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Economic policy for rural and regional Australia*

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The efficiency and equity effects of economic policies affecting the quarter of Australians who live in rural and regional Australia (RARA) are reviewed. For the most part it is argued that economy-wide policies, rather than region or industry specific policies, are appropriate. Progressive income taxation, means-tested social security payments and government funded education, health and other services directly and efficiently redistribute to support equity. Subsidies for particular industries in RARA, such as dairy, and input subsidies targeted at RARA, such as community service obligations, misallocate resources and are ineffective in meeting equity goals. Better property rights and procedures for allocating most natural resources, especially water, are necessary.

1. Introduction

Over the past decade there have been renewed requests for government assistance for claimed special needs of rural and regional Australia (RARA). Requests arise from concerns with, for example, falling relative incomes, higher unemployment, loss of access to some private and public services, and special difficulties in adjusting to structural changes, including changes in government policies, as well as the long standing concerns about droughts, floods and falling commodity prices.¹ The present paper challenges

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¹ These concerns reached their height of political populism with the One Nation Party in the mid-1990s, but they also have found their way into the rise of Independents and into the rhetoric and policies of the main political parties in subsequent State and Federal elections. Submissions by participants to the 1999 Productivity Commission Inquiry into the Impact of Competition Policy Reforms on Rural and Regional Australia contain examples of broad-based concerns with RARA. These include submissions by State governments,

arguments for special economic policies towards regions, industries and households in RARA if Australia is to meet national efficiency and equity goals.

The structure of the present paper and its main conclusions are as follows. Section 2 provides a background description of economic outcomes and government policies affecting RARA relative to cities and Australia as a whole. Claims that RARA has been disadvantaged by policies and that it has had lower outcomes on average than the cities are not supported – there are disadvantaged Australians in both the county and the cities. Section 3 evaluates efficiency arguments for special assistance to businesses and households in RARA. Special assistance to RARA is not warranted, and it is expected that there will be continuing pressures to ensure that current special industry assistance is phased out and for reductions in community service obligations. There is a need to address market failures and to provide improved property rights for water and other natural resources. Section 4 reviews government taxation, social security and other expenditure policies of redistribution to achieve social equity goals, including for people in RARA. Available economy-wide policies focusing on the needs of individuals and households are more direct and efficient redistributive instruments for alleviating both short-term temporary and longer-term low incomes than are subsidies and grants to specific regions or industries. Given the breadth of the issues considered, by necessity the present paper is selective in its coverage of a vast published literature and the details of some arguments are not fully documented.

2. Background

Although there is no precise or consistent definition of RARA, and any definition would vary with the specific analysis, the general idea is fairly clear (Productivity Commission 1999; Bray 2000), and precision is not required for the present paper. Most regard RARA as outside the main capital cities and other large coastal cities such as Newcastle, Wollongong, Geelong and the Gold Coast. Always included would be inland country towns and non-urban residents, and areas where natural resource industries including agriculture, mining, forestry, fishing and tourism are important. Contentious areas for inclusion in RARA are large country cities, such as Ballarat and Toowoomba, and coastal resort towns, such as Bateman's Bay and Lorne.

(*continued*) – politicians of all parties, Local government and development authorities, and rural and regional lobby groups. The Kelty report (Kelty 1993) includes many examples of requests for special assistance to RARA.

Table 1 Some characteristics of rural and regional Australia relative to Australia, 1996 census

	Rural Australia				Australia
	Towns of 10 000–40 000	Towns of 2000–10 000	Towns of < 2000	Non- urban	
Population:					
1996 (million)	1.589	1.317	0.318	1.489	17.750
1996 (% of total)	9.0	7.4	1.8	8.4	100.0
Growth 1986–1996 (%)	18.2	12.7	0.0	18.8	13.9
Labour force:					
Employment/pop. ratio					
Males (%)	70.4	72.2	73.6	73.3	73.4
Females (%)	57.1	56.4	55.2	58.0	60.7
Self-employed (%)	10.3	14.3	20.0	19.7	9.4
Unemployment (%)	11.6	9.9	8.4	8.9	9.2
Education					
Left school ≤ 15 (%)	44.7	46.5	47.0	45.4	38.2
Degree or higher (%)	7.3	6.7	6.1	7.3	11.7
Industry composition					
Primary (%)	7.9	17.2	35.0	24.6	6.6
Secondary (%)	10.8	10.8	6.5	10.3	13.1
Tertiary (%)	81.3	72.0	58.5	65.1	80.3
Income:					
Average household income (\$/week)	692.6	680.3	674.7	692.7	815.1
Distribution of household income (Gini coefficient)	0.393	0.393	0.400	0.388	0.402
Proportion of adults benefiting from social security transfers (%)	34.9	33.1	31.3	30.9	29.5

Source: from Bray (2000).

2.1 Outcomes

Data from the 1996 Population Census (and soon from the 2001 census) provide a comprehensive quantitative background for comparing different parts of Australia. The Productivity Commission (1999) and Bray (2000) have reported excellent assessments of RARA using the 1996 data.² Table 1

² Another useful source of information, including for earlier periods, is provided by the regional economics published literature. Examples include Butler and Mandeville (1981), Stilwell (1980, 1993), Bureau of Industry Economics (1994) and Wanna and Withers (2000). Analysts in geography, sociology, political science and other disciplines have also widely researched RARA, including the efficiency and equity topics of the present paper. For reasons of time and space this literature has not been reviewed this time, even though such an exercise is expected to be valuable.

draws on a much more detailed analysis by Bray. In table 1, data is used to provide a background comparison of population, industry, labour force and income for Australia as a whole and for four components of RARA, namely towns with between 10 000 and 40 000 people, towns of between 2000 and 10 000 people, towns of less than 2000 people, and non-urban.

