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TITLE: Monitoring Regional Economies in Australia: why and how

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ABSTRACT:

Economic activity is inherently variable and monitoring it is a major challenge, especially in regional economies where resources are fewer and activity is more variable. Using a recent study of the Riverland region, the authors set out the information available, its limitations and means by which it may be extended. It is argued that monitoring must respond to specific needs and extend to information beyond the scope of the merely economic. It is not simply a matter of tracking commonly used economic variables but of understanding specific economic challenges and using that understanding to target economic and social information.

KEY WORDS:

Monitoring, regions, socio-economic.

All responsibility for the contents of this paper remains with the authors. The views expressed in this paper are the author's and should not be taken to represent the view of the South Australian Government.

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1. Introduction

Our first task is to define the term regional economy. For the purposes of this paper, regional economies are those inside nations and, in Australia's case, mostly inside States. They are not groups of nations (as the term is sometimes used) but parts of a nation, within the global system.

The second task is to justify the paper. The topic of monitoring regional economies is important partly because the task is difficult. One reason for the difficulty is that regional economies are often small, isolated, rural economies and so are more subject to variations, due to the vagaries of weather and to their typically higher dependencies on external markets and competitors. Another reason is that regional economies also lack the resources for data collection and it is commonly understood that "collecting primary data (about regional economies) is often difficult" (Schirmer and Case, 2003, p38). Our experience (and this paper arises largely from the authors' involvement with a recent study of the Riverland region of South Australia) suggests further that members of regional economies have misconceptions about what data are available and about how significant their region is to the national economy of which they are part.³ The task is therefore difficult because good information is needed to correct these misunderstandings.

Given that background, which the authors are not the first to encounter⁴, this paper addresses those difficulties. Firstly, in section 2, it clarifies the purposes of monitoring regional economies, arguing the task is justified primarily for policy-making purposes. Section 2 also shows, as a corollary, that monitoring for economic purposes is a task greater than monitoring the merely economic and must include social and environmental matters.

³ One revealing misconception was the view that because data are available for the national economy must also be available regionally. But that is not true. Much of the data used for national aggregates not summations of all regions but extrapolations from survey results and cannot be used to infer reliable data about small regions. In addition, some of the data collected to make estimates for the national economy come from corporations which operate in a number of locations but who are asked only for the national totals of their activity. That too will not make regional data available even though it exists at a national level.

⁴ Many other researchers have come across what has been described as "gaps between different knowledge systems and perspectives" (Aslin and Brown, 2004, p7)

That latter point is a major theme of this paper which we develop further. Section 3 demonstrates a simple but fundamental point: even when we ask a straightforward economic question: is there a crisis in the region, the economic data currently available are much less than are needed. But the lack of data does not in itself mean that government or regions should do more monitoring. Rather, data collection and estimation must fit particular purposes. Section 4 looks at one kind of question broadly relevant in regional economies: how able is a particular regional economy to respond to some specific economic challenges. Again we make the point that economic monitoring extends beyond the obviously economic.

We hope that this study will help other researchers by setting out what have proven to be useful but less well-known data sources, both formal and informal. It might also heighten awareness of the likely expectations of regional communities regarding monitoring so that they may be handled in a way that promotes understanding.

2. Why monitor regional economies

Monitoring regional economies is useful for a number of reasons but we must be careful about the reasoning. For example a commonly heard but flawed reason is that we must monitor closely because we can manage only what we can measure. That is not so. Consider, for example, that much policy is concerned with market failures involving externalities. These are, by definition, interactions for which a market price is missing and hence valuing them (especially at the margin) is problematic at best and often impossible. Nonetheless externalities must be managed and governments commonly do so. To limit management to what can be measured is to limit it beyond reason and practice.

Another often used but somewhat doubtful justification is that monitoring is needed to provide information investors need. That purpose immediately raises the question of why the need does not call forth an optimal amount of monitoring? There are several answers, all reasons to think that private purposes lead to too little monitoring. One is that change in economic activity, both decline or growth, has threshold values after which it becomes self-sustaining (see Coombs, 2001, p 49).

