Financial Management Act 1996,* through annual review of CSO costs and through an open and transparent complaints process if a third party is concerned over competitive neutrality issues.

Victoria will announce monitoring arrangements for Forestry Victoria following a review of that agency's operations against the State's new CN policy.

Source: Information supplied by State and Territory CN units.

Published information on the financial performance of the various forest agencies is limited. Indeed, only SFNSW and DPIF in Queensland currently report a rate of return on their assets. Accordingly, the CCNCO has attempted to estimate rates of return for a wider selection of State and Territory agencies, based on reported asset values and earnings before lease payments, interest and taxes (EBLIT) (see table 3.2).

The estimated rates of return are low for some agencies and, in one case, negative. Although the estimated returns tend to be somewhat lower than those for a selection of private plantation companies (table 3.3), the performance of private plantations also exhibits considerable variation. However, considerable caution needs to be

exercised in drawing conclusions about agency performance from these estimates. In addition to information constraints which adversely affect the reliability of the estimates, market fluctuations, different age profiles in forests, circularity between asset values and log prices, and the asset valuation methodology itself, can all have significant ramifications for measured rates of return. These limitations are discussed briefly below.

Table 3.2 **Estimated rates of return on assets: selected State forest agencies[a], 1998 and 1999**

	EBLIT		*Assets*		*Rate of return[b]*	
State forest agency	*1998*	*1999*	*1998*	*1999*	*1998*	*1999*
	$m	*$m*	*$m*	*$m*	*%*	*%*
SFNSW	37.6	35.9	1612	1607	2.3	2.2
Forestry Victoria	66.3	88.8	660	1349	10.1	6.6
Queensland DPIF	19.2	21.0	1020 [c]	1071[c]	1.9	2.0[d]
Forestry Tasmania	26.6	17.5	974	612	2.7	2.9
ACT Forests	0.2	–0.7	57	60	0.3	–1.2

EBLIT: earnings before lease payments, interest and taxes. **Assets**: total assets of the forestry agency.

a Forestry SA and CALM (Western Australia) do not provide sufficient information in their financial statements to permit the calculation of rates of return on forestry assets. **b** Combined rate of return to plantation and native forests, except for the ACT, which is plantation forest only. **c** Excludes valuation of land and timber in native forests, Crown land used for plantations and quarry resources. **d** Queensland DPIF reported a higher return on assets of 6.5 per cent in 1999, largely because it is required to include in the value of its plantation estate unrealised gains (or losses) over the period.

Source: CCNCO estimates based on information in CALM 1999; DAIS 1999; DNRE 1999; DPI 1999b; DUS 1999; Forestry Tasmania 1999; SFNSW 1999; and information provided to the CCNCO by Treasury Victoria.

Table 3.3 **Estimated rates of return on assets: selected private plantation companies, 1998 and 1999**

	EBLIT		*Assets*		*Rate of return*	
Company	*1998*	*1999*	*1998*	*1999*	*1998*	*1999*
	$m	*$m*	*$m*	*$m*	*%*	*%*
Evergreen NZ[a]	–0.1	3.2	144	153	–0.1	2.1
Fletcher Challenge Forests[ab]	76.0	72.0	2000	2045	3.8	3.5
Great Southern Plantations	23.9	33.8	77	154	30.1	21.9
Pacific Forest Corporation	0.7	0.7	13	16	5.5	4.8
Timbercorp	8.8	29.4	144	275	6.1	10.7

EBLIT: Earnings before lease payments, interest and tax. **Assets**: Total assets. **a** $NZ. **b** NZ forests only.

Source: CCNCO estimates based on information in Evergreen Forests Ltd 1999; Fletcher Challenge Ltd 1999; Great Southern Plantations 1999; Pacific Forest Corp 1999; Timbercorp Ltd 1999.

Market fluctuations

Annual, or 'point', estimates of rates of return — particularly for traded 'commodities' such as forest products, minerals and agricultural products — are sensitive to changes in market conditions. For example, the rates of return calculated in table 3.2 are heavily influenced by the significant price decline for timber products in 1998 following the Asian financial crisis. In this context, Forestry Tasmania stated that, during 1998–99, it had:

> … operated in an extremely difficult trading environment throughout most of the year. While there was some improvement in domestic markets for wood products, international markets continued to reflect the results of the outcomes of the South East Asian financial crisis. Low to no growth was experienced in many markets. This was accompanied by strong downward pressure on … prices. (Forestry Tasmania 1999, p. 10)

Private growers were similarly affected. For instance, Fletcher Challenge's 1998–99 Annual Report commented that:

> The last twelve months have been a very difficult trading period. … The deterioration in market conditions that commenced late in 1997 continued throughout this period. The drop in demand from traditional markets in Asia … [put] pressure on prices across all wood product markets. (Fletcher Challenge 1999, p. 19)

The forest age profile

Forestry is also characterised by large variations between years in the *volume* of product sold. This reflects both demand and supply side factors. For instance, on the supply side, unless the age profile of a forest is consistent through time (thereby ensuring a reasonably uniform supply of wood), revenue flows can vary — often quite markedly.