In 1996 there were 4.7 million persons, or 26.6 per cent of the population, living in non-urban residences or in country towns of up to 40 000 people. Over the 10 years to 1996 population growth in RARA exceeded the national average, with the exception of towns of less than 2000 persons where there was no aggregate population change. Clearly the averages hide considerable diversity of population growth with some areas growing fast and others losing population.³ For example, as noted by Productivity Commission (1999), large country towns, so called 'sponge cities', have boomed at the expense of small towns in a 100–200 km periphery, especially in extensive cropping and grazing areas, and there has been a shift from the inland to the coast. Some areas of extensive grazing and cropping have sharply reduced labour inputs and increased farm sizes, while other areas have increased labour inputs, especially in horticulture and tourism, and mines have opened and closed. While the aggregate story of population growth in RARA has been positive, there are some places experiencing population decline and bleak prospects, and other areas are growing, some quite rapidly.⁴

Labour market status and outcomes have a number of similarities and contrasts between RARA and city Australia. The employment to 15–64 age population ratio for males is about the same, and it is lower in RARA for females, especially in small country towns where the ratio is about five percentage points lower. On average, and contrary to much populist political rhetoric, unemployment rates are comparable across RARA and city Australia. However, the averages in table 1 hide pockets of double digit unemployment rates in particular suburbs of capital cities and in particular areas in RARA. The workforce in RARA has much lower levels of formal education, and more so for those in small country towns. Self-employment at approximately 20 per cent of the workforce in small country towns and in non-urban Australia is more than double the national average. After making

³ Active debate continues among regional economists about what factors cause some regions to expand, some to contract and others to remain static. See, for example, Armstrong and Taylor (2000) and Bureau of Industry Economics (1994). Factors considered include natural endowments, markets, dynamic forces of virtuous and vicious cycles, chance events, and leadership.

⁴ Chapman and Greenville (2002) provide a detailed study, illustrating regions including Griffith and Emerald as examples of expanding regions, and Narrabri, Wee Waa, Kerang, Wilcannia, Bourke, Charleville and Mt Isa as examples of declining regions.

allowance for differences in education, work experience and other factors affecting wage rates there is a consistent finding that wage rates are lower in non-metropolitan Australia (e.g., Preston 1997).

Agriculture, mining and other natural resource intensive industries are more important sources of employment in RARA than in the cities; however, the tertiary or services sector is the dominant employer, including in non-urban Australia. Of course, many of those in the tertiary and manufacturing sectors in RARA are either directly servicing the natural resource industries or providing consumption goods and services to families working in the primary sector. The dominance of tertiary sector employment in RARA means that government policies focusing on the agriculture and mining industries, or on farmers and miners, will miss the majority of people in RARA. Also, as Lim *et al.* (2002) note, about 30 per cent of farm families have a member in non-farm employment and off-farm income is even more important as a source of family income for these households.

Household incomes on average are 15 per cent lower in RARA than the Australian average. The gap is larger for those in small country towns than for those in larger towns and in non-urban areas. Similar patterns are found in the USA (e.g., Knutson *et al.* 1995, chapter 16). In part, the lower incomes in RARA reflect the lower human capital levels and lower wage rates, a lower female workforce participation rate, and a higher dependence on government social security payments.

Year to year variability of the incomes for those directly and indirectly dependent on agriculture, and to a lesser extent some mines, is greater than for most other Australians (Harris *et al.* 1974).

An overall assessment of the comparative well-being of households in RARA with those in city Australia involves mixed evidence. Average measures of income are lower and income variability is greater, prices of housing are much lower (Chapman and Greenville 2002), but other prices are higher, unemployment is comparable, and measures of educational attainment and health are lower for RARA. But, when asked to self-assess satisfaction with their lifestyle, after correcting for income, health, education and other socio-economic factors, country people self-assess themselves as significantly more satisfied than city people with their lives reflecting positive advantages in RARA of personal security, environmental quality, pace of life, sense of community belonging, and other non-monetary attributes of country living (Shields and Wooden 2003).

Importantly, the average income figures in table 1 hide very considerable variations of income of families within RARA and within particular regions, towns and city suburbs. One indication of income variability is given by the Gini coefficient in table 1 (with a value of zero for complete equality and of unity for perfect inequality). Vinson and Baldry (1999) find pockets of

Table 2 Productivity commission estimates of some components of special assistance to industry by broad category, 2001–2002

	Assistance in \$ (million)			Selected industry assistance as share of sector GDP in percentage
	Tariffs and price regulation	Commonwealth budget	State budget	
Primary	211	663	971	6.8
Mining	–176	212	136	0.5
Manufacturing	4431	1863	93	8.5
Services	–2299	893	1438	0.0
Total		3944 [†]	3291 [‡]	

[†]Includes \$314 million not allocated; [‡]Includes \$673 million not allocated, but most is considered to be for manufacturing. Source: assistance via tariffs and regulations, Commonwealth budget and selected State and Territories budgets from Productivity Commission (2002), Tables 2.1, 3.1, 3.2, 3.3 and B.3. Last column computed as sum of preceding three columns as share of sector gross domestic product (GDP).

low incomes, high unemployment and other measures of social disadvantage in both the major cities and RARA. Also important, as noted by Dixon and Shepherd (2001) and others, there is a high level of persistence of lower incomes and high unemployment in some regions as a result of protracted periods of structural adjustment and impediments to interregional migration. In considering redistributive policies to meet equity goals of society, poverty and disadvantage are problems for both rural and city Australia. Also, because of the diversity within regions and industries, individual or household circumstances represent a more direct indicator of need for government support than does an industry or region average.

2.2 Industry assistance

Commonwealth and State governments still provide high levels of assistance to particular industries via tariffs, price regulations, direct budgetary assistance, and tax concessions (or tax expenditures). Extensive microeconomic reform over the past 20 years has significantly reduced the importance of selective industry assistance especially via tariff reductions and phasing out of agricultural marketing schemes (e.g., Forsyth 2000). However, there remain important exceptions for the textile, clothing and footwear (TCF), car and car parts, dairy and sugar industries.

