
10 Summary of Impacts of NCP Reforms

Implementation of the National Competition Policy (NCP) reforms is far from complete and there are a number of intractable problems which make a comprehensive assessment of their effects on country Australia very difficult. In the infrastructure area where the reforms have continued and expanded on previous Council of Australian Government (CoAG) reforms, significant benefits are apparent. To date, large users and metropolitan business users have been major beneficiaries of the reduced cost of infrastructure services, but there have been benefits in country areas also. The improved competitiveness of such users is likely to be of indirect benefit to other businesses and consumers in country and metropolitan areas. The direct costs of some reforms to date have tended to show up more in country areas than in the cities.

When likely longer-term benefits are factored in, and allowance made for costs of implementing some reforms, the NCP reforms appear to offer significant gains to the Australian economy overall. Country Australia as a whole is likely to benefit from NCP, although there is likely to be more variation in the incidence of benefits and costs across country regions than in metropolitan regions.

The effects of the NCP reforms on most, but not all, regions are likely to be less significant than those resulting from the broad economic forces continually reshaping economic and social conditions in the Australia.

10.1 Introduction

The impacts of NCP reforms are assessed in this chapter. The next section summarises the quantitative information from individual reform areas, given in chapters 5 to 9 inclusive, of the effects to date on:

- costs and prices;
- quality of services; and
- employment.

The third section provides an indication of the ongoing impact of the NCP reforms. It reports estimates of the long-run regional impacts of full implementation of NCP reforms derived from modelling undertaken for the inquiry.

The NCP reforms come on top of many other factors affecting economic and social conditions more generally in the community. These include demographic, government and market driven factors — such as changes in population and incomes, declines in the terms of trade for agriculture in Australia, productivity growth and reductions in industry assistance. The regional importance of selected broader economic forces known to be influential for country Australia is indicated in the fourth section, where the estimated influence of the NCP reforms are compared with the changes which actually occurred in the decade to the mid-1990s. The resulting information is used to provide some historical perspective against which the magnitude of additional regional changes likely as a result of implementing the NCP reforms can be gauged.

It must be emphasised that accurate assessment of the economy-wide and regional effects of NCP is complex and difficult. In large measure, this reflects the problems involved in isolating the influence of a specific, but wide-ranging, set of policy reforms from other factors which affect economic and social conditions.

It also reflects the intrinsic problems associated with compilation of regional statistics. Given the mobility of people and goods and services within Australia, the dividing of economic activity into highly disaggregated individual regions is increasingly nebulous. For example, as shown in census data, some people reside in one statistical division of the country and work in another. Accurate and comprehensive data on such interactions across regions are not available and would be virtually impossible to obtain. Such measurement problems inevitably constrain quantitative assessments of regional effects.

10.2 Effects to date

Before summarising the effects to date, it is useful to distinguish between short-term, or transitional, effects and longer-term, or ongoing, effects which apply once the reforms have been implemented and businesses and individuals have adjusted to the new operating environment.

Many of the infrastructure reforms embody substantial cost savings from improved labour productivity as overmanning has been reduced and new technologies adopted. The displaced workers bear the short-term costs of loss of income as they seek new employment. If this involves relocating with their families, then the short-term costs are increased. This is more likely in country than metropolitan areas. It is

also more likely if there are many displaced workers in a region. In addition, there may be a private loss of capital if displaced workers have to sell their houses in a property market weakened by them all seeking to sell at the same time. In turn, the loss of people has an impact on the local providers of services such as shops, schools, banks, health facilities and councils, and on the general social diversity provided by larger communities. Finally, if there is a long time before another job is found, or labour withdrawal, then the costs are no longer short-term. Much of the anecdotal evidence the Commission heard in discussions with participants in country areas concerned such initial and ongoing costs.

In contrast to many of the costs, the benefits stemming from infrastructure reforms typically endure. The financial benefits are reflected in increased dividends (or reduced costs) to governments and usually lower prices to users. The increased dividends (or reduced costs) to governments offer the potential for lower taxes and/or increased government services than would otherwise be available. The government savings are not limited to initial savings in operating costs, as the reforms often also result in substantial savings from more efficient capital investment (eg deferral of new electricity generation capacity and investment in a more appropriate mix of generation capacity).

While some users will face higher prices, infrastructure and statutory marketing reforms which increase opportunities for competition will generally lead to lower prices than could otherwise be achieved. These lower prices improve the competitiveness of user industries and create opportunities for businesses to increase output and employment.

The importance of government infrastructure services in industry costs varies both between and within industries. For many industries in country Australia, such services comprise a significant proportion of total costs. For example:

- rail transport accounts for around 5 per cent of the costs of the coal, oil and gas industry; and
- electricity represents approximately 3.5 per cent of the costs of the non-ferrous mining industry.

Some agricultural industries stand to gain considerably from statutory marketing reforms because their purchases of products covered by such arrangements represent a significant proportion of their costs.

The other key determinant of an industry's competitiveness is the magnitude of the price reductions. As the data below show, typical price changes over time provide no clear identification of how much of the change is directly attributable to the NCP reforms and how much is due to other factors (eg technological changes).

Accordingly, care is required in interpreting information on changing industry competitiveness.

Improved competition, coupled with increases in consumer spending power associated with NCP price reductions, will stimulate higher output and create additional jobs. However, such ongoing benefits are not easily recognised as they are widely dispersed throughout the economy and represent only a small saving in each purchase relative to what would otherwise occur. The modelling in section 10.3 is designed to capture such individually small, but cumulatively large, effects.

In considering the effects to date, it is convenient to put the NCP reforms into two groups. The first includes those reforms which represent a continuation of previous reforms — such as those infrastructure reforms covered by CoAG agreements which were explicitly brought into the NCP package and governments' reforms of their infrastructure monopolies. The second includes the new reforms — such as the extension of the scope of the Trade Practices Act, the comprehensive review of legislation containing anti-competitive elements (including statutory marketing arrangements (SMAs)), the introduction of access regimes for some infrastructure and the introduction of competitive neutrality to government businesses.

For reforms which represent a continuation of previous reforms, it is convenient to think initially of the NCP results to date as being more of the same — improved operational efficiencies from better investment decisions, cost cutting, more appropriate services and improved cost recovery. However, the situation with respect to the new NCP reforms is different. The new reforms are far more comprehensive, introducing: a more comprehensive and consistent separation of government business activity from regulatory activity; a more comprehensive and consistent separation of natural monopoly elements from contestable and competitive elements; better regulation of the monopoly elements to ensure more cost-reflective pricing; competition to set prices in contestable areas; and the incorporation of a 'public interest' test to ensure that non-economic considerations are taken into account.

Costs and prices

Costs and prices are influenced not only by NCP reforms, but also by unrelated factors such as technological changes and shifts in consumer preferences. In the infrastructure area, there is evidence of significant improvements in productivity from NCP reforms leading to cost savings which have been passed on to consumers in the form of lower prices and to governments in the form of better investment decisions and more commercial returns. For example, between 1991-92 and

1995-96, the average real (inflation adjusted) price for services provided by 73 government business enterprises fell by 15 per cent (SCNPMGTE 1997, p. 4).

There is a widespread misconception that the NCP reforms are solely about reducing prices to consumers. While this will often be the case and is an important outcome, NCP reforms are aimed at more efficient pricing. In some situations, this can involve increases in user and consumer prices. For example, in the water reform area, the pricing reforms recognise the scarcity of water in many regions and the over-allocation in some river systems, and involve application of the 'user pays' principle and the removal of cross-subsidies. Consequently, the reforms are resulting in substantial increases in prices to some users and better environmental outcomes.

In the electricity, gas, rail, ports and telecommunications areas, there have been significant price reductions. Generally, the price reductions have been greater for large business than for small business users, and greater for business than for residential customers.