This variation in revenue creates the potential for wide year-to-year fluctuations in rates of return which reflect past investment decisions and are unrelated to the current economic performance of the forestry agency.

Circularity between asset values and prices

Chapter 2 noted that the absence of 'off-the-shelf' asset values for forests means that asset values must be calculated as a 'net market value' (NMV). In turn, NMV is a reflection of log prices (and other factors that influence net returns).

The use of NMV to estimate forest asset values introduces an element of circularity into performance assessment. This circularity means that adverse changes in factors

subject to a forest agency's control such as poor cost control or a fall in productivity (as well as factors outside of its control) may feed through to asset values. As a result, the fall in the reported rates of return that might have been expected is either dampened, or eliminated entirely, thus masking poor performance by the forestry agency. This 'feedback', which is not unique to forestry, limits the usefulness of rates of return as a measure of performance.

In the case of a temporary change in the circumstances of a forestry agency, the potential difficulties in interpreting rates of return introduced by this circularity are related to the method used to estimate NMVs. AAS 35 indicates that the use of discounted cash flows — an estimate of the net present value (NPV) — is the most appropriate asset valuation methodology for forests. However, many forest agencies have interpreted net realisable value (NRV) as also being consistent with the standard (table 3.1), even though it can lead to a markedly different valuation (from NPV) of the same forest assets (box 3.3).

Box 3.3 **Asset valuation methodologies**

Two methods of estimating a forest's net market value (NMV) have been interpreted as being consistent with AAS 35. One involves using the concept of net present value (NPV). The other is based on an estimate of the net realisable value (NRV).

- NPV is a measure of what a potential buyer of a forest would be willing to pay — that is, the capitalised value of future revenues from sale of the wood, minus the costs of managing the forest and harvesting and selling the wood.
- In contrast, NRV measures the value of the forest in its *current state.* In essence, this is the potential sales revenue that would be realised by felling the forest in its current state and selling the timber, minus harvesting and transport costs.

If NPV is used to value forest assets, then (assuming constant revenue, costs and discount rate), the value of the forest assets will also be constant over the life of the forest. On the other hand, using NRV, asset values will increase steadily each year until the final harvest (with the possible exception of years following a thinning), since the value of standing timber would usually increase as the trees mature. Asset valuations are thus significantly different under each of the valuation methodologies.

The problem caused by circularity, and the difference between the two methodologies, can be illustrated by a simple example.

Assume that an agency experiences short-term administrative problems in a particular year that result in a significant escalation in costs and a corresponding drop in earnings. On the presumption that the problem is temporary, the value of forest assets under an NPV approach would only fall by a relatively small amount because it would reflect 'normal' returns in all years except for the year in which

the problem was experienced. Nonetheless, this small decline in the asset base would tend to moderate the agency's rate of return for that particular year. This outcome is broadly similar to that which might be experienced by a public company if it unexpectedly has a one-off 'bad' year (ie there is likely to be modest falls in its share price, market capitalisation and returns on shareholders' funds).

However, if NRV is used, the asset value would reflect only the current situation. As a result, earnings *and* asset values would fall by an equivalent proportion and the reported rate of return would not change. Thus, the use of NRV would mask poor performance by the forestry agency.

If the deterioration in performance is of a permanent nature, NPV and NRV will yield similar results — asset values will fall and 'prop up' the agency's reported rate of return.

Because of the circularity that can arise under AAS 35, it is important that performance assessments have regard to changes in underlying asset values, as well as the rate of return (for more information see SCNPMGTE 1996). If both the rate of return and the change in asset values from year to year are reported, with the reasons for any change explained in detail, then, in conjunction with other information required for comprehensive performance monitoring (for example, estimates of the pattern of future log sales and likely revenues from thinnings), more meaningful assessments of the performance of forest agencies should be possible. In this context, the emphasis of performance monitoring should be on whether a forest is being managed so as to generate acceptable returns over the *whole* log production cycle rather than in a particular year.

Log prices play a key role in determining the value of forest assets and are a major determinant of forestry agencies' financial performance. To some extent, log prices are at agencies' discretion. This raises the issue of how the market value of logs is most appropriately determined. Should the market value be the price that a forest agency chooses to set, the price required to recover all costs or a residual value concept, derived from competitive (world) sawn timber prices?

