

## Data for Local Economic Development Planning

**Abstract:** Since 1998 the National Institute of Economic and Industry Research has prepared an annual *State of the Regions* report for the Australian Local Government Association. The report includes coverage of urban as well as country regions - for example, the Sydney metropolitan area is divided into nine regions and South East Queensland comprises six regions, one of which is Gold Coast.

Each report includes an array of data for each region. These data are also available by Local Government Areas. The data is intended for use in local economic development planning and project assessment and is collated from a wide variety of sources. The paper describes the availability of primary data at regional level, including the Census and administrative data available by postcode (especially Social Security and tax statistics), housing sales and prices and local government valuation data. Survey data are also discussed, including methods by which surveys can provide local estimates for variables not explicitly observed at the local level.

The paper takes the City of Gold Coast as an example and compares the economy Gold Coast with that of Australia as a whole and also with other selected regions. The structure of the Gold Coast economy is similar to that of Australia as a whole in many respects, though its dependence on tourism as an economic base results in lower than average value added per person employed.

### Data for Local Economic Development Planning

The National Institute of Economic and Industry Research (NIEIR) was founded in 1984 by a group of economists who had previously worked in the University of Melbourne but were not willing to submit to the then-rising academic hegemony of neoclassical economics. The Institute is a non-profit organisation financed solely from the sale of services and remains committed to Keynesian economics as modified in response to ongoing experience.

### The State of the Regions reports

Since 1998 the Institute has prepared an annual *State of the Regions* report for the Australian Local Government Association with the primary purpose of updating local councils on regional economic trends. The reports target the data needs of elected councillors and council personnel (particularly managers responsible for local economic development, job generation and the like) but have also proved useful to State and Commonwealth agencies concerned about regional and urban development and indeed to private sector interest groups. The purpose of this paper is to introduce the *State of the Regions* report to a more academic audience.

Recent issues of the report provide data for 67 regions. To ensure that local data can be reconciled to ABS state totals, the regions fit within State and Territory boundaries. Each region consists of a local government area or group of local government areas identified as a region by Regional Development Australia (RDA); however some low-population RDA regions have been amalgamated for the purposes of the report and some high-population regions have been split. Regions lying within the major metropolitan areas typically have resident populations of around half a million; 29 regions are required to cover the metropolitan areas of Sydney, Melbourne, South East Queensland, Perth and Adelaide. The remaining 38 non-metropolitan regions include one highly urbanised region with a population nudging half a million (Newcastle, NSW) and another with a population just short of 400,000 (the ACT); the rest have smaller populations tapering down to 88,000 for the Far North and West of SA. The low-population regions tend to be geographically large and remote; those with populations closer to 300,000 tend to be more urbanised and closer to the metropolitan areas (for example, the Central Coast of NSW). All data are prepared on a LGA basis and are available on this basis from NIEIR. The *State of the Regions* report is accordingly a summary report which includes commentary as well as four pages of data for each region. In addition, since the demise of the Cities Commission and consequent loss of that Commission's reports comparing urban economies, NIEIR has included aggregate data for the major metropolitan areas in its *State of the Regions* reports.

### The role of NIEIR in statistical estimation

In view of the fact that most, though not all, of the underlying data are collected by Commonwealth agencies, why should the preparation of the *State of the Regions* report be left to a private-sector non-academic institute? An important reason is that data preparation at the regional level involves a great deal of estimation and interpolation. Rather than prepare a single official estimate, the practice of leaving estimation to the non-government sector allows the preparation and publication of estimates which do not reach the standards of accuracy required in official publications. The core purpose of the

*State of the Regions* reports, and therefore their underlying methodological basis, is to provide estimates of National Accounts variables at regional level.

Why are the reports prepared by a private organisation rather than an academic institution? Inquiry is an important part of the *raison d'être* of universities and in principle they should provide a hospitable environment for data collection and interpretation. However, despite the good work being done by groups such as those responsible for the HILDA survey at the University of Melbourne, the university sector has not distinguished itself by a strong interest in the production of regional data. Universities are largely government-funded and it is not easy to obtain the ongoing flow of funds required to maintain a back office responsible for the continued updating of data. A further self-imposed disadvantage is that data collection and management does not directly produce a-star journal articles.