Estimates of selected industry assistance for the broad industry sectors primary, mining, manufacturing and services for 2001–2002 compiled by the Productivity Commission (2002) are shown in table 2. Tariffs provide significant net assistance to the TCF (at 27 per cent) and car and car parts industries (at 10 per cent), but very little to other manufacturing industries,

and tariffs impose net costs on the primary, mining and services sectors. The dairy industry and (from 2003) the sugar industry receive significant assistance by effective taxes on domestic consumption of 11 cents a litre on fluid milk and of 3 cents a kilogram on sugar (Productivity Commission 2002; Edwards 2003). However, current assistance to these rural industries has a finite life and it is packaged with structural adjustment programs, and the assistance to dairy farms is via lump sum grants, whereas assistance to the TCF and automobile industries is continuing and causes distortions to both production and consumption decisions. There are some regulations to services not shown in table 2 that provide selective industry assistance to the tertiary industries, for example quotas on domestic TV programs, non-recognition of many overseas professional qualifications, and quotas on taxi licenses.

The Productivity Commission (2002) estimate of selected Commonwealth budget assistance to broad industry categories, shown in table 2, of \$3.9 billion in 2001–2002 includes direct payments for industry-specific programs and tax expenditures. Assistance to primary industry includes budget payments for R and D, for adjustment assistance, including for dairy farmers, and for relief for exceptional circumstances, including for drought, and tax expenditures include income tax averaging and accelerated depreciation for horticulture. In manufacturing, motor vehicles are the largest recipient of direct budgetary assistance, with other important recipients being the petroleum, coal, chemicals and pharmaceutical industries. The development allowance, as a tax expenditure, is the most important source of special assistance to mining.

State and Territory governments also provide budgetary assistance to particular industries. A partial list compiled by the Productivity Commission (2002) totaling \$3.3 billion for 2001–2002 is shown in table 2. For the estimates shown, the agricultural sector receives a larger per dollar of sector output subsidy than does the other broad industry classes.

Overall, the Productivity Commission data on specific industry assistance points to a favourable bias to industries located in RARA. The assistance rate to primary industry is not much below that for manufacturing, and the high rate of assistance to the TCF goes partly to factories in RARA.

2.3 Tax and spending programs

Taxation and expenditure programs of the Commonwealth, States and Local governments have significant effects on incentives facing individuals and businesses, and they redistribute private spending capacity. Most of these programs do not distinguish between geographical areas of the country, but a significant number explicitly, or in effect, favour RARA.

Commonwealth income tax and social security systems have the largest direct effects on individuals and households. With a few minor exceptions, such as the remote area allowance, these universal systems focus on individual or family circumstances and not on regions. Arguably, concessions for capital gains taxes, generally and especially for owner occupied homes, and income tax concessions for superannuation, which come to several billion dollars each year, favour city residents. However, the combination of a progressive personal income tax system and a system of means tested social security pensions and benefits results in disposable incomes with less variation than pretax or market incomes (e.g., ABS 2001; Harding *et al.* 2002). An indirect outcome is that the income tax and social security systems redistribute income from people in the cities where pretax incomes on average are higher to people in RARA where, on average, incomes are lower and there is a higher proportion of social security recipients (as shown in table 1).

Commonwealth excise on petroleum products provides exemptions for fuel used off-road and for diesel used in long distance transport. As argued by the Fuel Tax Inquiry (Trebeck *et al.* 2002), the objectives and logic of current taxation of fuel is neither transparent nor based on logical tax principles. Even so, in effect, current fuel tax concessions favour industry in RARA.

Other Commonwealth and State indirect taxes, including the GST, other excise taxes and stamp duties, do not explicitly distinguish between expenditures by geographical area. The payroll tax exemption for small businesses and the land taxation exemptions for primary production and small value land parcels favours location of some businesses in rural Australia.

Governments fund, and in many cases supply, some goods and services to businesses and households. Outlays on pure public goods, such as defence and law and order, provide identical services to all Australians, but individually we place different values on these public goods. The location incentive effects and the redistributive effects of government-funded private goods, including education and health, and local public goods, such as local policing and roads, are more complex, particularly because of the important effects of considerations grouped under the heading of horizontal fiscal equalization (HFE).

The general idea of HFE is that the Commonwealth in redistributing some of its tax revenue to the States (and Territories), and the Commonwealth and States in redistributing some of their revenues to Local governments, follow formulae based not on relative population or relative revenue collected, but on formulae seeking to provide each lower-level jurisdiction with funds to provide a comparable capacity to deliver government services given estimates of differences in costs of providing services and differences in own revenue-raising opportunities (Morris 2002). An independent body, the Commonwealth Grants Commission, is charged with making

recommendations for the distribution of Commonwealth General Purpose Grants (mostly GST revenue) of about \$32 billion a year to the States, and the States have similar bodies to assist in distributing Commonwealth and State funds to Local governments.

In applying HFE, the grants commissions consider a number of criteria in assessing relative capacity. Important criteria include population, population density and distances; other criteria include age distribution, incomes and natural resource base (e.g., Garnaut and Fitzgerald 2002). Population sparseness and greater distances through HFE result in the Commonwealth redistributing revenue collected from residents of the higher population density States of NSW and Victoria to the other States. The Productivity Commission (1999) quotes markedly higher per capita grants by the States to Local governments in country shires, and then regional cities, compared with city municipalities. Overall, HFE redistributes revenue collected in the large cities to RARA with the aim of State, Territory and Local governments providing comparable levels of education, health and other services to all Australians, regardless of location.