As discussed in the next chapter, these are complex issues. The answers depend, in part, on the structure of the forest industry in a particular regional market. This case by case flavour adds another dimension of difficulty to the job of assessing the performance of forest agencies.

4 Log pricing issues

4.1 Log pricing

Over the last twenty years, there has been considerable evidence to suggest that forest agencies have frequently sold logs at less than their full market value. Empirical studies of log pricing are sensitive to the assumptions used, but the bulk of evidence suggests that, in the past, royalties for sawlogs from State forests have often been some 20 to 70 per cent below their market value (box 4.1).

Box 4.1 **Evidence of log underpricing**

There is longstanding evidence that wood from State forests may have been priced below its market value. For instance:

- During the 1970s, it was estimated that sawlog royalties were in many cases less than half of what could have been charged by State forest services, as indicated by residual log values (that is, the market value of processed wood minus harvesting, transport and processing costs) (Byron and Douglas 1981);
- The Industry Commission (1991) estimated that, throughout the 1980s, royalties captured as little as 25 per cent of the residual value of logs;
- The Australian Bureau of Agriculture and Resource Economics (ABARE 1991) published estimates (based on harvesting rights premiums) indicating that royalties were underpriced by 27 to 40 per cent for high grade logs, 34 to 48 per cent for medium grade logs and 49 to 74 per cent for low grade logs;
- A study by Dann et al (1997) indicated that the residual value of Tasmania's native forests was some 20 per cent higher than the value reported by Forestry Tasmania — the implication being that royalties were 20 per cent below the 'true' value of the logs sold; and
- A recent review of Victoria's *Forests Act 1958* found that sawmillers could afford to pay between 30 and 60 per cent more than the average prices charged for logs by the Department of Natural Resources and Energy (DNRE 1999a, p. 66).

There are few recent studies available to gauge whether underpricing is still prevalent. However, as noted below, it is likely that reforms implemented over the last decade or so have reduced the frequency of log sales at less than their potential

market value. For example, in comments on a draft of this paper, the NSW Treasury said that, in the case of SFNSW, '…hardwood and softwood logs have been priced according to market values since 1997'. Table 4.1 summarises recent changes in log pricing practices.

Table 4.1 **Log pricing mechanisms**

Jurisdiction	1997 pricing practices		Current pricing guidelines
	Price setting mechanisms	*Prices were…*	
New South Wales			
State Forests of NSW	Long term agreements at negotiated prices. New sales by tender.	Confidential.	Hardwood royalties charged at the residual value of wood. Softwood royalties set at world price less production costs, often 'take or pay' contracts.
Victoria			
Forestry Victoria	na	na	na
Victorian Plantations Corporation	Long term contracts at administered prices. Short term sales by closed bid.	Confidential.	na
Queensland			
Department of Primary Industries Forest Service	Final harvest by closed bidding. Thinnings by public auction. Plantation sawlogs sold via competitive tendering process.	Confidential. Published prices used as base.	Pricing 'competitive'.
Western Australia			
Forest Products Commission	Softwood sold by long-term agreement or open tender. Hardwood royalties based on growing costs plus 5%	Stumpage and royalty schedules published six monthly.	See column 2 (but currently under review).
South Australia			
Primary Industries Forestry	Most covered by supply agreements. Others under long term agreements at administered prices, or by competitive tender.	Published. Confidential.	'Market based', through expressions of interest.
Tasmania			
Forestry Tasmania	60% at administered prices (10 year contracts), 40% by open market bids (5 year contracts).	Average prices published.	na
ACT			
ACT Forests	Prices negotiated.	'Not confidential'.	Determined by 'supply and demand'.

na not available

Sources: Ministerial Council on Forestry, Fisheries and Aquaculture, et al (1997, p. 47) and information supplied by State and Territory CN offices.

Studies of underpricing have been typically based on a comparison of realised log prices with the 'full' market value of logs — a value derived by subtracting harvesting, transport and processing costs from the market price of sawntimber.

This derivation of the 'residual' value of logs assumes that the market is competitive. In forestry, however, markets are not always competitive. This chapter initially examines the role of market structure in determining 'market' values for logs. Subsequent sections consider the effects of log underpricing and other factors on private growers and touch on the likely effect of CN on the pricing practices of forestry agencies. Throughout this chapter, the discussion focuses on sawlogs and sawmills. However, much of the discussion applies also to other logs (ie pulplogs) and other wood processors, such as producers of wood panels.