### **Primary data sources**

The primary sources of regional data fall into three main groups: censuses, administrative data and surveys. Censuses are special-purpose data collections which provide complete coverage of the units within their scope; administrative data likewise provides complete coverage but are abstracted from administrative records while surveys involve sampling.

The doyen of censuses is the ABS Census of Population and Housing but in the past there have also been censuses of business enterprises in industries such as agriculture, manufacturing and retail trade. Indeed, until funds were cut the ABS maintained a continuing basic census of business establishments in the form the late lamented Business Register.

The Census of Population and Housing is a widely-known and readily-available resource which collects and publishes a great deal of regional data not otherwise available. However, there are several traps for the unwary. To maintain confidentiality, small numbers are randomly disturbed; accordingly the Census no longer tells us whether or not a country town has (for example) a resident doctor. More important, though the Census aims to cover all persons located in Australia on Census night, it inevitably fails in this ambition and requires adjustment. Each Census question has a pattern of non-response which must be taken into account if it is to be used either in its own right or as part of the process of allocating national and state National Accounts estimates to sub-state regions.

A particularly useful Census input to the regional estimation of National Accounts variables concerns job location. The Census is collected by residential location but employed people also fill out a question concerning their location of work. The resulting journey-to-work data describes commuting patterns and is also used to describe the attributes of the employed workforce by place of work. Unfortunately the question is subject to significant non-response – people can be vague as to where they worked or, like truck drivers, say that they worked in no particular place. NIEIR applies best-guess algorithms to the missing data (including the imputation of sign-on points to peripatetic workers) to ensure that, across the country as a whole, the number of workers by place of work is equal to the number by place of residence. When this is done, it is found that currently only 16 of the 67 regions have more jobs by place of work than they have resident workers and accordingly receive net inflows of commuters – the remaining 51 regions report net commuter outflows, though for rural regions these outflows are small. The regions with net commuter inflows are either inner metropolitan or resource-based.

Administrative data is typically extracted from address lists and accordingly is made available by postcode. Despite the estimation errors inherent in the conversion from postcodes to local government areas, administrative data can be very helpful in two ways; first, though not all administrative data are published promptly after the year to which they relate, they provide data for inter-censal years and second, they include data which is either more specialised or more accurate than that collected at the Census. Administrative series which NIEIR has found particularly helpful include Commonwealth departmental publications on taxation, social security and employment, ABS data on dwelling approvals, IP Australia data on applications for patents, data on regional agricultural production and RP data on dwelling sales.

Each state has a valuer general who is responsible for ensuring that land valuations for rating and other purposes are consistent across the state. Though these data are collected and published by the state local government grants commissions, interstate differences in valuation practice make it very difficult to produce comparable statistics nation-wide (though the National Balance Sheet included in the ABS National Accounts provides national estimates of the value of land and other capital stock items.) Similar caveats apply to state-generated administrative statistics on such subjects as health, education and crime, though the Australian Institute for Health and Welfare has worked hard to ensure comparability within its area. There is still a great deal of work to be done to adjust these and similar sources to

support regional comparison. There are also many administrative sources, such as corporate registrations, GST returns and electricity and gas sales, where confidentiality provisions have prevented statistical use.

The only sample survey which has both national coverage and a sampling fraction sufficiently high to yield data directly usable at the regional level is the ABS Labour Force Survey. However, a number of other surveys are indirectly very useful, particularly those for which (confidentialised) unit records are available. These surveys can be used in conjunction with the Census and other geographically-specific information to estimate, by microsimulation, regional values for variables not directly collected in the Census or tax statistics. The ABS Survey of Household Income and Expenditure has been particularly valuable in this regard.

Finally, the ABS National Accounts, particularly those published at state and territory level, not only provide the definitions for many of the items reported, but are invaluable in providing state control totals.

In the following account of the data published in the *State of the Regions* reports the City of Gold Coast is taken as an example, simply because it is the location of the State of Australia's Cities Conference 2015.

### **Demography and migration**

Though the Census is the basic resource for local demography, the ABS publishes inter-censal population estimates by LGA. NIEIR uses ABS data on new residential construction, less its own estimates of demolitions, to generate inter-censal estimates of the number of households per region.