At the same time, prices in most areas of water supply and those faced by householders for gas services in some regions (eg residential gas prices in Victoria) have risen to reflect more closely the costs of supply.

The pattern of initial impacts suggests that, in many cases, businesses in metropolitan areas have been the main early direct gainers from reduced prices charged for infrastructure services. For instance, in the case of electricity, while large users in all areas have benefited, metropolitan areas have gained more than country regions. In part, this pattern of initial effects is a result of the staged implementation of the reform program, whereby the contestable market has been introduced for the largest users first. It also reflects efforts to reduce cross-subsidies. The improved competitiveness of business users is also likely to lead to indirect benefits to other businesses and consumers of their goods and services in both country and metropolitan areas.

Reductions in rail freight rates are important for country Australia as rail is used to transport around 40 per cent of Australia's agricultural and livestock production, 64 per cent of its mineral production and 14 per cent of fertiliser, cement and timber production. Country Australia, with its high export orientation, has benefited also from lower port charges. In addition, country people have benefited from the substantial price reductions for long distance telephone calls.

It is difficult to determine the cost and price effects of NCP reviews of anti-competitive legislation supporting SMAs. Not all reviews have been completed and few of the reforms recommended by reviews have been implemented. As SMAs can

involve higher domestic prices than would otherwise occur, reviews which lead to the dismantling of such arrangements are likely to reduce those prices. This will disadvantage many, though not all affected producers and benefit both country and metropolitan user industries and consumers.

Table 10.1 summarises the available data by reform sector on cost and price changes since the introduction of the NCP reforms. Additional information on the effects of the NCP reforms, including that provided by participants, is contained in chapters 5 to 9.

The currently available cost and price data do not necessarily provide a good indication of the likely longer-term impacts of the NCP reforms, as the data include the effects of other technological, economic and social influences. Furthermore, significant reform remains to be undertaken in most areas.

Community service obligations

The prices paid in country Australia by users of many infrastructure services subject to NCP reforms, have been influenced by governments' maintenance of community service obligations (CSOs). While NCP does not constrain governments' capacity to retain CSOs, it requires that they be clearly identified and costed. Thus, NCP processes lead to the review of CSOs which might otherwise not be subject to scrutiny. In some cases, such reviews have led governments to abolish or reduce the benefit provided. It is important to note that such decisions are at the discretion of individual governments and are not mandated by their agreement to implement NCP reforms.

In many regions, electricity prices have been maintained below the cost of supply, typically for domestic use, as explicit 'tariff equalisation' CSOs by governments. In addition, there are specific CSOs for pensioners and Aboriginal community services. The cost of CSOs has ranged from around 0.5 per cent to 9 per cent of an electricity supplier's revenue.

The use of CSOs is also an important feature of water prices in country Australia. They cover not only defined users, such as pensioners, but also users in particular regions. For example, in 1996-97, the South Australian Water Corporation received \$72 million from the South Australian Government for CSOs — mainly for the supply of water to country areas at the same price as in Adelaide. Similarly in that year, the Western Australian Government supplied its Water Corporation with \$182 million for the provision of water services outside the metropolitan area at less than full cost.

Table 10.1 Cost and price changes in infrastructure services subject to National Competition Policy reforms

<i>Reform sector</i>	<i>Cost/price change</i>	<i>Period/ date</i>	<i>Markets affected</i>
	%		
Electricity	↓ 16	1991-92–1997-98	Australia — real (inflation adjusted) average prices, all customers
	↓ 22	1991-92–1997-98	Australia — real average prices all commercial/ industrial users
	↓ 3	1991-92–1997-98	Australia — real average prices all residential users
	↓ 25	1991-92–1997-98	NSW — real average prices all customers
	↓ 13	1991-92–1997-98	Vic — real average prices all customers
	↓ 2	1991-92–1997-98	Qld — real average prices all customers
	↓ 18	1991-92–1997-98	WA — real average prices all customers
	↓ 16	1991-92–1997-98	SA — real average prices all customers
	↓ 3	1991-92–1997-98	Tas — real average prices all customers
	↓ 7	1991-92–1997-98	ACT — real average prices all customers
	↓ 15	1991-92–1997-98	NT — real average prices all customers
Gas	↓ 43	1992–1997	6 major distributors — real controllable costs
	↓ 11	1991-92–1996-97	WA — real prices for business customers
	↓ 9	1991-92–1996-97	WA — real prices for residential customers
	↓ 8.6	1991-92–1996-97	Vic — real prices for business customers
	↑ 7.4	1991-92–1996-97	Vic — real prices for residential customers
	↓ 22	1994–1998	Australia — real gas prices — all customers
Water	↓ 30	1991-92–1996-97	NSW — real prices for metropolitan customers
	↓ 10	1991-92–1996-97	Vic — real prices for metropolitan customers
	↑ 2	1991-92–1996-97	Qld — real prices for metropolitan customers
	↑ 2	1991-92–1996-97	WA — real prices for metropolitan customers
	↑ 5	1991-92–1996-97	SA — real prices for metropolitan customers
	↑ 8	1991-92–1996-97	Tas — real prices for metropolitan customers
	↑ 14	1991-92–1996-97	ACT — real prices for metropolitan customers
	↑ 23	1991-92–1996-97	NT — real prices for metropolitan customers
	↑ various	1994–1998	Irrigation districts
	↓ 39	1997	Metropolitan water — average price reduction for commercial users in Sydney and Melbourne
Rail	↓ 40	1991-92–1996-97	Freight rates on the Melbourne to Perth rail route
	↓ 16	1991-92–1996-97	National freight rates (in real terms)
Ports	↓ 23	1991-92–1996-97	Port authority charges
Telephone	↓ 25	1991-92–1996-97	Subscriber trunk dialling calls — average real price
	↓ 30	1991-92–1996-97	Overseas calls — average real price
Postal	↓ 8.7	1991-92–1996-97	Australia Post — real price of posting a standard letter

Sources: ESAA (1999a) and information supplied by ESAA; NUS International (1998) and (1999); PC (1998e); SCNPMGTE (1998).

In telecommunications, country Australia is the main beneficiary of the existing universal service obligation. Notwithstanding this and the benefits derived to date, many in country Australia feel relatively disadvantaged in terms of access to mobile phone networks and cheap access to quality Internet connections.

Local government

For local government, the initial impacts of NCP reforms appear varied. Councils have been required to review any anti-competitive elements of their legislation and ordinances and ensure that their operations comply with competitive neutrality principles. As a result, many have developed better information systems and achieved cost savings from improved management of business activities. This has occurred in country regions as well as in the cities. Some councils (especially those with large water businesses) have incurred significant implementation costs to achieve the benefits from NCP reforms. For some smaller rural councils, however, the costs of implementation could outweigh any potential long-term benefit.

Quality of services

In the Commission's discussions with participants in country Australia, deterioration in the quality of service delivery since the introduction of NCP was raised frequently in terms of electricity supply and telecommunications.

The available data on service quality indicators, by reform area, are summarised in table 10.2. This information points to different outcomes in each reform sector and, for a given sector, different outcomes across regions. In relation to service quality in country regions relative to metropolitan areas:

- for electricity, loss of supply and average duration of outage have generally been reduced for urban customers in New South Wales and Victoria, but the trend for country customers is equivocal — some better and some worse;
- for urban water, there is evidence of improved levels of service and improvements in the quality of water delivered in some States. There is also evidence of reduced waste of water usage and increased attention to environmental allocations;
- for telecommunications, the results are mixed:
 - Telstra's connection service for new customers in country areas has improved to a level above that for metropolitan business customers, but is still below that for metropolitan residential customers, and
 - since the introduction in January 1998 of minimum service standards (which vary by geographic area) the fault repair service provided to Telstra's customers in remote areas has been below the service provided to customers in rural and urban areas, but rural customers have generally fared better than urban customers; and

- for Australia Post, indicators of service standards, including the number of retail outlets, remained high over the period 1991-92 to 1996-97.