4.2 Market structure and log prices

Log pricing in a competitive market

In a fully competitive market environment, a sawmill will compete against other processors for log supplies from growers. It will also face competition in its output markets from other domestic sawntimber producers and from imported sawntimber. In these circumstances, the domestic price of logs will be determined implicitly by the 'world' price of sawntimber (box 4.2). In principle, the domestic price should approximate the residual value of logs as defined above.

Log pricing in an uncompetitive market

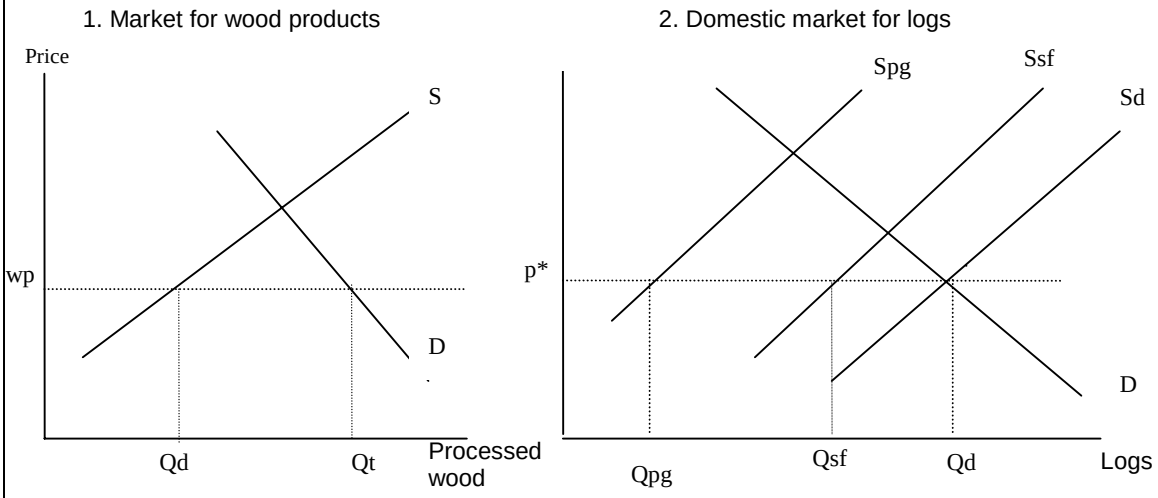
In practice, the market for sawlogs sourced from State forests cannot always be regarded as fully competitive:

- in some regions there is only one log supplier, the State forest agency, and one (or very few) buyers, such as a large sawmill; and
- the high cost of transporting sawlogs puts a natural limit on the distance over which it is economic for sawmills to source logs from alternative growers, or for forest agencies to supply logs to alternative users.

Thus, in some regions, the market structure may be closer to a so-called 'bilateral' monopoly market structure than to a competitive market. This has implications for the determination of the market price of logs. As illustrated in box 4.3, the volume of logs harvested and processed under a bilateral monopoly may be similar to that in a competitive market. However, log prices could differ considerably from the prices that would be achieved in a competitive market. The actual price outcome will depend on two factors — first, the level of competition faced by the sawmiller in selling sawntimber and, second, the relative negotiating or bargaining strength of the sawmill and forest agency.

Box 4.2 **Competitive markets and domestic log prices**

Processed wood products — sawntimber, panels, pulp and paper, etc — are extensively traded on world markets. Thus, in principle, the domestic prices of most processed wood products will be determined by the world price of each product, shown as *wp* in panel 1. *Qd* is produced domestically, while *Qt* is total domestic consumption. The difference *Qt-Qd* is the amount of processed wood products that are imported, currently around 40 per cent of the domestic market.



The world price for wood products, in turn, implicitly determines the domestic price of logs. This price, which is shown in panel 2 as *p*,* is, in essence, the maximum price that a processor can pay for logs and still remain competitive. At log prices higher than *p**, processed wood prices would need to exceed international prices (*wp* in panel 1) if the processor is to make a 'normal' return on investment. In the face of competition from imported products, this price would not be sustainable.