This is the notion that there is a critical mass of economic activity. In other words, it might be that private decisions have additional public effects. That provides a broad, market failure rationale for monitoring regional economies. However, note that it might be sharply limited. The only threshold consistently identified in the literature is that of a minimum size; a critical mass below which a regional economy loses services such as health and education, without which it slides into oblivion. The problem is real enough, as can be seen from the ghost towns that are so common in regional Australia. However, estimates of that critical size are small, as small as 3000, and so are much smaller than many of the regions that might be monitored. If the primary purpose of monitoring is to maintain a watching brief over the region's size as it approaches a minimum, there will be no great need for it.

A broader, more adequate public purpose to monitoring is the notion that knowing the size and prosperity of a region might be important to policy makers because of the contribution these economic variables make to other public goals.⁵ If, for example, large and wealthy regions better care for the environment, then that non-economic goal of government gives reason for monitoring: poorer regions would be targets for environmental programs. This justification seems quite powerful. It is plausible that social goals too, goals such as reducing domestic violence or increasing racial tolerance, might be advanced, in part, by keeping track of regional economies. That is all to say that monitoring regional economies is probably most strongly justified for achieving non-economic goals.⁶ The strictly economic purposes are probably served by the small amount of economic monitoring currently being undertaken.

⁵ At the least it is true that Australian Governments have long been concerned to foster a more even spatial distribution of economic growth than would arise without their assistance (Beer, et al, 2003, pp253-4).

⁶ Some economists would argue that government's environmental and social purposes are also forms of market failure. The logic of that position seems compelling: these are instances where government is imposing by fiat outcomes that would not be arrived at by competitive market forces. That is the same sort of distortion as is created when private decisions which fuel competitive behaviour fail to take all flow on effects into account, which was the case with the notion of a critical mass and of self-sustaining decline. However, it might be a misnomer to call social and environmental policies market failures if we mean that by correcting for them we necessarily improve the welfare derived. These policies are better understood as instances where government leads (rather than relies on consumers' preferences) because it judges existing notions of value to be wrong.

3. How would we know if there were an economic crisis?

There is one other reason government might want to increase monitoring, at least at particular times, and that is political. A relatively common scenario is where a Minister wants advice from policy makers because some people are claiming that a region is experiencing an economic crisis. This section focuses on that simple and direct economic question in order to reveal the limitations on current economic data. The question of filling those gaps by using proxies is also considered.

We are mostly familiar with the basic categories of economic data that might be used for regional monitoring. These are the same as are reported for national economies *viz*, income, wealth, capital flows, unemployment, retail spending. However, when we look at a regional level we find that these data are mostly unavailable, making it difficult, without additional data collection, to know something so basic as whether a region is suffering a crisis or not.⁷ Fortunately, in most cases, useful proxies are available and the following discussion considers them.

We start with measures of regional income. Income data are basic to economic monitoring. Income is defined as a measure of the flow of resources that can be consumed in the current period without diminishing the region's wealth. So we can speak of gross regional product (GRP), just as we do about Gross Domestic Product, (GDP), as the flow of resources that may be sustainably derived from the stock of regional wealth. Of course, that is equal to the amount of value which is added to the inputs purchased during the year. Unfortunately, there are no regional value added statistics and so no GRP figures.

Even the national GDP figures commonly quoted are just estimates of value added made in part by survey and subsequently checked (and often subsequently revised) against

⁷ The ABS describe the limited regional data it holds as follows: "Estimated Resident Population, some Census data, Births and Deaths, Unemployment, Income Support Customers, Taxable Income, Building Approvals, Motor Vehicle Sales and Agriculture"
<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1379.0.55.002Main+Features12000%20to%202004?OpenDocument>. We deal with the same categories below.

aggregate flows of savings, expenditure and capital in what are called “annual balanced supply and use tables” (ABS, 2007, p656).⁸ None of that is done for regions.

The best information available for regional income is provided from individual income tax returns which the ATO can make available by post code.⁹ Those data were published by ABS in the years 1994-2003.¹⁰ Data for subsequent years can be obtained in unpublished form.¹¹ While these data are very different from estimates of regional product, they are the best available. In terms of our question of whether a region is experiencing an economic crisis, these data are useful partial indicators. However, it is important to be aware of the limitations.