2.4 Community service obligations

Commonwealth and State governments in the pursuit of equity objectives have directed some government business enterprises, and now privatised utilities, to meet a number of community service obligations (CSO). These CSO include standard rates for letters, telephone calls, electricity and gas regardless of different costs of supply. The Industry Commission (1997) estimated CSO had an annual revenue cost of around \$3 billion a year. While some of the CSO are explicitly targeted at the capital cities, and especially the large subsidies for public transport, and others have benefits for those in the cities as well as RARA, most of the CSO provide households and businesses in RARA with utility services at prices below cost (Thomson and Walsh 1981; Kolsen 1983; Lloyd 1986; Industry Commission 1997).⁵

⁵ These comparisons have been based on measures of average costs. Taking marginal costs as the appropriate efficiency price (King and Maddock 1996), as observed to me by Bob Lindner, different conclusions might be drawn. Because of the importance of large, lumpy investments and scale economies, most infrastructure has a high ratio of fixed to variable costs. With excess capacity associated with smaller numbers of users in the country, the relevant marginal cost for already-in-place infrastructure is the relatively low operating cost. By contrast, in cities where demand is more likely to be at capacity there will be congestion costs which have to be included as a part of relevant marginal costs. Whereas, when decisions to invest in infrastructure are involved, either to incorporate new technology or for replacement, the relevant marginal cost includes the capital cost, and sparse populations mean these capital costs are spread over less output.

2.5 Conclusions

This background provides mixed evidence that RARA is disadvantaged relative to city Australia. Most tangibly, income levels are lower, but country people self-assess their life satisfaction higher. Importantly, there are many high income people in RARA and there are many areas and people in the cities who have low incomes. Some areas of RARA are experiencing population growth and new opportunities, and male employment and overall unemployment rates are comparable in RARA and the cities. Government policies on taxation, expenditure, industry assistance and community service obligations on balance have a slight bias in favour of RARA.

Tertiary industries, and in the larger country towns also secondary industries, are more important sources of employment than the natural resource intensive primary and mining industries in RARA. Economic policy for people and businesses in RARA has to be very much more than agricultural and mining industry policy.

In fact, economy-wide government policies on taxation and social security, and government expenditure on goods and services have a larger effect on the incentives and outcomes for RARA than industry or regional policies. These economy-wide programs focus primarily on individual and family circumstances rather than on regional average conditions and outcomes.

3. Efficiency issues

Choices about the allocation of labour and capital to different industries and locations, and choices about the growth and decline of population and economic activity in different geographical parts of Australia, including RARA, are really just a part of the general economic problem of allocating scarce resources among competing and generally unlimited ends. Further, changes in tastes, technology and world markets mean that these location choices also need to evolve over time for efficiency.

3.1 Efficiency criteria and instruments

Economic efficiency requires application of the simple principle of equating marginal social benefits and marginal social costs in choosing products, production methods and location. For example, scarce capital and labour would be allocated between industries and between locations, whether it be wheat production, tourism, education and health, or between capital cities, country towns or non-urban Australia, to the point where marginal social benefits in one activity or location equals the marginal social benefit, or opportunity cost, in other activities or locations. This simple principle

underlies such reports as the 1974 Green Paper on agricultural policy (Harris *et al.* 1974); Lloyd (1986), the Hilmer Report (Independent Committee of Inquiry into Competition Policy in Australia 1993), advice by the Industries Assistance Commission, Industry Commission and Productivity Commission, and conventional economic analyses.

For many of the decisions affecting the location of people, resources and economic activity in RARA, market forces of price coordination will achieve an efficient allocation, both in a static sense and most importantly in making dynamic responses to changes in tastes, technology, policies, and so forth. Favourable outcomes with competitive markets require good property rights, minimal relevant external benefits and costs, the absence of sustained market power, and good, or at least symmetrical, information. Under these conditions, private benefits and costs approximate social benefits and costs.

Clearly, reality includes important areas of the economy where there are demonstrable market failures. In such situations government intervention has the potential to improve allocative efficiency. However, market failure is a necessary, but not a sufficient, condition for intervention. In practice, policy intervention involves some government failure associated with the limited information available to politicians and bureaucrats, and with the dominance of private interest lobbying for special interest outcomes over national benefits. Choosing a balance between market failure and government failure becomes a case-by-case assessment.

3.2 Market outcomes

Several observations about the operation of, and outcomes from, markets allocating resources, people and economic activity in RARA are worthy of emphasis. First, the firm profit and household utility maximisation motives lead private decisions to equate marginal private benefits and costs. In the absence of market failures, private benefits and costs equate with social benefits and costs yielding an efficient outcome, including geographical location. The market system is an effective and efficient processor of new, and often difficult-to-anticipate, information about changes in technology, tastes and prices which continuously drive change and reallocations of scarce resources required for efficiency.

Second, successful and enduring private decisions in competitive markets recognise the realities of the choice options and constraints facing individuals as well as society. For example, the vagaries of climate and market prices facing agriculture, mining and tourism are taken into account for longer-term investment decisions and in choosing strategies to accommodate short-term difficulties.

Some lobbyists and in particular the Kelty Report (Kelty 1993) point to special difficulties faced by RARA, and then proceed to argue that such problems justify special assistance and subsidies to RARA. Alleged difficulties include remoteness, higher transport and communications costs, and dependence on climate variability and its unpredictability. Of course, city Australians could, and some do, point to difficulties with their location, including congestion, and uncertain and fickle product demand. National economic efficiency, and private market decisions, need to accept as givens the different difficulties and opportunities of different locations when measuring benefits and costs. Private market decision makers require and seek extra compensation to offset the extra costs of difficult industries, occupations and locations. Then, in terms of locating in RARA, and in other areas, with higher private and social costs, businesses and households in an efficient market outcome would receive higher returns to provide an offset for the higher costs associated with remoteness, limited access to cultural life, and other disadvantages. High mining industry salaries illustrate this point. However, for those who value the intangible benefits of country living, as revealed in the survey results of Shields and Wooden (2003), lower monetary incomes would be accepted as a part of an overall package.

Changing technology as it affects costs of transport and communications, and scale economies in production in all types of industries, clearly are driving much structural change in RARA in particular and the economy in general. These and other structural changes are certain to adversely affect many small country towns, and, of course, rural people often drive past their 'local' village or town to a larger country town or city for supermarkets, health care and recreation. Government has little special information, entrepreneurship or skills to assess which towns will grow and which will decline. Market forces are better suited to collecting, evaluating and using the information required in making decisions to pick the future 'sponge cities', tourist centres, new or expanded mines, niche manufacturers, and areas of more labour-intensive agriculture.