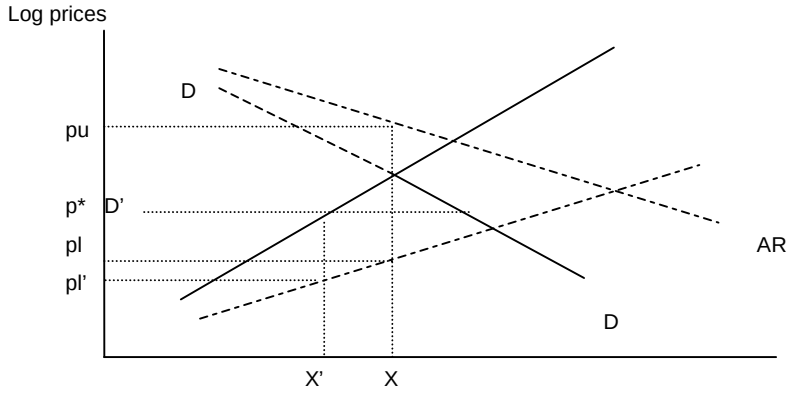
Panel 2 shows that at a log price of *p**, the domestic supply of logs is *Qd*. In a situation where a forestry agency is the major supplier, but is unable to meet total domestic demand, *Qsf* is supplied by State forests, with the difference *Qpg* (equal to *Qd-Qsf*) supplied by private growers.

If the market structure resembles a bilateral monopoly, with a large processor in a region being virtually the only potential buyer of logs, the processor may be able to use its monopsony power to drive log prices down below the price implicitly determined by international prices for processed wood products. On the other hand, if the forestry agency has the greater bargaining power, log prices could be forced above this level (see box 4.3). However, this outcome could only arise if the processor did not face competition for its outputs and could, therefore, pay a higher price without losing market share to competitors. Thus, even if a regional market can be characterised as a bilateral monopoly between the forest agency and a processor, log prices cannot be higher than the competitive price wherever the processor faces competitive output markets.

Box 4.3 **Log pricing under a bilateral monopoly**

In a bilateral monopoly, prices and quantities are agreed by negotiation between the sawmill and the forest agency. As illustrated, the level of output that maximises the joint profit of both parties is x. However, while both parties have an incentive to agree to this volume of logs to be harvested and processed, the prices will depend, to some extent, on which party is the better negotiator.

Determination of log prices in a bilateral monopoly



Notes: The sawmill's demand for logs is given by *DD*. Its average revenue (*AR*) is determined by the demand for the final product minus the costs of processing logs into sawntimber. This is its 'all or nothing' demand curve — the maximum price it can pay for any level of input and still stay in business. The forest agency's competitive supply curve is its marginal cost *MC*. Its average cost is *AC*. This is its 'all or nothing' supply curve, the minimum price it can receive for logs and still stay in business (this, of course, assumes that it must cover its costs).

Sources: Layard and Walters 1978; Gravelle and Rees 1981; Henderson and Quandt 1980; Blair, Kaserman and Romano 1989.

The forest agency must (it is assumed) at least cover its average cost — hence, the sawmill will try and negotiate a low price, such as p*l*. Conversely, a profit maximising forest agency will try to charge a high price, such as p*u*, which just leaves the sawmill with enough revenue to cover its costs. Hence, in principle, the market price of logs could be anywhere between p*u* and p*l*, depending on the relative negotiating strength of the forest agency and the sawmill.

However, processed wood products are widely traded on world markets. Indeed, as shown in chapter 2, Australian imports of these products are significant. Imports thus put a ceiling on the price which sawmills can pay for logs, since higher prices would make them uncompetitive with imported sawntimber. Hence, the domestic demand curve becomes *D'D* rather than *DD*. Under this scenario, the maximum price that forest agencies will be able to charge is p*, which is determined by reference to the world price for sawntimber, and its maximum profit at that price level would be from reducing output to x'. Trade in sawntimber products thus limits the range within which log prices can be negotiated.

As there is significant international trade in most processed forest products (see chapter 2), this 'no competition' scenario is likely to be a relatively rare occurrence.

Thus, in practice, the maximum price attainable by a forest agency for logs will normally be the competitive price, which will be determined implicitly by the world price of processed wood products. However, if the processor has monopsony power, it *may* be able to drive log prices down below the competitive price.

4.3 How will underpricing affect private growers?

The major concern expressed about the price of logs sold by forestry agencies has related to underpricing. As noted previously (box 4.1), several studies have pointed to underpricing by State forest agencies in past years. This could reflect the market power of some large processors. However, the fact that forest agencies were not required, or expected, to act commercially, and often had regional development objectives and other social obligations, seems a more plausible reason for underpricing. Whatever the underlying reason, allegations of underpricing have frequently been cited as a factor impeding the development of private wood growing enterprises.

The implications for private growers of log underpricing by forestry agencies depend on the interaction of a range of factors that influence the supply of, and demand for, logs and processed wood products. The following examples of the consequences of underpricing do not encompass all possible circumstances. Rather, they are indicative of the sorts of outcomes that can occur under various market conditions.