Table 10.2 Service quality indicators

<i>Reform sector</i>	<i>Service quality</i>	<i>Period/ date</i>	<i>Services affected</i>
Electricity	↑	1991-92–1996-97	Vic & Tas — reductions in loss of supply
	↓ ↑	1991-92–1996-97	NSW, Qld & SA — no clear change in loss of supply
	↓ ↑	1991-92–1996-97	NSW, Tas & ACT — no clear change in average duration of outage
	↑	1991-92–1996-97	Qld & NT — average duration of outage lowered
	↓	1991-92–1996-97	SA — average duration of outage increased
	urb/reg	1994–1997	Vic & Qld — average loss of supply greater in regional areas; NSW — no clear difference
	urb/reg	1994–1997	Qld — average duration of outage less in regional areas; NSW & Vic — no clear difference
Gas	↑	1991-92–1996-97	Vic & WA — better overall quality of service; no information to compare country and metropolitan
Telephone	↓ ↑		Telstra — a mixed picture emerges from the range of indicators, with significant State variation

Urb: urban; reg: regional.

Sources: PC (1998e); SCNPMGTE (1998).

Employment

The early direct effects of NCP reforms on employment have been adverse. To some extent, this reflects the removal of overmanning which had developed while government business enterprises enjoyed monopoly status or faced weak incentives to perform efficiently. It also reflects adoption of newer labour saving technology in most areas. As the broader effects of the reforms work to expand the nation's economy, the employment picture is likely to improve, but regional effects will differ.

The available data on direct job losses by infrastructure service providers are summarised in table 10.3. While the losses have been widespread in most reform areas, in the rail sector they have been proportionately greater in country regions.

In interpreting the data on job losses by selected infrastructure providers, it must be remembered that in many areas there is now a much greater use of contracting-out and, in some cases, new private sector entrants (eg Optus in telecommunications) whose employment is not included in the data. A perspective on this is provided by figure 10.1, which shows public and private sector job gains and losses in infrastructure industries over the decade to 1997.

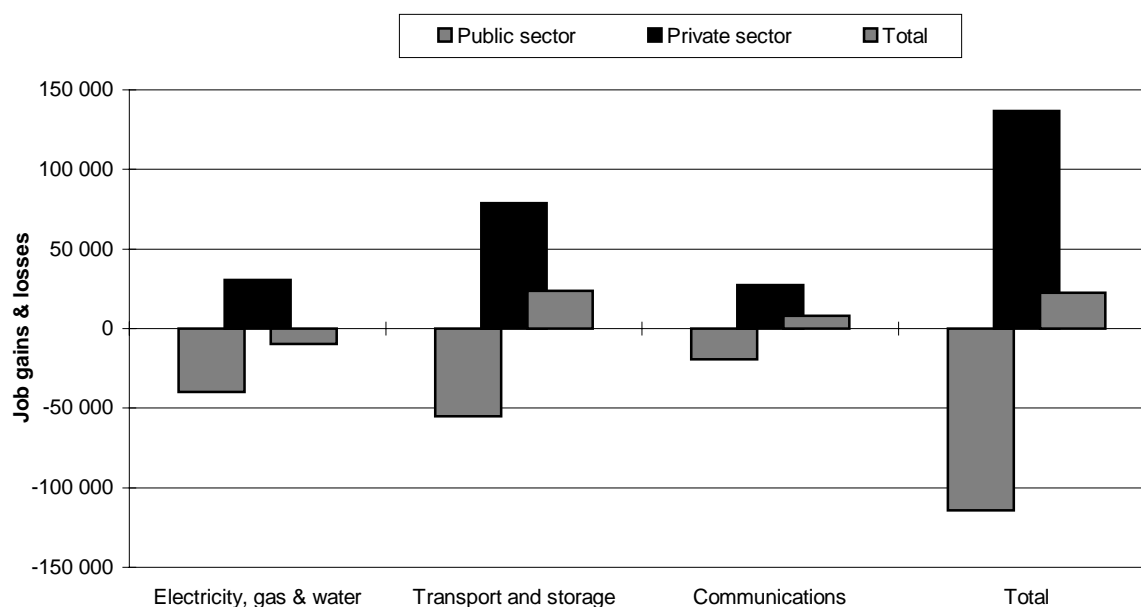
Table 10.3 Direct job losses by selected infrastructure service providers

<i>Reform sector</i>	<i>Job losses</i>	<i>Period/ date</i>	<i>Areas affected</i>
	%		
Electricity	↓ 38	1992–1997	Australia — losses equally spread in both city and country regions
Gas	↓ 42	1992–1997	6 major gas distributors — losses mainly in cities
Rail	↓ 44	1986–1998	Capital cities
	↓ 73	1986–1998	Other areas
Telecomm-unications	↓ 14	1991-92–1997-98	Telstra — nation-wide
Postal	↓ 12	1991-92–1997-98	Australia Post — full-time employees, mainly cities

Sources: ABS, *Labour Force Survey* (unpublished data); Australia Post, *Annual Report* (various issues); PC (1998e); SCNPMGTE (1998).

As indicated in figure 10.1, while public sector employment in infrastructure industries (which includes some industries not covered by NCP) declined by about 114 000 people, or 33 per cent, in the decade to 1997, there was a net gain overall of

Figure 10.1 Job gains and losses in infrastructure industries, 1988–97
People employed



Sources: ABS (*The Labour Force, Australia*, Cat. no. 6203.0); PC estimates based on PC (1998e) and SCNPMGTE (1993).

20 000 persons, or some 6 per cent. Some of the public sector reduction represents a shift in jobs to the private sector. Also, some of the private sector growth represents the expansion of new services, such as the commercial development of better quality communications and mobile phones.

More generally, rationalisation and centralisation of service industries in country Australia can create short to medium-term adjustment difficulties for some regional communities. This issue is discussed in more detail in chapter 13.

Employment in small business is an important part of the economy. The proportion of jobs provided by small business has increased in recent years. In large part this reflects their greater role in the delivery of services and the faster growth of that sector of the economy. With the overall decline in number of farm businesses in the rural sector, the proportion run as small farm businesses has increased slightly.

An interesting issue is whether NCP reforms have any implications for the size of businesses — that is, whether they are likely to favour large businesses more than small businesses, or vice versa. Particular concerns were raised by participants about small businesses, including corner stores involved in retailing and petrol stations (see chapter 9). Continuing rationalisation in those areas of traditional methods of supply, which have occurred largely in metropolitan areas, is spreading more generally to country regions. The reviews of anti-competitive legislation have removed, or could remove, support measures which some traditional small businesses such as the corner store relied upon. These include restrictions on the range of goods which can be sold and exemptions from restrictions on hours of trade. As pointed out by other participants, the newer methods of supply have gained the support of consumers and other small business opportunities have arisen, sometimes associated with these developments.

In the longer term, both large and small businesses are likely to gain from improvements in infrastructure provision.

FINDING 10.1

Infrastructure services represent significant costs for industries based in country Australia. NCP reforms affecting the provision of these services are producing productivity gains which, although leading to some employment losses, have helped to make user industries more competitive and benefited consumers.

10.3 Longer-term regional impacts of NCP reforms

To illustrate quantitatively the possible ongoing impacts of NCP reforms and to explore possible differences between country and metropolitan Australia, the Commission has modelled those elements of NCP most likely to influence economic and social outcomes in rural and regional Australia. The results, reported below, need to be interpreted with care as simplifying assumptions have been used to incorporate the NCP reforms. Moreover, the modelling includes certain reforms which began to be implemented in the early 1990s. This means that the estimated effects incorporate some output and employment changes which have already occurred, as well as those associated with reforms yet to be implemented.