Third, with a market system to allocate scarce resources, the return on quasi-fixed natural resources, not just agricultural land, forests, fisheries and ore bodies, but also land in the cities, essentially is a residual return or rent. By contrast, the more mobile labour and capital inputs receive returns to reflect marginal opportunity costs of employment in different activities and geographical parts of the economy. From an efficiency perspective, so long as the rental return exceeds zero a market system will continue to operate with natural resources in RARA.

Fourth, with no significant market failures there is no case on efficiency grounds for subsidies to natural resource intensive industries or to RARA.

The undesirable efficiency effects of tariffs and other trade restrictions, statutory marketing boards practicing price discrimination, assistance to businesses for exceptional circumstances such as drought, cross subsidies in the provision of utility services, such as telephones and water, and special assistance to regions with specific disadvantages (as proposed in the Kelty Report (Kelty 1993)) result in too many resources, activities and people locating in the subsidised industry and region. In terms of distributional equity, most of the subsidies augment the residual return on the quasi-fixed natural resources and become capitalised into higher asset values for the owners of these resources.

The foregoing rosy assessment of the virtues of competitive markets in allocating resources, economic activity and people in RARA is conditional on well-defined property rights and on no significant market failures. We turn now to discuss some of the challenges for policy towards RARA with these conditions.

3.3 Property rights

Agriculture, forestry, fishing, mining and tourism are key industries in RARA. Secure property rights over natural resource inputs are important if private decisions in a competitive market over investment, employment and production in these industries are to be productive. Secure property rights include clear, unambiguous and transparent ownership over the rights to use natural resource inputs. The owner gains all of the benefits and meets all of the costs of different uses, and there is a right to freely change ownership for mutual gain between buyer and seller. Currently there are areas of ambiguity and uncertainty with the property rights over land, water, forests, fisheries, mineral bodies and biodiversity. A particular area of difficulty is that some of the more recent claims on the natural resources associated with environmental and heritage values have public good properties. Markets alone will allocate too many scarce natural resources to commercial uses where private good properties exist, and they will allocate too few to the supply of environmental and heritage services where public good properties are important.

Property rights over land use for some agricultural development and for some new mining leases are areas of debate and uncertainty. The Mabo case of 1992 and the 1996 Wik case have given new but uncertain rights to claims of indigenous Australians over crown land. Environmental concerns about water, biodiversity, salinity and land degradation have been expressed as political opposition to, and in more and more cases regulation of, current land owners' rights to clear native vegetation and to build dams to conserve water.

Debate over property rights for the uses of forests for commercial logging versus the environment, tourism, water catchment and other uses still has some way to go before property rights for commercial uses will be considered secure. In the meantime, commercial decisions are adversely affected by poor property rights; the environment movement and others are dissatisfied; and resources are wasted in lobbying and other rent-seeking activities.

Fish resources in oceans and rivers are the classic example of a common property resource where market forces can lead to over-exploitation (Wills 1998). Australian governments have established effective property rights for most fishing resources under their jurisdiction. In the case of oceans, international cooperation as well as national policy intervention will be required.

3.4 Water

Achieving an efficient allocation of water is one of the most challenging issues facing Australia, and water illustrates most of the difficulties in specifying clear property rights for natural resources. Water is important not only for irrigators, miners, manufacturers, households and other commercial users in RARA, but also for commercial users in the cities, and in many cases city and country users vie for the same water resources. For commercial uses water has private good properties of rival consumption and low costs of exclusion. In recent decades, especially as Australia has moved into a mature water economy stage (Randall 1981), the political and social demand for more water for environmental purposes has grown. Many of the environmental resource, amenity and waste disposal uses of water have non-rival consumption and high costs of exclusion properties. Market allocations will fail efficiency criteria in these circumstances, in particular, commercial users will gain too high a share of the scarce water.

History also is important to the water debate, particularly as it defines the perceived assignment of water property rights. Since the arrival of Europeans, water has been regarded as a common property free good. Riparian rights and irrigation licences combined land and water rights together, but since the mid-1980s land and water rights have been separated in more and more cases. Commercial users, and here irrigators are the most important in terms of water volume, consider the property rights have been allocated to them, and, further, with low usage fees. Recent buyers have paid high prices for land assets reflecting a perceived assumption of water-right ownership. By contrast, environmental users, as relatively late entrants to the market, have had to argue for water rights. There is considerable evidence that the current allocation of water does not approach the efficient one

whereby marginal social benefits are equated across the alternative uses of water, even within agriculture (e.g., Hall *et al.* 1993; Topp and McClintock 1998; Quiggin 2001; Goesch and Hanna 2002) and between rural and urban commercial users, aside from the more controversial comparison between commercial and environmental uses.

Future policy has to confront the serious market failure associated with the public good properties of most environmental uses and the historically small allocation of water rights for these uses. Some mix of quotas, regulations, taxes on commercial usage, or allocation of water property rights to a 'representative' environmental player will be required to increase water allocated for environmental uses. The desired socially efficient allocation should seek to equate the marginal social benefits of more water for biodiversity, stream integrity and other environmental services with the marginal social benefits of water diverted from commercial uses. A benefit cost framework built on physical and biological data quantifying the marginal gains in environmental services, and then choice modelling and contingent value techniques for placing dollar values on the incremental non-market environmental services, provides a formal framework for collecting information on marginal social benefits.

It is likely, but not inevitable, that the social optimum allocation of water will require moving water from current commercial uses, in particular from irrigation, to greater environmental flows. Not surprisingly, farmers will seek compensation for what they perceive will be a loss of historical property rights. In part the claim is an equity one for the loss of asset values because of a change in government policy. Also, equity claims could reflect the reality that the public good benefits of greater environmental services will be enjoyed by all Australians.⁶ Even on efficiency grounds, caution seems to be necessary in invoking the Coase theorem (Coase 1960) which says that the initial allocation of property rights is not relevant to efficiency. Requiring government to pay compensation likely will strengthen the need for formal justification of net social gains, whereas regulations appear to involve no costs in the political debate. Government buying of water property rights for environmental flows effectively compensates current right holders. Such a strategy reduces the actual and perceived sovereign risk faced by current water property right holders and gives them confidence to follow socially optimum uses of their more secure private property rights.