- Where private growers and the forest agency are essentially operating in separate markets, the prices charged in one market may have little impact on the other. For example, if private growers produce low quality logs for milling into low value sawntimber products, while the forest agency produces high quality logs for use in construction and other higher valued products, the forest agency's pricing policy may have little impact on private growers. This factor could underlie comments made by private growers in the Southern NSW RFA Region during discussions with the CCNCO that they would not be affected if SFNSW charged larger mills higher log prices.
- In a regional market where a forestry agency has the capacity to entirely satisfy local demand for logs, underpricing by the agency will depress prices received by any private grower that chooses to compete with the agency and discourage investment by private growers.
- In a regional market where a forestry agency cannot meet all local log requirements, the opportunity will exist for private growers to supply the shortfall in demand. The effect of underpricing by the agency on their returns will depend on the circumstances:

- if, as will usually be the case, local processors face competition from 'external' suppliers (eg importers of processed wood products), the maximum prices received by private growers should broadly correspond to the competitive price (the highest price processors can pay for logs and still be competitive — see previous discussion). However, processors may be able to use the price of logs sold by the forestry agency as a 'lever' to reduce prices below this level.
- if local processors do not face competition from 'external' suppliers (eg importers of processed wood products), the prices received by private growers will be determined by local competitive pressures — in essence, the potential supply of local logs relative to demand for those logs.

In all circumstances, processors that purchase underpriced logs sold by a forestry agency benefit from a windfall gain (or a 'rent'). This rent is reflected in the value attached to processors' entitlements for such logs.

In summary, underpricing of logs from State forests can have adverse effects on the establishment and ongoing operations of private wood producing enterprises. However, the impact of underpricing can only be determined on a case by case basis.

Recent reforms have created incentives for forest agencies to price logs on a more commercial basis. Consequently, it is possible that other factors may now have a greater impact on private growers than underpricing by forest agencies. Some of these issues are discussed below.

4.4 Non-price impediments to private growers

A major impediment faced by private growers may well be limited competition in the wood processing sector in some parts of Australia.

Relatively weak competitive pressures in the processing sector could provide large processors with market power and enable them to drive down prices paid to local growers. This is most likely to occur in a region where log purchases are dominated by a single processor that is able to buy logs from a number of different sources. However, in a region where a forestry agency is a key supplier, the capacity of a large sawmiller to exercise monopsony power in this manner may be limited for two reasons:

- the use of long-term take-or-pay contracts — where a forest agency has a take-or-pay contract with the sawmill that requires payment for wood volumes at the

upper end of the likely range of the sawmill's usage, the scope for the sawmill to source timber from private plantations may be limited; and,

- related to this, the requirement for sawmills, as a condition of their contract with the forest agency, to provide the agency with information on logs acquired from private growers, may place the forest agency in a position to 'fine tune' its log supply to that processor to the point where there may be little scope to purchase logs from other sources.[1]

Limited competition could also reduce the incentives for processors to operate as efficiently as possible. In turn, this can reduce their capacity to pay the full market value for logs.

Entry barriers are one factor which can contribute to a lack of competition. In sawmilling, these may be due to natural factors. More specifically, modern sawmills represent large, capital intensive investments. In some instances, a single mill can most efficiently process all, or most, of the logs in a given forest region. Where this is the case, it may be unprofitable for new mills to enter the market. The incumbent mill in this case enjoys a 'natural' barrier to entry.

Entry to sawmilling may also be restricted by regulations. Examples include:

- Restrictions on secondary markets in harvesting agreements that prevent the transfer of harvesting rights to other processors or new entrants. A secondary market for harvesting rights would provide a financial inducement for less efficient processors to exit the industry by selling their licences to more efficient operators who value the harvesting rights more highly.
- Regulations requiring harvesting rights and sawmills to be purchased together. Such 'bundling' makes it difficult for efficient processors to obtain additional harvest allocations without also purchasing additional processing capacity.
- The long-term nature of harvesting rights, in conjunction with the ability, in many instances, for holders to automatic rollover, can make it difficult for potential new entrants to acquire licences.

By impeding access to licences, such restrictions have almost certainly contributed to the domestic processing sector being less efficient than it might otherwise be. A number of recent studies have inferred that local processors' costs exceed world 'best practice' costs based on calculations of residual log values (see for example, BRS et al 1998; Wareing and Baker 1998; Burns et al 1999). As noted above, such

[1] For example, it is a licence requirement of SFNSW that sawmills provide information on the quantity of logs received from private property (AFFA 1999). However, according to NSW Treasury, SFNSW only uses this information as a 'theft protection measure'.

inefficiencies in processing constrain the capacity of sawmillers to pay 'competitive' prices for logs, which in turn can inhibit private plantation development.