The focus of the modelling is on long-run, ‘outer envelope’ effects. That is, it is based on an assumption of full implementation of the reforms with no change in quality of service provision and complete adjustment to their effects. Transitional effects are not modelled explicitly. However, an indication of possible adjustment problems is provided by looking at the estimated changes in regional employment and by comparing those changes with employment changes which occurred over the last decade.

In undertaking the quantitative work, the Commission revisited the modelling undertaken by the Industry Commission for CoAG in the lead-up to the NCP reforms (IC 1995d). That modelling looked at implementation of the NCP and related reforms and provided an estimate of their potential maximum effects. It provided long-run snapshot estimates showing how macroeconomic variables and sectoral outputs would differ from what might otherwise occur had the modelled reforms been fully implemented and the economy had time to adjust fully to them. However, the results showed only national effects and therefore are of limited usefulness for the current purposes of illustrating rural and regional effects.

Criticisms have been made of that modelling in terms of the manner in which some NCP reforms were specified and included in the model (eg Quiggin 1997), and of its technical ‘closure’. Other criticisms have been made of such models on different grounds — namely, that certain conservative assumptions included in them do not capture some of the efficiency-increasing dynamic gains that NCP reforms are likely to have on business performance more generally as a result of stronger competition in the economy.

For this inquiry, the Commission has chosen a special version of the MONASH model which provides a regional disaggregation, MONASH-RR. It has a detailed commodity and industry structure suitable for analysing the effects of NCP reforms and provides detailed regional results. In using this model, the Commission re-

examined the manner in which NCP reforms have been specified, looked at new evidence of potential effects and considered experience to date with implementation of the NCP reforms.

Full details of the Commission's modelling are provided in a separate supplement to this report (available on request from the Commission). Using the MONASH regional economic model, the Commission has sought to illustrate the economy-wide effects, and also the possible effects on metropolitan and country regions of the NCP reforms. Such models cannot depict with precision the actual effects on small regions of policy changes as broad-ranging and complex as the NCP. In part, this reflects the mobility of people, and goods and services across regional boundaries, which makes assigning estimated changes in economic activity to individual regions difficult. However, modelling can provide some insights about possible effects, especially flow-on or indirect effects.

In developing its modelling results, the Commission circulated a work-in-progress draft to participants and others with a known interest in such modelling, and held a technical workshop on preliminary results in Canberra on 10 March 1999. In addition, the Commission contracted three experts to referee the modelling and present their comments and suggestions for improvements at the technical workshop. A summary of their comments is included in the supplement on the modelling. A complete copy of the referees' written comments is available on request. The analysis included in this report takes account of those earlier comments and comments received in response to the public release of a draft of this report.

The model

The model, MONASH-RR, uses the standard MONASH model classification of the economy into 113 industries and 115 commodities. Notwithstanding the level of disaggregation, it is still too broad to capture fully some aspects of NCP reforms, such as those of State SMAs for smaller volume crops like rice where the effects are modelled as part of the larger commodity and industry group which incorporates rice.

In MONASH-RR, the States and Territories are separately identified. The six States are further disaggregated into 55 statistical divisions — giving a total of 57 statistical divisions. These divisions are shown in table 10.4, with a link to the related ABS statistical division classification and a listing of the main townships in each division. As the divisions were chosen to reflect '... identifiable social and economic links between inhabitants and between the economic units within the region, under the unifying influence of one or more major towns or cities' (ABS

1995, p. 18), most contain a substantial mix of primary and ancillary service activities. This means that some of the regional variation from the impacts of the

Table 10.4 MONASH-RR regions^a

<i>MRES Region</i>	<i>ABS SD</i>	<i>Main centre</i>	<i>Other selected urban centres</i>
Sydney	105	Sydney	Campbelltown, Gosford, Katoomba, Parramatta, Sutherland
Hunter	110	Newcastle	Cessnock, Maitland, Muswellbrook, Port Stephens, Singleton
Illawarra	115	Wollongong	Kiama, Mittagong, Moss Vale, Shellharbour, Shoalhaven
Richmond-Tweed	120	Lismore	Ballina, Byron Bay, Casino, Tweed Heads
Mid-North Coast	125	Coffs Harbour	Grafton, Kempsey, Port Macquarie, Taree
Northern	130	Tamworth	Armidale, Glen Innes, Gunnedah, Inverell, Moree, Tenterfield
North Western	135	Dubbo	Bourke, Cobar, Coonabarabran, Gilgandra, Mudgee, Walgett
Central West	140	Orange	Bathurst, Blayney, Cowra, Forbes, Lithgow, Oberon, Parkes
South Eastern	145	Queanbeyan	Bega, Bombala, Cooma, Crookwell, Goulburn, Yass, Young
Murrumbidgee	150	Wagga Wagga	Cootamundra, Griffith, Gundagai, Hay, Narrandera, Tumut
Murray	155	Albury	Balranald, Deniliquin, Holbrook, Tumbarumba, Wentworth
Far West	160	Broken Hill	Tibooburra, Wilcannia
Melbourne	205	Melbourne	Altona, Dandenong, Lilydale, Mornington Peninsula, Sunbury
Barwon	210	Geelong	Apollo Bay, Colac, Lorne, Queenscliffe
Western District	215	Warnambool	Camperdown, Hamilton, Portland
Central Highlands	220	Ballarat	Ararat, Bacchus Marsh, Daylesford
Wimmera	225	Horsham	Dimboola, St Arnaud, Stawell
Mallee	230	Swan Hill	Kerang, Mildura, Ouyen
Loddon	235	Bendigo	Castlemaine, Maryborough
Goulburn	240	Shepparton	Benalla, Echuca, Kyabram, Rochester
Ovens-Murray	245	Wodonga	Beechworth, Bright, Mount Beauty, Rutherglen, Wangaratta
East Gippsland	250	Sale	Bairnsdale, Omeo, Orbost
Gippsland	255	Traralgon	Moe, Morwell, Wonthaggi
Brisbane	305	Brisbane	Beenleigh, Logan, Mount Gravatt, Redcliffe
Moreton	310	Coolangatta	Burleigh Heads, Caloundra, Ipswich, Noosa, Surfers Paradise
Wide Bay-Burnett	315	Maryborough	Bundaberg, Gympie, Hervey Bay, Mundubbera
Darling Downs	320	Toowoomba	Dalby, Goondiwindi, Stanthorpe, Warwick
South West	325	Charleville	Quilpie, Roma, St George
Fitzroy	330	Rockhampton	Emerald, Gladstone
Central West	335	Longreach	Barcaldine, Blackall, Winton
Mackay	340	Mackay	Clermont, Proserpine
Northern	345	Townsville	Ayr, Bowen, Charters Towers, Ingham
Far North	350	Cairns	Atherton, Cooktown, Innisfail, Mareeba, Mosman, Weipa
North West	355	Mount Isa	Cloncurry, Hughenden, Normanton

(Continued on next page)

NCP reforms on smaller more highly specialised regions is averaged out in the aggregation to larger, more diverse regions.