Firstly, personal income data are not confined to activities within the postcode areas in which the residents live. If a resident of a person from the region derives income from a property in, say, the State capital, that is counted in the ATO data even though it is not income generated within the region. That makes these income figures more like gross national product (GNP) than GDP data.¹² Secondly, the personal income data also exclude public sector organisations, including Local Governments and private sector organisations like companies and cooperatives. Both are significant limitations.

Wealth is another key economic statistic. It is a measure of the stock of assets and measuring and remeasuring regional wealth is an important part of the monitoring task. However, if income data are unavailable, it should be no surprise that a more complicated element such as a measure of regional wealth is also unavailable.

There are some estimates of wealth for the national economy but they have become available only relatively recently. Those data are constantly improving but do not cover

⁸ Estimates are made using the so-called income, expenditure and production approaches and are then integrated with the supply and use tables.

⁹ Other regional economic data may also be created from the ATO income tax compilations, although work in this area is limited and sporadic. For example, small business income can be derived from ATO records and the ABS has described this as “a potentially rich source of economic data” but it has collated and published the data only on an experimental basis (see 5675.0 - Experimental Estimates, Regional Small Business Statistics, Australia, 1995-96 to 1999-00).

¹⁰ ABS (2004) *Regional Statistics – South Australia* Cat no. 1362.4.

¹¹ ATO (2004) *Taxation Statistics 2003-2004: A summary of tax returns for the 2003-04 income year*. Also available at http://www.ato.gov.au/tax_professionals/content.asp?doc=/content/70906.htm

¹² GDP includes the income foreigners earn in Australia and excludes the income Australians earn overseas. GNP does the opposite.

all components of wealth, especially natural assets not used in economic production. It is likely these values are much greater than those which are reported by the ABS (World Bank, 1995). Social capital, in the form of “networks, shared norms ... which facilitate cooperation ...” (ABS, 2006), is also excluded. Importantly, both of those missing elements are likely to be even more important parts of regional economies than they are for city-dominated national economies.

While detailed wealth data are unavailable, some partial information does exist which are useful in answering the economic crisis question. In South Australia, the State government’s Land Services Group provides annual estimates of the value of real estate. Those data are used by Local Councils to establish rateable property values and similar data exist in other Australian States and Territories. The estimates are made by recording sales in January and February of residential, commercial/industrial, rural and vacant land and the data become available in June each year. The estimates are aggregates of land values and improvements. While these are, of course, not full estimates of wealth, they are nonetheless useful and not simply because property values are a major component of wealth but also because the value of many of a regional economy’s assets and attractions, such as its infrastructure and services, are capitalised into land values. That is to say that, in the absence of better data, monitoring changes in land values is the best proxy we have for monitoring the wealth of regional economies. Its relevance to the question at hand is that a region in crisis is unlikely to be a region accumulating wealth in the form of real property.

After income and wealth, the next major category of economic data of interest is that of capital flows. Its relevance is that a region in crisis is likely to experience capital flight; conversely, capital inflow is an indication that the region is not in crisis. These data also have a powerful political dimension. While studying the Riverland region, the authors often heard the lament that companies operating in the region were not reinvesting profits made there but were withdrawing capital from the region.

This is similar to the arguments made at a national level concerning so-called foreign direct investment. To gain insight into the issue would require estimates of all elements of what nationally are called the balance of payments statistics (also known as the nation’s external accounts). In other words, we would need to know how much has been

invested into the region during the current period, net that against what locals have invested elsewhere, compare that to profits retained in the region by outside investors and to profits made elsewhere by locals and repatriated to the region.

It should not be a surprise to learn that such detailed payments statistics are unavailable for regions and so capital flows cannot be calculated. The best we can do is reason by deduction that a region with a trade deficit (ie a surplus of imports over exports) is likely to be a destination of capital from other regions. While it is likely that some regional economies are trade deficit areas, the data to show that are unavailable.¹³ Beyond that, all that is possible is to employ estimates of the income flows to and from individuals as has been done by the National Institute of Economic and Industry Research as part of their regional monitoring work (NIEIR, 2005). These are estimates of the inflows to individuals (in the forms of wages, business and property incomes, interest and dividend payments and Centrelink payments) and of the outflows from individuals (in the forms of taxes and interest paid on past borrowings). As such they are incomplete for individuals and, as with the personal income data, they exclude flows to and from governments, companies and other incorporated bodies.