While not raising any regulatory issues, other non-price 'impediments' to private growers may include market access problems that reflect private growers' inability to supply the volumes or quality of wood required by larger mills and the location of private plantations in areas where, because of topography or distance from the mill, wood cannot be harvested cost-effectively.

4.5 CN implications

Underpricing by State forestry agencies can affect the balance between public and private sector wood production. Underpricing also affects the return the community achieves on its forest assets and may adversely influence agency investment and harvesting decisions.

A priori, the application of CN would be expected to reduce the incidence of log underpricing, because it requires forest agencies to act more commercially by charging prices that cover all the costs of growing and managing the forest, including a commercially acceptable return to the land and timber assets. This should help ensure that the full market value is realised for logs sold by State forestry agencies. However, in some circumstances, it is possible that the cost of growing and managing the forest will be lower than the full market value (ie the realisable price) of logs. In other words, CN encompasses a 'floor price' concept and will not identify situations when the potential price achievable by forestry agencies exceeds that realised in practice.

The likelihood of CN monitoring detecting underpricing is also reduced by the degree of circularity that exists between log prices and asset values. This reflects two factors. First, if 'underpriced' logs are used to determine forest asset values, the cost base will be understated, as will be the price required to cover all relevant forestry costs. Second, any understatement of asset values will, in turn, result in reported rates of return being overstated. The effectiveness of rate of return monitoring is also inhibited by a number of other factors, such as year-on-year variability in log sales volumes and fluctuations in market conditions.

These difficulties in monitoring the performance of forestry agencies suggest that, in assessing compliance with CN, greater reliance should be placed on using residual values to determine the market value of logs, rather than prices actually realised by forestry agencies. Such values should also be used to estimate asset

values. Where available, prices paid for harvesting rights could also be used to ascertain whether logs are being sold for their full market value.

5 CN and the broader policy context

The operation of State forestry agencies over the next decade or so will be affected by many factors, of which CN is only one. This chapter summarises the effects of CN. It then briefly identifies some of these other factors, but does not seek to explore them in depth.

5.1 The role of CN

Conceptually, CN is an extension of institutional reforms implemented over the last decade that have sought to improve the performance of government businesses. The focus on cost recovery, and the trend toward greater transparency and accountability of public agencies in their management of public resources, has encouraged forest agencies to evaluate their forest management practices in terms of their impacts on efficiency and financial performance.

There are expectations that CN will also contribute to a better balance between wood and non-wood uses of native forests. For example, the Australian Conservation Foundation (ACF) has argued that the failure to implement CN has been a problem for the pursuit of environmental goals:

> Strong industry and government resistance to the need for the comprehensive application of the competitive neutrality principle to resources and related sectors constitute a major hurdle in moving towards ecological sustainability. (ACF 1998, p. 9)

Underpinning the views of the ACF is the perception that log underpricing has been associated with adverse environmental impacts, as well as reduced investment in private plantations:

> The presence of subsidies … contributes to the over-exploitation of native forests for timber production, particularly in some of the most remote and ecologically valuable areas … These large subsidies serve as a major disincentive to the establishment of commercial hardwood plantations … (ACF 1997, p. 3)

The implementation of CN in forestry will contribute to better cost recovery and pricing policies, and hence a more efficient and better managed public forest estate. However, as discussed in chapter 4, there are limitations to the ability of CN to overcome log underpricing. This means that other factors, such as the efficiency of

Australia's wood processors and initiatives to develop more competitive log pricing mechanisms, will also play a role in improving the efficiency of forestry agencies.

5.2 Competitive markets for logs

It is often argued that the use of competitive tendering (or auctions) for the sale of logs would lead to higher prices because processors would be forced to pay the 'true' valuation of the logs. Thus, provided there is competition between buyers, competitive sales might eliminate the rents that have accrued to processors as a result of underpricing and increase the returns achieved for a valuable community resource.

Outcomes from the relatively few auctions held to date suggest that a competitive market could also lead to greater differentials in log prices. For example, SFNSW has reported that the market value (determined by the residual value per cubic metre) of a 70cm diameter log is some 30 per cent higher than a 40cm log (AFFA 1999). Traditionally, there has been some differential in royalty rates (price per cubic metre) depending on the class of log, but these have not fully reflected the size, and hence market value, of logs.

Wider price differentials for larger logs may enable forest agencies to earn higher rates of return from the long rotations which, in turn, would contribute to the protection of non-wood values. Thus, competitive log sales may also provide a means of reducing the tension between the current regulatory approach to protecting non-wood values and the increasing pressures on forest agencies to operate on a commercial basis.