The model adopts a ‘tops down’ approach to regional analysis. Under this approach, national results are generated for each industry. These results are then subdivided into State effects based on the industry mix of each State’s activity, and then further subdivided to give impacts at the statistical division level, again based on the industry mix of each statistical division’s activity. The model allows for the modification of regional results to reflect particular features of a region, with a consequent rebalancing of effects across all other regions. However, the limited information available on such special regional features means that the Commission was unable to derive comprehensive estimates which reflect all such special

Table 10.4 **MONASH-RR regions^a**

(continued)

<i>MRES Region</i>	<i>ABS SD</i>	<i>Main centre</i>	<i>Other selected urban centres</i>
Adelaide	405	Adelaide	Glenelg, Henley, Hindmarsh, Marion, Salisbury
Outer Adelaide	410	Mount Barker	Barossa Valley, Kangaroo Island, Onkaparinga
Yorke & Lower North	415	Yorke town	Bute, Riverton, Wallaroo
Murray Lands	420	Renmark	Murray Bridge, Pinnaroo
South East	425	Mount Gambier	Bordertown, Kingston, Naracoorte
Eyre	430	Port Lincoln	Ceduna
Northern	435	Whyalla	Cooper Peedy, Port Augusta, Port Pirie, Woomera
Perth	505	Perth	Armadale, Fremantle, Joondalup, Stirling, Wanneroo
Peel	510(p)	Rockingham	Kwinana, Mandurah
South West	510(p)	Bunbury	Busselton, Collie, Manjimup, Margaret River, Pemberton
Great Southern	515	Albany	Denmark, Katanning
Wheatbelt	520, 525	Northam	Merridin, Moora, Narrogin
Goldfields-Esperance	530	Kalgoorlie	Boulder, Coolgardie, Esperance
Mid West	535(p)	Geraldton	Meekatharra, Mount Magnet
Gascoyne	535(p)	Carnarvon	Exmouth
Pilbara	540	Port Hedland	Karratha, Newman, Tom Price
Kimberley	545	Broome	Derby, Kununurra, Wyndham
Greater Hobart	605	Hobart	Clarence, Glenorchy, Sorell
Southern	610	Geeveston	Bicheno, Huonville, Triabunna
Nothorn	615	Launceston	Deloraine, Georgetown, St Helens
Mersey-Lyell	620	Burnie	Devonport, Queenstown, Smithton, Ulverstone, Zeehan
Northern Territory	7	Darwin	Alice Springs, Katherine, Nhulunbuy, Tennant Creek
Australian Capital Territory	8	Canberra	

MRES: Monash regional economic system; ABS SD: Australian Bureau of Statistics statistical division.

^a Metropolitan regions are shaded.

Source: Monash-RR data base; ABS 1995 (*Australian Standard Geographic Classification*, Cat. no. 1216.0).

regional features. Thus, the regional estimates of specific reforms, where particular regional characteristics are important, need to be interpreted with care.

In projecting national results to the regional level, a distinction is made between *national*, *State* and *local* industries. National industries are those producing commodities which are highly tradeable on national and overseas markets (eg most agricultural, mining and manufacturing commodities). Conversely, local industries are those producing commodities which are traded predominantly in regional markets (eg many services and perishable commodities) and whose fortunes are tied largely to general activity levels in the State or sub-State region.

The ‘tops down’ methodology is suited to showing the regional effects of national reforms, but less well suited to tracing the regional effects of reforms that are region-specific. In particular, in its present form, the model is not well suited to showing individual regional effects of NCP reforms of region-specific regulation, such as State legislative reviews of dairying. A more appropriate methodology for such regions would be region-specific, or ‘bottoms-up’, modelling as has been undertaken by some States for some of their legislative reviews. Alternative means of modelling NCP reforms and the paucity of data to undertake such modelling are discussed in the separate supplement.

The major NCP reforms modelled are those relating to:

- gas and electricity;
- rail transport;
- road transport;
- telecommunications;
- water; and
- Commonwealth and State SMAs.

The reforms in these areas have been selected for analysis because they are likely to affect regions in country Australia.

Economy-wide results

The selected NCP reforms modelled are cumulatively estimated to provide a sustained increase in output from the economy, as measured by real gross domestic product (GDP), of 2.5 per cent above what would otherwise occur in the absence of the reforms (see table [Error! Not a valid link.](#)). This is equivalent to almost one year’s average annual growth of the Australian economy. The estimated annual gain in real household consumption is 2.8 per cent. In contrast to the estimates made by the

Industry Commission in 1995 (IC 1995d), more of the gains accrue to households because the estimated increase in government revenue from NCP is assumed to flow back to consumers in the form of lower income taxes. Most of the gains are expected to come from the electricity and gas, telecommunications, road and rail reforms. The contributions of water and SMA reforms are modest by comparison.

Table 10.5 Estimated macroeconomic effects of selected NCP reforms

	<i>Electricity & gas</i>	<i>Rail transport</i>	<i>Road transport</i>	<i>Telecom</i>	<i>Water</i>	<i>SMA</i> s	<i>NCP reforms</i>
	%	%	%	%	%	%	%
Real GDP	1.1	0.2	0.2	0.8	0.0	0.1	2.5
Real consumption	1.0	0.3	0.3	1.0	0.0	0.3	2.8
Export volumes	2.2	0.0	0.3	1.3	0.1	-0.4	3.4
Import volumes	0.7	0.0	0.2	1.0	0.0	0.1	2.0
Terms of trade	-0.2	0.0	0.0	-0.5	0.0	0.0	-0.7
Post-tax real wages	1.4	0.2	0.2	1.0	0.2	0.5	3.4

Source: MONASH-RR projections.

The estimated long-run increment to national output is below the 5.5 per cent increase estimated in 1995, largely because a narrower range of reforms were included in the NCP and also because the new estimates of the effects of the selected reforms are slightly lower in total.

Lower domestic production costs arising from the NCP reforms are estimated to enhance the competitiveness of Australian exporters, leading to the volume of exports volumes being 3.4 per cent above what would otherwise occur in the absence of the reforms. The higher level of national income is estimated to increase the volume of imports by 2.0 per cent. The additional growth of the economy from the NCP reforms is estimated to result in a slight deterioration in the terms of trade.

Special care is required in interpreting the wages result. This is because the result reflects the choice the Commission made in the modelling that the benefits of additional economic growth are reflected in improvements in real wages rather than increases in employment. A consequence of the choice is that the NCP reforms, which lead to higher productivity, induce a relocation of jobs between regions and no net national change from employment levels which would otherwise occur. To the extent that, in practice, the additional economic growth leads to an aggregate long-run increase in employment, the estimated increase in wages is overstated and the overall effect on jobs understated. A sensitivity analysis of this choice is reported in the separate modelling supplement to the draft report. The implications of that analysis for the results are discussed below in the section on employment and incomes.

The economy-wide results obtained using MONASH-RR for the selected NCP reforms are broadly similar to those obtained previously by the Industry Commission (1995d, pp. 51–2). The real GDP gains reported here are slightly higher for telecommunications and road transport, but lower for rail transport, electricity and gas, water and SMAs.

Regional results

The long-run effects of the NCP reforms on regions can be measured by their influence on output, jobs and per worker income levels. The MONASH-RR model provides regional estimates for gross regional product — a measure of output — and employment. From these two, a measure of income levels can be derived — gross regional product per person employed. All three measures are reported in table 10.6, which gives estimates by region of the long-run impacts of the NCP reforms.

Output

The results show that implementation of the NCP reforms is estimated to make output higher than it otherwise would be in all statistical divisions across Australia, except Gippsland (see table 10.6). This is despite output being lower than otherwise in some agricultural industries, particularly the milk-cattle and dairy-processing industries (reflecting the assumed influence of particular SMA reforms). This, of course, is not to deny that the reforms may contribute to declines of gross regional product in smaller specialised geographic regions more reliant on a specific economic activity.

A ranking of regions by the estimated long-run increase in output reveals that there is a much wider variability in gains across country regions than for metropolitan areas. Most metropolitan areas are estimated to gain proportional increases in output close to the overall gain of 2.5 per cent. As shown in figure 10.2, some country divisions are estimated to be among the largest beneficiaries of the NCP reforms. Regions likely to benefit most tend to be in Queensland and Western Australia. On the other hand, regions benefiting least tend to be in Victoria, South Australia and the southern part of New South Wales. The estimated decline in activity in the Gippsland region reflects the cumulative negative effects of electricity and gas, water and SMA reforms which more than outweigh the positive effects of road and telecommunications reforms.