For the water allocated for commercial purposes, competitive markets provide the basis for an effective way to allocate scarce water between

⁶ Arguably, some overseas people also value preservation of Australian river biodiversity and heritage. To-date, means of seeking payment by non-Australians, other than by voluntary private donations, have not been developed.

grapes, rice and other crops, urban households, manufacturers, and others. To a very large extent these uses have private good properties. Where particular uses incur external costs associated with, for example, downstream salinity there is a case for taxes on these particular externalities set at the marginal external cost. Because of information and administrative reasons a second-best feasible instrument such as a tax on the water input may be used. Prices of traded rights effectively summarise the information on private marginal benefits of water in different uses and they also signal returns to investments to increase effective water supply. Further, markets are far quicker in coordinating changes in the allocation of water in response to changes in market circumstances and in the variability of available water than are centralised command and control methods of allocating water. Since meetings of the Committee of Australian Governments in the mid-1990s, and now under the National Competition Council, government policy accepts the desirability of markets for tradable water rights in allocating scarce water between different commercial uses.

However, the actual trading of water rights for commercial purposes has been slow to develop and in part there remain problems with the current system of property rights (Brennan and Scoccimarro 1999; Crase *et al.* 2000). There is uncertainty about the volume, reliability and delivered price of water and about the conditions of transferability. These uncertainties are greater for permanent than for temporary right transfers, and for transfers between regions than for transfers within an irrigation district. In part, uncertainty about volumes is associated with the already discussed debate on commercial versus environmental uses of water. The extreme variability of catchment flows in Australia, and to a lesser extent the variability of demand, requires more creativity in distinguishing water rights by probability (or reliability) of supply so that individual private buyers can choose their own portfolio of water right types. At a minimum, water rights should include a charge for supply services set at the incremental or marginal supply costs (Watson 1995; King and Maddock 1996). Whether delivery costs should include a component for sunk costs on dams and water delivery investments is largely a distributional issue because the water right market price reflecting opportunity returns would be discounted dollar for dollar for higher delivery costs. Current command and control regulations for externalities, and the way they are administered, add to transaction costs.

3.5 Externalities

External benefits and costs, or spillovers to third parties not involved in a market exchange, are found throughout the economy. Externalities result in market failures which may provide a case for government intervention.

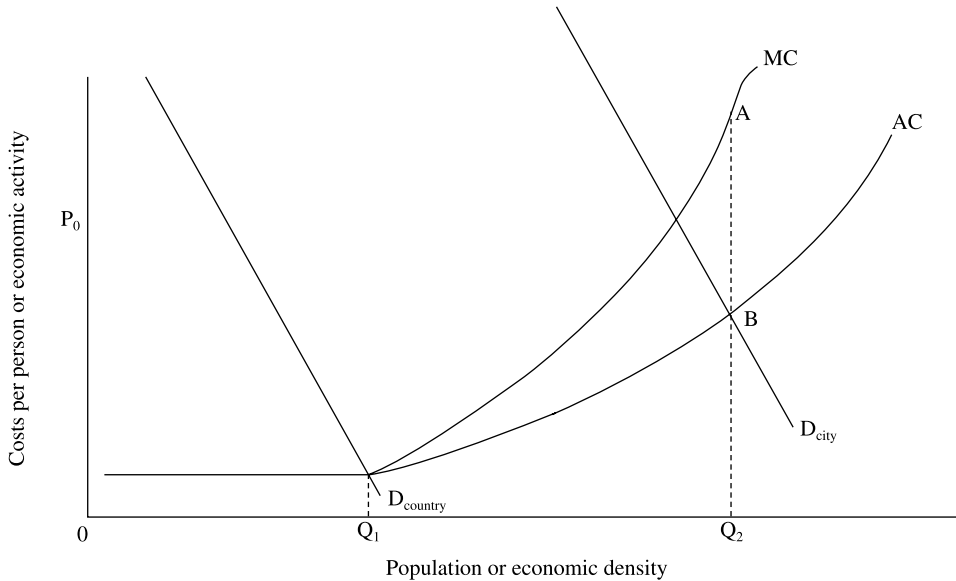


Figure 1 Marginal and average costs of congestion.

Many externalities are common to all geographical parts of an economy. Examples of external benefits affecting country and city alike include education and individual firm R and D , and examples of common external costs include greenhouse gases from the burning of fossil fuels for transport and energy generation. Our interest is whether there are significant externalities tied to cities but not the country, or vice versa, which could justify policy intervention favouring RARA versus the capital cities.

Congestion in cities, together with market failures associated with congestion, is sometimes advanced as an argument for public subsidies to decentralise economic activity and population. The first part of the argument is that beyond a threshold, larger and larger cities incur rising per unit costs of transporting people and products, handling waste and from pollution. It is less clear whether there are diseconomies in the delivery of telecommunications, electricity, water, gas and other utility services. The second part of the argument is that while individuals face the rising average cost (AC) of large city expansion, the relevant social marginal cost (MC) for efficiency is higher as illustrated in figure 1. Then, in RARA with its low population and economic density, demand D_{country} cuts the cost curves at Q_1 where there is little difference between MC and AC and no market failure. By contrast, the argument requires that in the large capital cities with demand at D_{city} there is a large gap of AB between MC and AC . In this model, private markets ignoring the city congestion externality would

allocate too many people and businesses in the city and too few in RARA for economic efficiency.

Several questions about the relevance and policy implications of the congestion externality argument for subsidising RARA can be made. First, there is uncertainty about the empirical magnitude of the externality. Planning and investment in infrastructure, which clearly involve costs, can mitigate some to all of the size diseconomies. Thus, to some extent the external costs are endogenous. Of course, against the diseconomies, for many economic activities cities better capture economies of scale and scope in the provision of physical infrastructure, and large urban conglomerations are required to capture network externalities for many businesses. Comparison of the size of Australian capital cities with many overseas cities with whom we compete shows that our capital cities are relatively small. While clearly there are many exogenous and endogenous factors affecting 'optimum' city size, it is not clear that the empirical magnitude of the congestion externality costs in Australian cities is large.