However, in regions where there are incumbent processors who already have harvest allocations, and where there are barriers to entry in sawmilling, competitive tendering may have little impact. The role of secondary markets for harvesting rights may be of greater significance in achieving more competitive log pricing in such markets. Competitive secondary markets for log entitlements would strengthen the processing sector's incentive to operate efficiently. At present, there are some secondary markets in harvesting rights, but they are not well developed.

Currently, harvesting rights can only be held by wood processors. However, there would seem to be no reason why parties other than wood processors should not be able to bid for, and hold, such rights. If a timber right was modified to become a right to appropriate all the values of the forest, then holders may be better able to balance all possible uses — particularly in light of the potential development of some markets for environmental services (see section 5.5).

5.3 Legislation reviews

Some legislation relating to forestry activity restricts competition. Under the provisions of the NCP, State and Territory governments agreed to review, and where appropriate reform, all such legislation that restricts competition.

Sustainable forestry is achieved when the harvest rate is such that it can be maintained in perpetuity. In most jurisdictions, legislated harvest management plans have been used to pursue this objective. Following review, much of the existing forest legislation has been found to be 'in the public interest' (on the grounds that the regulations promote sustainable forest management); only a few have either been revoked or had authorisation sought under the Trade Practices Act (TPA).

However, some other potentially anti-competitive forestry legislation has been removed from the review schedule of some States (see table 2.5). As the link between some potentially restrictive legislation (for example, restrictions on entry to sawmilling) and sustainable resource use are not obvious, it would have been desirable if the arguments for restricting competition (and hence for exempting forest legislation from review) had been open to public scrutiny. Transparency and public scrutiny would also be promoted if those forestry legislation reviews that have not as yet been released were made publicly available.

5.4 Transparency of pricing outcomes

There is very little published information on prices realised by forest agencies. While DNRE (1999a) provides some contemporary information for Victoria and listings of royalty and stumpage schedules are available for Western Australia, pricing policies and the terms on which harvesting licenses are allocated are generally confidential. In one particular case, in Victoria, an attempt under Freedom of Information to obtain information on royalties charged by the Department of Natural Resources and Environment was denied on the grounds that the information was 'Cabinet in Confidence' (ACF 1997).

In the United States, the Department of Agriculture regularly publishes detailed information on stumpage prices (royalties), fob mill prices, harvest rates and sustainable harvest rates by species and region (Warren 2000). While the relatively small size of the Australian industry may prevent the publication of statistics in the same level of detail without breaching confidentiality, the limited information available in Australia denies the community information on a very significant natural asset and inhibits scrutiny of the pricing practices of State forest agencies. This increases the difficulties in assessing the performance of these agencies. At the

same time, the absence of public information on market prices and conditions itself may constitute an impediment to private investment in forestry — information about farmgate or market prices is readily available to potential investors in most other natural resource and primary industries.

5.5 Extension of market-based approaches to the provision of non-wood outputs

In principle, non-wood values should be factored into decisions about investment in new forests and harvesting schedules (if any) for existing forests. However, the difficulty in valuing many non-wood outputs has led to an emphasis on the use of regulation — such as harvesting controls — to protect environmental values.

Harvesting controls are a blunt alternative to the incorporation of non-wood values in the decision-making processes of forest agencies. They are based on an implicit set of non-wood values, determined at the time the regulations were implemented. As the community's valuation of forests' non-wood services changes over time, the current regulatory framework may no longer be appropriate.

In addition, the regulatory framework generally imposes the same harvesting controls (such as rotation length and requirements for buffers along waterways) in all forests within a jurisdiction. Since both wood and non-wood values may vary significantly between forests, a more flexible regulatory framework may lead to a better set of outcomes.

Increasingly, the development of markets for some environmental services will allow forest agencies (and private growers) to generate new revenue from non-wood outputs. This will provide them with greater scope to incorporate non-wood values in investment and management decisions. (Henry 2000; Smith 2000). To date, discussion about the development of such markets has focussed on carbon sequestration, biodiversity and salinity credits.

By reducing the need for prescriptive harvesting controls, the development of markets for some non-wood values could lead to greater flexibility in forest management. For example, some forests could be managed on short rotations and others on much longer rotations, depending on the particular mix of wood and non-wood values. This would have implications for the competitiveness of plantations, the balance of wood and non-wood outputs, and the supply of logs.

Where markets for non-wood values are unlikely to be developed, the way in which these services are funded by governments can have an important bearing on the manner in which forest agencies incorporate such non-wood values into their forest

management practices. Explicit funding would provide clearer signals to forest agencies on the non-wood values concerned, perhaps again lessening the need for prescriptive harvesting controls.

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