Table 10.6 Estimated regional impacts of NCP reforms

<i>Regions</i>	<i>Gross regional product</i>	<i>Employment</i>	<i>GRP per worker</i>
	%	%	%
New South Wales	2.6	0.1	2.5
Sydney	2.6	0.2	2.4
Hunter	4.0	1.5	2.4
Illawarra	3.7	1.5	2.2
Richmond-Tweed	2.2	-0.5	2.7
Mid-North Coast	1.9	-1.3	3.2
Northern	1.8	-1.1	2.9
North Western	2.2	-0.5	2.7
Central West	2.2	-1.0	3.3
South Eastern	1.8	-1.8	3.6
Murrumbidgee	1.7	-1.5	3.2
Murray	1.7	-1.4	3.1
Far West	3.3	0.8	2.5
Victoria	1.9	-0.5	2.4
Melbourne	2.4	0.2	2.2
Barwon	2.2	0.2	2.0
Western District	0.0	-2.9	3.0
Central Highlands	2.3	-0.3	2.6
Wimmera	2.2	-0.6	2.8
Mallee	1.7	-1.2	2.9
Loddon	1.2	-1.3	2.5
Goulburn	0.2	-2.7	2.8
Ovens-Murray	1.7	-0.8	2.5
East Gippsland	2.0	-1.4	3.4
Gippsland	-1.1	-8.5	7.4
Queensland	2.9	0.2	2.6
Brisbane	2.5	0.1	2.4
Moreton	2.7	0.8	1.9
Wide Bay-Burnett	1.6	-1.7	3.3
Darling Downs	1.3	-1.3	2.5
South West	2.2	-1.1	3.3
Fitzroy	5.5	1.5	3.9
Central West	2.4	-1.2	3.6
Mackay	5.8	2.2	3.5
Northern	3.2	0.3	2.9
Far North	2.5	0.5	2.0
North West	4.1	2.5	1.6
South Australia	2.3	-0.2	2.5
Adelaide	2.5	0.3	2.2
Outer Adelaide	1.6	-1.1	2.7
Yorke & Lower North	1.5	-1.8	3.2
Murray Lands	1.1	-2.3	3.4
South East	1.4	-1.3	2.7
Eyre	1.7	-1.3	3.1
Northern	3.4	-0.7	4.1

(continued on next page)

Table 10.6 **Estimated regional impacts of NCP reforms**
(continued)

<i>Regions</i>	<i>Gross regional product</i>	<i>Employment</i>	<i>GRP per worker</i>
	%	%	%
Western Australia	3.3	0.8	2.5
Perth	3.1	0.8	2.5
Peel	4.0	1.6	2.3
South West	3.9	0.0	3.8
Great Southern	2.2	-0.7	2.9
Wheatbelt	2.0	-2.5	4.5
Goldfields-Esperance	5.5	4.0	1.5
Mid West	3.8	1.4	2.3
Gascoyne	3.3	0.2	3.1
Pilbara	3.5	0.3	3.2
Kimberley	3.1	0.8	2.3
Tasmania	2.2	-0.7	2.9
Greater Hobart	2.3	-1.1	3.4
Southern	1.5	-2.5	4.0
Northern	2.7	0.4	2.3
Mersey-Lyell	1.5	-1.0	2.5
Aus. Capital Territory	1.8	-0.7	2.5
Northern Territory	3.3	0.6	2.8

Source: MONASH-RR estimates.

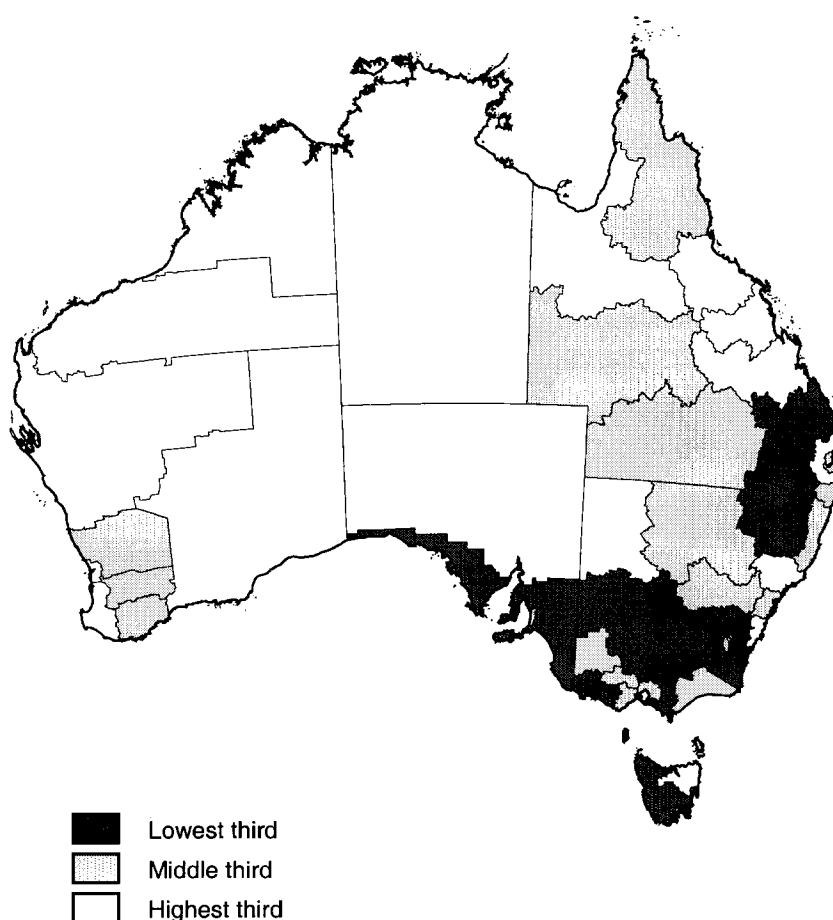
Some one-third of the regions are estimated to gain from each individual reform. For the remainder, the negative effect of one or more of the reforms is estimated to be more than offset by the positive effects of other reforms, except in the case of Gippsland. These results illustrate the distribution of benefits and costs across regions from individual reforms and indicate that any negative influences on a region from some reforms are likely to be offset by the positive effects of other reforms.

Employment and incomes

The increase in national output from implementation of the NCP reforms is associated with higher productivity of labour. The specified no change in aggregate employment means that achieving higher labour productivity involves some relocation of jobs between industries and regions. Because the direct effect of any reform on jobs is usually highly visible, it is easy to overlook or underestimate the indirect and flow-on employment effects from the cost reductions to other industries made possible by the reforms.

The relocation of jobs and increases in incomes per person employed estimated to result from full implementation of, and adjustment to, the NCP reforms are given in

Figure 10.2 Estimated regional output effects of selected NCP reforms



Source: Monash-RR estimates.