Second, if in net there are substantial external costs with Australian cities, the first-best policy intervention is to tax households and businesses in the congested cities. Certainly this has not been done in Australia so far. Subsidising RARA is a second-best instrument. Third, even if this second-best policy strategy is followed, current assistance to RARA of subsidies on particular inputs, such as CSO for electricity and telecommunications, or subsidies for particular industries, such as dairy and tourism, have their own respective input-mix and output-mix distortions.

In Europe, multifunctionality has been advanced as an externality argument for special assistance to agriculture and to rural areas (Jones 2002a), but so far this line of argument has had no currency in Australia. In fact, Australian farmers have criticised the Europeans for using such arguments to defend the Common Agricultural Policy. The argument claims that farmers and country villages provide social, cultural and environmental benefits, largely in the form of public goods, to all of society, but that they are unable to capture payment for the services provided. The supposed public goods include neat countryside scenery with leisure access, protection of the environment, and knowing that rural lifestyles are being sustained. Jones (2002a) and others are critical of the supposed external benefits. For example, they state that farmers often deny access and they point to the fact that European farming causes substantial environmental degradation. Finally, the price enhancement mechanisms of the Common Agricultural Policy are a very crude way of assisting an increased output of multifunctional public goods.

Multifunctionality would seem to be an even weaker argument for special assistance to RARA than is the case in Europe. Any externalities are

likely to be relatively smaller because of the greater geographical separation of RARA from the capital cities, the greater commercial focus of Australian agriculture, and the greater sparseness of RARA. Again, the selected output and input subsidies currently used in Australia are poorly targeted and expensive ways to sustain the image of a rustic rural Australia.

3.6 Market power

Efficiency losses and redistributive effects from the abuse of market power can be found in all parts of the economy. Market power may be a greater concern in RARA than in city Australia for two reasons. First, the sparse population, remoteness, and more expensive travel and communication costs can both reduce the number of potential suppliers and exaggerate the incidence of natural monopoly. Thin markets and local monopoly often are given as one of the underlying structural reasons, in addition to higher transport costs, for relatively higher prices in RARA for fuel, groceries and spare parts. Smaller turnover in local markets mean it is more likely that quantity demanded occurs at levels where average costs are still falling to exploit economies of size. Here a single seller is required for technical efficiency, but at the same time this seller has the opportunity to set higher prices to exploit local monopoly power. Second, the greater share of self-employed and small businesses in RARA, not just in farming, but also in manufacturing and services, can place RARA producers against more concentrated industries supplying inputs and as buyers of their outputs. Falling real prices for transport and communications, and new information technology, are likely to have lessened the opportunities for abuse of market power in sparse and low-populated country regions in recent decades.

The general economy pro-competitive regulatory processes, especially the ACCC, have a mandate to intervene against the abuse of market power in all parts of the economy, including RARA. Current discussion about the operation of the ACCC, including the Dawson Inquiry released in March 2003 (Jones 2002b; Kates 2002; King 2002; Smith 2002), has not drawn attention to special needs or claims of deficiencies specific to RARA (Productivity Commission 1999).

Some community service obligations might be seen as a crude way of constraining prices where natural monopoly is relevant, particularly with the utilities, in RARA. However, where there are obvious differences in supply costs, not only between city and country but also between different parts of RARA, a policy of uniform prices distorts decisions and results in efficiency losses. First-best policy instruments would directly target the behaviour of firms abusing market power.

To some, the lack of flexibility and of competition in the operation of the Australian labour market disadvantages RARA, particularly in regions with declining industries and high unemployment. In such regions, housing costs are especially low and, because of distance, other employment options are limited so many employees may accept voluntarily wage rates below nation-wide mandated award rates. Additional flexibility in the labour market would assist in the process of eventual structural adjustment.

3.7 Conclusions

A mix of government intervention and competitive markets has been and will continue to be used to decide on the efficient allocation of economic activity and population in RARA. The public good properties of most of the environmental and heritage uses of some natural resources requires some form of government-imposed quantities that aim to equate marginal social benefits across different uses. Most commercial uses of natural resources have private good properties and here competitive markets work well, but ambiguities in property rights need to be clarified.

For the most part, alleged disadvantages of remoteness, sparse population and long distances or other special characteristics of RARA do not warrant different and special economic policy approaches to RARA to achieve an efficient allocation of resources. The difficulties are given exogenous constraints on the available choice sets for both society and private decision makers. Claims for special subsidies to RARA because of externalities associated with congestion in cities and multifunctionality of agriculture and rural life are not proven. It is concluded that economy-wide, pro-competitive policies are appropriate for RARA.

Implementation of the remainder of the economy-wide microeconomic reform agenda, which has contributed to Australia's outstanding economic growth over the past decade, can be expected to ensure that current subsidies for the dairy and sugar industries are phased-out as planned. In the same vein, there are likely to be pressures to discontinue present input subsidies for R and D, drought and other temporary assistance grants, and to reduce the implicit input subsidies associated with community service obligations.

4. Equity and redistribution

Much of the discussion of economic policy for RARA is about equity and welfare, rather than about efficiency, and equity is a fundamental objective of Australian economic, social and political policies. Equity in Australia takes into account available income and consumption capacity, and equity includes opportunities for access to education, health and other services.

The focus of equity primarily is on individuals and households, and less so on regions and industries. The background discussion of section 2, and table 1 in particular, indicated lower incomes, less education and poorer health in RARA than in the capital cities providing some evidence of inequity, and yet country people self-assess higher levels of life satisfaction. But also, there is much variation within both RARA and the cities. Key questions for this section are the adequacy of existing redistributive policy instruments for meeting society's equity goals for the people in RARA compared with the cities, and if there are policy gaps what form should complementary measures take?