The most comprehensive and timely economic data available at a regional level are the estimates of employment and unemployment made by the Commonwealth Department of Employment and Workplace Resources.¹⁴ Those data are available for all postcode regions within Australia since 1995. Of course, like the other data, these too have their limitations. Of particular importance when monitoring rural economies is the fact that they do not include estimates of underemployment.

Many farmers have slack periods during a growing season and, in times of drought, many have difficulty registering as unemployed. The DEWR data will not deal with those difficulties. However, these data should be thought of as highly useful in answering the question of whether a region is facing an economic crisis – that must be thought unlikely if unemployment is relatively low or falling significantly.

¹³ Although, because of the complications caused by borrowing and lending, this is not quite the same as concluding that direct investors have made a net contribution on balance.

¹⁴ Small Area Labour Markets data available from:

<http://www.workplace.gov.au/workplace/Category/Publications/LabourMarketAnalysis/SmallAreaLabourMarkets-Australia.htm>

The last category of economic data that might be used to assess if the region is in crisis is that of consumption spending: again, a region in crisis is unlikely to have strong or rapidly rising consumption spending. However, no group is regularly, let alone frequently, collecting such information comprehensively. In our study of the Riverland, we were able to make use of data from V-Facts (2006) which show motor vehicle registrations by post code. Further information was obtained by informal discussions with various regionally based businesses and, although the veracity of such information should be questioned because of the dangers of systematic bias, it is highly relevant and therefore useful to the task.

The point of this section has been to reveal a simple but to some counter-intuitive or unexpected point: no one is monitoring even the most basic information about regional economies, even when we limit the area of interest to economic matters alone. This fundamental point may be confirmed by looking at a range of recent reports¹⁵, many of which rely on ABS Census data, collected only once every five years.¹⁶ A scan of the data bases at university libraries provides further confirmation.¹⁷ There are some useful data available but they are proxies for comprehensive information and amount to much less than is available at a national level.

However, as intimated above, the dearth of information for monitoring regional economies does not mean that major efforts should be made to collect or estimate more. Credible attempts to do so show that it can be expensive and time consuming (see for example Byron, et al, 2006, which shows how complicated the task can be). The critical point, pursued in the following section, is that monitoring must have a purpose and defining that purpose defines the information to be gathered.

¹⁵ For example, a recent proposal to collect economic data for the North Coast regions of NSW had a wish list that included many data that are generally unavailable eg industry mix; which sectors are declining and which are emerging; size (turnover) and life cycle of businesses; production volumes and values; range and nature of products and their destinations; terms of employment; capacity of infrastructure to meet existing demands, etc (Mid North Coast Regional Development Board)

¹⁶ See, for a recent example, the reports written for the DAFF and the Mildura Rural City Council by Scholefield Robinson Mildura and Blueprint Consulting during 2006.

¹⁷ For example, the University of Sydney offers advice about regional statistics available from the Internet, the vast majority of which are for the USA. Australian information is predominantly ABS Census data (<http://www.library.usyd.edu.au/subjects/economics/statsinternet.html>).

4. Monitoring regional economies is not monitoring economics

The previous section considered data available to answer the simple, direct economic question: is there a regional crisis? This section looks beyond the simple question and shows that the information relevant to more complicated economic questions is far greater than merely economic information. That proposition has a corollary: economising and targeting information collection to particular purposes is required.

In the case of the Riverland study, the work had been commissioned initially because of severe downturns in the local wine grape and citrus industries. That established the immediate task of collecting information on those industries, which was done through the local industry associations and through the Phylloxera and Grape Industry Board of South Australia (PGIBSA), and the Citrus Board of South Australia. This work generated a time series of output and price data which showed that the citrus industry was in long term, albeit gentle decline while wine grapes, having boomed in years up to 2002, were suffering major and rapid price declines.

The first task was to use information set out in section 3 to determine if the region were in crisis, which it wasn't: income and wealth have been increasing, the region is a net recipient of income flows and its jobs performance has been good.¹⁸

Overall, the Riverland had been keeping up with the rest of the State in economic terms, although it has been struggling to maintain its share of population.