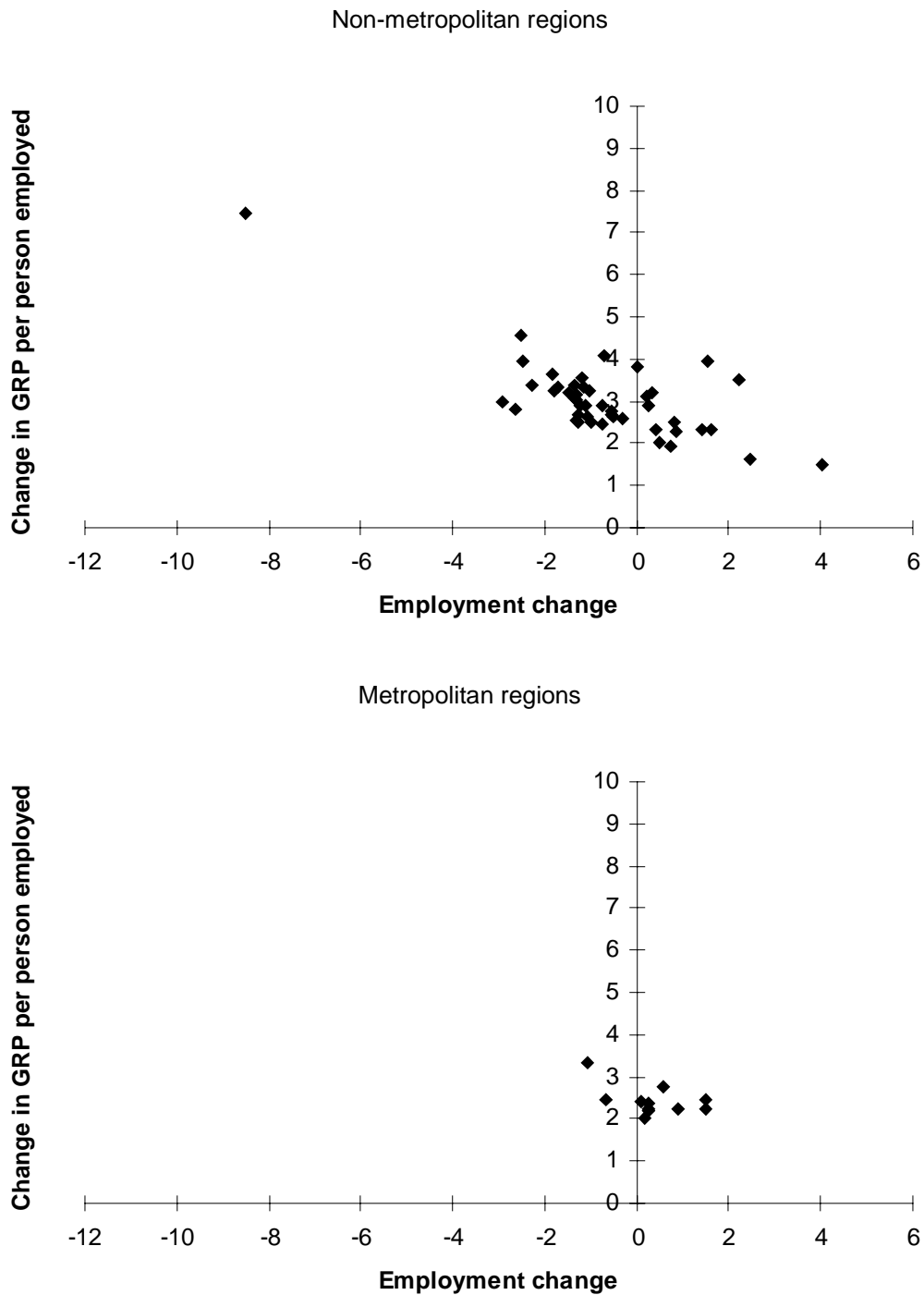
the last two columns of table 10.6. A comparison of increases in gross regional product per person employed with changes in employment is given in figure 10.3. Metropolitan areas — capital cities and regions which include Newcastle, Wollongong and Geelong — are shown separately from the country regions.

As indicated in the figure, there is a much wider variability of increases in average income per person employed in country regions than in metropolitan regions. Most metropolitan regions are estimated to achieve smaller increases in average incomes per person employed than the majority of country regions.

Also indicated in figure 10.3 is the much wider variability in employment effects across country regions than for metropolitan regions. Most metropolitan regions are estimated to make small gains in employment, whereas many country regions are estimated to make small losses. In regions where infrastructure reforms were

implemented earlier in the 1990s, much of the estimated decline in employment will have occurred already.

Figure 10.2 **Estimated long-run effects of NCP on regional employment and gross regional product per person employed**
(per cent)



Source: Monash-RR estimates.

Figure 10.3 illustrates a general tendency for the regions estimated to have the largest job losses from the direct effects of labour-saving NCP reforms to have the highest increases in income per person employed. For example, because of reform of electricity generation, Gippsland in Victoria is estimated to have the largest net loss of jobs, but the highest increase in income per person employed. Conversely, the Goldfields–Esperance region of Western Australia is estimated to have the largest net gain in jobs (because of the benefits from electricity reform for minerals processing), but the smallest increase in gross regional product per person employed.

This does not necessarily mean that those remaining in employment in areas estimated to experience job losses will have incomes which are high relative to the national average. It merely means that the estimated *increase* in income per person employed can be above average if the regional output gain is distributed among those engaged in production in the region.

The estimated relocation of jobs in large part reflects estimated increases in regional output. However, there is no such obvious association between the estimated increases in gross regional product per person employed and estimated increases in regional output.

As noted above, a relocation of jobs follows from the assumption that the NCP reforms are not directly associated with any overall increase in employment which would otherwise occur as a result of the growth and development of the economy more generally. If the NCP reforms were to reduce the future unemployment rate by 1.5 percentage points, then this would be equivalent to employment being 1.65 percentage points higher than otherwise. In terms of figure 10.3, the outcome would be like moving the vertical (y) axis to the left so that all but 10 (ie 47) regions would be estimated to gain in employment terms. This compares with the 24 regions shown to gain jobs in the figure.

In summary, the estimates of long-run effects from the model indicate there are considerable gains to the Australian community from implementing the NCP reforms. Within this national gain, there is a quite varied set of results, consistent with the evidence reported earlier on the effects of NCP to date. Individual reforms are estimated to produce different effects and those effects are estimated to differ across regions. Overall, a wider dispersion of results is likely among country regions than metropolitan regions in terms of output, employment and average income per person employed. Metropolitan regions are estimated to experience increases in output close to the national average, slightly above average employment outcomes and slightly below average increases in incomes per person employed.

FINDING 10.2

There would appear to be significant gains for the Australian community, and for country Australia as a whole, from implementing NCP reforms. The reforms are likely to have a more varied effect in country regions than in metropolitan areas, with implementation costs of some reforms being more evident in the former.

10.4 Long-run NCP impacts in the context of broad economic forces

To help understand the significance of the long-run regional changes likely to flow from the additional economic output made possible by the NCP reforms, it is useful to consider how they compare with ongoing changes that are affecting rural and regional Australia stemming from broader economic and social forces over which governments often have little influence. In this way, an objective view can be formed of the relative contribution of NCP reforms to observed regional changes and as to whether or not they are adding to or offsetting those forces. The broader economic and social changes which have occurred in country Australia are discussed in part A of this report.

Broad economic forces considered by the Commission to have contributed to the changes that have been observed in the economy and influential to changes in country Australia include:

- changes in general economic conditions, such as growth in population, increases in the labour force, general productivity growth and changes in border assistance;
- declining terms of trade for agricultural and mining commodities;
- increases in net investment in mining activities;
- improvements in productivity in broadacre agricultural, dairy and mining activities;
- increases in inbound international visitor (including tourist) spending; and
- changes in the level and composition of government spending.

To provide an indication of how important these selected broad economic forces have been in comparison with the estimated maximum potential effects of the selected NCP reforms, the Commission used the same model, MONASH-RR, and estimated the economy-wide and regional effects of measured changes in those

forces over the decade to the mid-1990s. The detailed results are given in the modelling supplement to this report.

The net effect of the selected broad economic forces was estimated to account for around 2.2 percentage points of the total of 3 per cent national average annual output growth from the mid-1980s to the mid-1990s. As would be expected, the estimated combined effects of increases in national population and employment levels, general improvements in productivity levels and reductions in border assistance increased output and employment in all 57 regions across Australia. However, the estimated regional output and employment effects of the other factors varied substantially.