4.1 Income taxation and social security

Australia-wide programs of progressive income taxation and means-tested social security pensions, benefits and allowances are the most important and effective policy instruments for achieving greater equity of disposable incomes. These redistributive instruments focus on the income and asset circumstances of individuals or households, and they apply equally across different regions. An outcome flowing from lower average incomes in RARA relative to city Australia is that, on average, less income tax is paid by people in RARA and they receive more social security payments (table 1 and Bray 2000, for more details).

The adequacy of economy-wide determined common social security rates for those living in RARA has been subject to ongoing debate. On one side of the argument is that because of higher transport costs many prices are higher for products sold in the country. On the other side, housing costs are much lower in RARA than in the capital cities (Chapman and Greenville 2002). Overall, the higher share of the population who are social security recipients in RARA than in the cities suggests that clients find overall living costs lower in RARA.

Provision of social security support for the self-employed and their families, whether to meet temporary (or emergency) needs or to provide longer-term income support because of structural problems, is a greater issue for RARA because the self-employed are a larger share of the workforce, not only farmers, but other small business people. A general principle with Australian social security is that unemployment, sickness, disability and other benefits are for employees or for the self-employed willing to meet work tests, but that there is no general scheme of formal support for the self-employed or for investment income earned from capital in the event of temporary or longer term income shortfalls. The Green Paper (Harris *et al.* 1974), the Henderson Poverty Inquiry (Henderson 1975), Musgrave (1983) and others pointed to gaps in the social security system for the self-employed

who need to devote time and resources to maintain their business and so fail the work test, and/or for those who have difficulty converting assets into income. Arguments against specific welfare schemes for the self-employed include opportunities for income spreading available in modern finance markets, better risk management strategies, moral hazard, the difficulties of measuring poverty for the self-employed, and even opportunistic decision making and accounting to exploit special benefits. To date the latter set of arguments has won the political debate.

Special payments to farmers for income support under equity criteria have been made under various Rural Reconstruction Schemes, and more recently the Exceptional Circumstances Relief Payments Scheme. For the 2002–2003 drought, the latter scheme was made available also to non-farm businesses in RARA. Neither efficiency nor equity arguments support special poverty support instruments for self-employed farmers versus other self-employed business persons in RARA or the cities.

4.2 Government services

Providing equitable access to education, health, cultural and other services to those in RARA represents a contentious challenge (e.g., Morris 2002). While governments via horizontal fiscal equalisation and other measures appear to spend more per person in RARA, at least partly to compensate for the lack of economies of size and other cost disadvantages, on some measures the resulting outcomes are less in RARA than in city Australia. Consider education as an example.

The observation from table 1 that the education achievements of those currently residing in RARA is less than their city cousins does not necessarily imply lesser education opportunities, especially for the young. More well-educated youth move to the cities for careers than vice versa. Further, education and migration almost certainly are important for necessary structural adjustment in a rapidly evolving economy. Network economies of scale and production economies of scale and scope tend to favour location in large urban markets for many of the high-education-intensive activities. In a similar vein, size economies mean the wide choice of secondary and tertiary education will be available only in the very large country towns and the cities. Inevitably those in remote and sparsely populated areas will have to incur additional transport and other private costs to access some services available in large urban areas, and, as argued in section 3, higher returns to people locating in remote areas will be required to compensate for these types of cost disadvantages.

Nevertheless, the provision of comparable education opportunities for those in RARA and all suburbs of the cities must be a key part of equity and

of efficiency in future Australia. The likelihood of multiple careers, a rapidly evolving economy and society, and interregional migration, points to general education and life-long learning skills as key parts of the curriculum.

4.3 Industry and regional policies

Where the focus of equity and redistribution is on individuals or households, subsidies to particular industries, inputs or regions are blunt redistributive instruments relative to the tax, social security and expenditure instruments already discussed. Within a particular industry or region there are individuals who span the spectrum of income from low, to middle, to high. Then, subsidies to industries or the regions increase incomes of the middle income and the rich as well as the equity-targeted low income. Further, because the subsidies are per unit of output or input, the larger sellers and buyers gain more subsidy dollars, and generally the smaller output producers and input users dominate the low income group society aims to assist.

Much of the need for welfare support is short-term and temporary. The generally available social security system, and to a lesser extent also the tax system, are flexible in adjusting government support to individual and household current needs. By contrast, industry, input and regional subsidies lack this temporal flexibility even for the industry or region, let alone the different circumstances of particular individuals within an industry or region.

4.4 Conclusions

Most of the equity concerns for individuals and households in RARA, as in the cities, are met effectively by existing general government programs of social security, taxation and provision of key opportunity services at zero or below cost. Requests for additional formal support programs for the self-employed are questionable, and there is no horizontal equity argument for singling out farmers for special measures but not other self-employed persons.

5. Concluding comments

Many of the complaints that RARA has been disadvantaged by government economic policies and that the economic outcomes in RARA compare unfavourably with the cities are not supported by the facts. Macroeconomic and microeconomic reform policies are applied across the economy and all citizens, regardless of region, are supported by general

government expenditure programs. Certainly there are particular regions and particular times when the going has been difficult in RARA, but this also has been the case for particular suburbs and times in the capital cities.

As in the past, in the future a mix of competitive market forces and government intervention will decide on the allocation of resources, economic activity and people, both between RARA and the cities and also within RARA. Markets have the advantage of making effective use of information on wants and constraints, and especially in coordinating the efficient reallocations of resources in response to changes. However, market failures are important reasons for government intervention. Economic efficiency is not enhanced by continuation of special assistance and subsidies to selected industries or services, some of which are in RARA. There is a growing need for, and there are available, options to improve the systems of property rights for natural resources, including water, land use and forests.

Society's equity concerns are best addressed by instruments which focus on the circumstances of individuals and households, rather than on industries and regions. Current taxation, social security and other expenditure programs are important redistributive tools for those in RARA as well as for those in the cities.

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