However, given the paucity and lack of timeliness of this information, as discussed in section 3, further information was collected directly and informally. This was critical. By speaking with local business people, especially traders and financiers, we were able to show that retail sales were being maintained at healthy levels and there were no more

¹⁸ The data show that

- income in the Riverland economy is variable but the gap against the rest of the State has been closing;
- property values in the Riverland have increased more quickly than for the State as a whole and that performance has improved in recent years;
- a net inflow of funds to individuals which has been increasing;
- after years of poor performance, in recent times unemployment has been lower than in SA as a whole; and,
- after growth during the 1990s, population has been falling in the Riverland up until the most recent estimate in 2005 which shows the first increase for 6 years.

than usual foreclosures on indebted properties. Those facts would be inconsistent with a region in crisis.

Given we were reasonably sure there was no current crisis, the second question examined was whether one was about to develop. To answer that we extrapolated industry trends and discussed the resulting prospects with local industry organisations. We then fed those expectations into a regional, input-output model to determine the flow-on effects. That showed the region was facing a significant downturn if trends continued, although not one so severe as to be outside the experience of many community members (the Riverland region had been through a larger, longer downturn in the period 1992 to c1996). However, during the course of the study, the 2006-07 water allocation to Riverland irrigators was reduced to only 60% of the full amount and members of the study steering committee were insistent that the effects of that reduced allocation and of another dry year in 2007 must also be included in the projections. When that was done, it showed that the effect of continued drought through 2007-08 would be devastating, with potential cumulative losses equal to some 25% of GRP over the period to 2010.

While there was considerable concern regarding the impact of the drought, the steering committee also decided to refocus its efforts on the underlying strategic issues with which the study began: why were the wine grape and citrus industries in decline and what did we need to know about the region to know how well it could respond to those forces? By following that reasoning it became obvious that the economic questions required non-economic information if useful answers were to be found.

We already knew that, unlike some other regions¹⁹, the Riverland economy had failed to diversify its economy and was more than ever dependent on wine grapes in particular. While tourism and other horticultural crops such as almonds were making an increasing contribution, wine grapes and citrus made up more than 60% of agricultural employment and agriculture made up more than 30% of estimated regional value added. Both ratios were almost the same as they had been in 1986.

¹⁹ As the Australian government has put it “non-metropolitan economies are becoming more diversified, with most of the labour force employed outside the agriculture industry. Tourism has been a popular choice for diversification just about everywhere” (DoTAR, 2003, p 14).

To determine what further information should be collected required a strategic analysis of the industries. Some of that work had been done during the preceding years in two studies conducted by PIRSA (PIRSA 2005, PIRSA 2006). The themes which emerged were those of globalisation, especially the importance to these Riverland industries of more and more distant markets, competitors and suppliers; rationalised supply chains, including higher retail concentration, rapid vertical integration among our competitors and generally poor relations between growers and processors were also critical; so too was the increased pace of technological change and the importance of proprietorial varieties; product differentiation and market segmentation, especially the importance of niche customers but in much larger, more distant markets were also critical elements in the changing strategic landscape. The messages from this were straightforward: aggregate; look further afield; work with others along the supply chain; adopt new practices. The information needed would tell us how able were people in the Riverland to respond in these ways.

An extensive search turned up some relevant information. It is important to realise that much of it came from surveys undertaken for health and education service provision and not for economic analysis. The previous research made it possible to see that the Riverland has some attributes critical to its strategic response. For example, it was clearly important that a region be able to deal with foreignness (foreign customers, agents, tastes, etc).

In that regard we found that the Riverland is well placed, being highly culturally diverse with low levels of discrimination and high foreign language proficiency (DH, 2006).

It is also important that the region has a significant accumulation of what some have called social capital ie social coherence and connectedness needed as a basis for cooperation and collaboration which are in turn needed to secure the advantages of aggregation. We found that the Riverland community is safe, so that people feel secure and exhibit high levels of trust. We also found an economy in which people were relatively optimistic.

Although the Riverland had this impressive array of social characteristics, the monitoring process also revealed a range of weaknesses, primary among them being the relatively

poor education and skills of its people and their relatively slow technology uptake, as evidenced by the spread of information and communication technologies.