ABS data show that there are 12 regions which had jobs losses over the decade to the mid-1990s. These are mainly rural and remote regions, for which declining real export prices of agricultural commodities and associated productivity improvements in rural production were estimated to more than offset jobs growth from the other broad economic forces.

As noted above, some NCP reforms have already been implemented and are contributing to some of the observed changes in employment — for example, electricity reforms in the LaTrobe Valley area of Victoria. Nevertheless, the results of the modelling indicate that many of the observed job losses in regions can be traced to the broad economic forces identified above, such as the deteriorating terms of trade for agriculture.

Comparison of the estimated effects of NCP on employment with changes which occurred over the decade to the mid-1990s provides an indication of the ease or otherwise of adjustment. The focus is on employment because regionally disaggregated output data are not available. In table 10.7, the estimated employment effects of NCP on regions relative to the actual changes which occurred in those regions are summarised.

With the assumed unchanged effect of NCP on aggregate employment, the relocation of jobs associated with the NCP reforms is estimated to increase jobs in

Table 10.7 Estimated relocation of jobs from NCP relative to employment changes over the decade to the mid-1990s

<i>Decade to the mid-1990s</i>	<i>No. of regions</i>	<i>Estimated NCP effect</i>	
		Gain	Loss
Lost employment	12	3	9
Gained employment	45	21	24
Total number of regions	57	24	33

Sources: MONASH-RR estimates; ABS (*Census of Population and Housing*, Cat. no. 1502).

24 regions and reduce employment in 33 regions. Of the 24 regions with estimated increases in jobs, three are regions which lost jobs over the last decade. However, table 10.7 does not show the magnitude of the gains and losses in employment relative to the actual employment changes over the decade to the mid-1990s.

In the majority of regions, the estimated effect of NCP is either to increase employment or to reduce it by an amount which would be absorbed by less than one year of recent employment growth. In five of the 57 regions, five or more years of recent (relatively slow) growth would be needed to offset job losses from NCP. There are nine regions which lost jobs over the decade to the mid-1990s and which are estimated to experience further declines in employment as a result of job relocation associated with NCP reforms.

The nine regions in which the NCP relocation of jobs is estimated to add to past job losses and the five regions in which the estimated job losses are equal to or greater than five years of past jobs growth are shown in figure 10.4. Collectively they account for about 25 per cent of Australia's land area, but only 6 per cent of national employment.

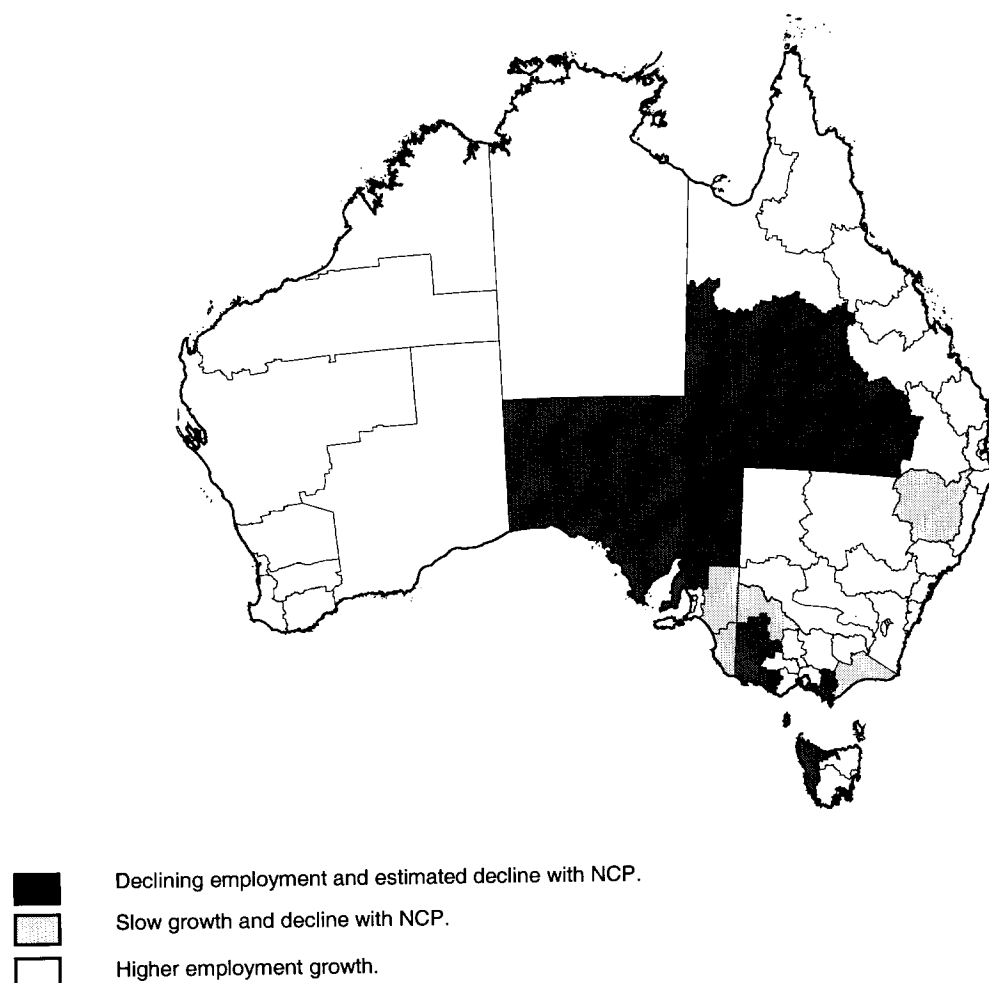
FINDING 10.3

The effects on most, but not all, regions of the NCP reforms are likely to be less significant than those resulting from the broad economic forces which are continually reshaping economic and social conditions in Australia.

Relocation of jobs has costs both for the individuals involved and their communities. Although the degree of relocation with implementation of NCP is in most cases well within normal experience, some may argue that some NCP-related relocations are an additional impost that is better avoided. The current analysis indicates some of the economic costs of not proceeding with reform. The first cost would be the forgone permanent increase in national output, estimated to be equivalent to about one year's growth.

The second cost would be incurred by the regions. The analysis of the increases in gross regional product per worker shows that the greatest income benefits tend to accrue in regions which face the largest adjustment in terms of job losses. Avoiding reform in such regions would lower regional output and incomes relative to other regions. For example, in an independent study of NCP-related reforms, Madden (1995) examined the implications of individual regions opting out of the reform process. This analysis showed that if Victoria did not participate in utility reform, its increase in gross state product from this type of reform would be reduced by about one-third and its real consumption gain would be nearly halved.

Figure 10.4 **Estimated employment effects from NCP reforms and over the decade to the mid-1990s**



Source: Monash-RR estimates.

In addition, if other regions undertake reform, incomes in the non-reform regions would again be reduced relative to other regions. These losses would be added to any regional output and income disparities which exist for other reasons, such as changing terms of trade and slower than average productivity growth.

The third cost would arise from not achieving improved business performance more generally as a result of extending the scope of competition in the economy.

Overall, a strategy of non-implementation of NCP reforms on a selective basis is likely to raise regional income disparities. It would also deny the community the benefits of the reforms.

Estimated effects of NCP derived from modelling are no more than broadly indicative. Nonetheless, together with other available evidence, including costs

associated with implementing some reforms, they support the Commission's assessment that there will be net benefits for Australia as a whole from NCP. Country Australia as a whole is likely to benefit from NCP, although there is likely to be more variation in the incidence of benefits and costs among regions. The Commission notes that, to date, the reforms implemented have provided greater benefits to metropolitan areas.