We also read back through the many previous reports written of the Riverland and these showed us that growers had some maladaptive attitudes (Trojan, 1980; OLG 1989; RDC 1994; SACES 1999 a and b). In particular, while the future required collaboration, growers were unwilling to sacrifice autonomy and many of them had a history of acting opportunistically, creating some short term, individual gains but inevitably long term, collective losses. While it was critical to make hard headed decisions about leaving or staying within the key industries, many growers did not see agriculture as a business. While globalisation was exposing them to unbridled market forces, many growers continued to think of government help as critical to their survival.

It became clear while collecting this non-economic information that much more of it would be needed if the study were to penetrate the matters critical to the future of this regional economy. To that end, consultants were hired: business firm PKF to consider financial matters and researchers from the Hawke Institute for Sustainable Communities, located at the University of South Australia, to undertake more social research.

That work produced some useful information, relevant to the broad strategic questions. It was also diverted into deeper consideration of the drought and showed there was a growing perception that water was the key to the future and that the region was at risk if the dry year of 2006-07 were repeated ie exactly the point made from the modelling of projections.

Beyond that the consultants were asked to focus on the matter of off-farm income. There is very little information about this matter. The consultants were able to report that it plays a critical role in the Riverland economy, especially for small orchardists and vineyard owners. Off-farm income is important for at least two reasons. Firstly, it can alleviate some of the fall out from the declines in wine grapes and citrus industries; but, secondly, it can reduce the pressure to reform current practices so that people continue doing the same thing in the same way long after it has ceased to be economically viable. The research was valuable but only led us to wish that we knew more about these matters.

The consultants were also able to report that the community had highly ambivalent and sometimes contradictory attitudes to government and to big business. Confirming previous studies, government was seen by current incumbents as critical to the future but it was also seen as parsimonious and was mistrusted. Large corporate players in the industries were commonly seen as providing growth but of competing unfairly with small growers and of “sucking the river dry” as more than one interviewee put it.

Overall, the work of the consultants provided some of the extra information that was needed. Two major points need to be emphasised. Firstly, little of the information that was needed and less of the information that was sought was what is commonly thought of as economic information. We needed to know much more about the community, about the social milieu, if we were to understand what needed to change to improve the ability of the region to respond to the challenges it was facing. Secondly, what we found out was useful but insufficient. Much more was needed regarding critical considerations such as how to make the region more welcoming of new investment.

We also needed much more about the willingness of growers to cooperate with each other and with processors (especially wineries) along the supply chain. In short, the information and monitoring we needed to do involved subtle issues and required broad and yet focussed information. But such information is difficult and costly to collect and the key point is that such work can only be done if it is focussed on particular issues facing particular regions. There is no one size that fits all.

5. Conclusions

This paper comes out against significantly increasing publicly funded, on-going monitoring of regional economies. Of course, more information is better than less and we have not argued that there are no benefits of on-going monitoring, only that there are unlikely to be net benefits.

When responding to the commonly asked question of whether a region is in an economic crisis, we have found that the data available are generally inadequate.

Some useful proxies exist for some of the basic data which are missing but, in general, the best way to monitor what is going on in a regional economy is by informal, *ad hoc* means, especially by speaking with local traders and financiers.

We have argued from an economic viewpoint and concluded that any monitoring to answer any specific, economic question (beyond the general question of the “Do we have a crisis?” sort) will necessarily require data from beyond economics and particularly will often require information about social characteristics. In relating our applied work in South Australia’s Riverland, we have recognised that some of this information is collected for non-economic purposes and an assessment of specific economic questions should always include a review of such data.

Finally, we recognise that many regions have economic development offices which need economic data for investment attraction. While information for this specific purpose has not been the primary focus of our paper, we conclude by suggesting that what is needed for potential investors is not precise detail about the flow variables of income, investment, population, employment, etc.

Rather, broadly accurate reporting of stock variables is likely to be more useful. What an investor needs to know from development officers is about regional infrastructure, local suppliers, customers and rivals and about natural assets. In other words, investment attraction is best progressed not by not monitoring change in regional economies but by describing underlying, relatively immutable locational advantages.

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