A very useful question asked in the Census concerns the respondent's place of residence at the previous Census. Because Censuses are conducted every five years and populations are published by five-year age groups, this allows internal migration to be traced by five-year age cohorts. Since these data are collected only at the Census and there is no way by which they can be updated, the *State of the Regions* publishes estimates after each Census but not in inter-censal years. The most recent estimates were published in the report for 2013-14, and show that Gold Coast has a rather mobile population. In 2011 only 45 per cent were recorded at the same address as in 2006, as against 55 per cent for Australia as a whole. However, this mobility was largely within the region, since 28 per cent of the population reported that in 2006 they were living at a different address within Gold Coast or its adjacent LGAs (21 per cent for Australia as a whole). The proportion who had made a long-distance move within Australia was around national average (12 per cent) though the proportion who had been overseas five years ago was somewhat higher (8 per cent as against 5 per cent). Gold Coast benefits from net immigration from other parts of Australia for all age groups, but particularly for young adults and families – Gold Coast is no longer the retirement destination it once was. As a contrast, Sunshine Coast attracts families and people of retirement age but suffers a net loss of young adults.

### **Employment**

Paid employment generates approximately 62 per cent of national income, the other major sources being the mixed labour and capital incomes of family businesses (11 per cent), rents and profits of corporate businesses (21 per cent) and the rent of houses owned by individuals (6 per cent) (ABS National Accounts). Paid employment is likewise an important topic at regional level.

Over the past three or four decades there have been major changes in employment patterns, many of them associated with increased female participation in paid work but also from increased student participation – this in turn a reflection of the spread of formal education across the young adult age group. The changes have included increases in the proportion of part-time and casual jobs, to some extent counterbalanced by increases in people holding multiple jobs and in those working very long hours. In view of these trends it is more accurate to measure employment in terms of hours worked rather than in bodies who go to work, but regional statistics still tend to be kept in the old metric which counts employed individuals irrespective of hours worked. Though Census benchmarks are available, NIEIR prefers to estimate regional employment from the tax statistics, which allows the exclusion of people who work very low hours such as those who receive more from social security than they do from paid work. By this measure, 49 per cent of the total population of Gold Coast are in paid employment; virtually the same as for the population of Australia as a whole. For comparison, across the border in NSW Northern Rivers the proportion is 39 per cent, while 600 km north in the mining boom region of Qld Mackay the proportion is 55 per cent.

The ABS estimates employment growth by industry at the state level. NIEIR allocates this growth to residential areas taking into account growth in residential populations and income and to places of work

by taking into account floorspace completion estimates. These two geographic estimations are linked by the Census journey-to-work matrix. Hours worked and rates of pay are also estimated using data from the ABS Labour Force survey combined with data published in the ABS quarterly national accounts at state level.

Hours worked can be meaningfully expressed in relation to the population of workforce age (shorthand for the population aged 16 to 64). In Gold Coast, paid employment currently averages just under 24 hours per week per resident of workforce age, very close to national average. These hours of work would be sufficient to employ 63 per cent of the workforce-age population full-time, but thanks to part-time jobs there is enough paid work for 74 per cent of the workforce-age population to report themselves as employed.

The industries in which people work are reported at the Census and classified by ANZSIC code – a general-purpose classification which is occasionally revised but remains conservative and hence reasonably comparable through time. This is benchmarked at the Census on both a residential and place-of-work basis and updated by NIEIR using ABS data on industry trends at the state level augmented by its own modelling.

### **Unemployment**

Unemployment is a politically sensitive topic and accordingly one where statistical meanings are disputed. After the experience of the Great Depression and the Second World War governments promised to maintain full employment and devised a survey to measure unemployment and so check that they were indeed fulfilling their promise. That survey continues to this day and has shown that full employment was maintained well into the 1970s but has not been achieved since except in limited regions, notably the Eastern Beaches and North Shore of Sydney.

Despite the changes in labour markets since the 1970s, the ABS continues to measure unemployment using a definition essentially unchanged since the post-war period. The Left criticises this definition because it ignores the under-employment of people who would prefer to work longer hours as well as the 'hidden unemployment' of people who would undertake paid work were jobs available but have ceased active search because it has become pointless. By contrast the Right minimises the significance of the definition, arguing that, whatever the reported level, unemployment is always and everywhere purely frictional. Neoclassical economics, the predominant guide to policy since the 1980s, assumes that all who seek paid work at the going wage can find it.

Despite the influence of neoclassical economics, the Australian government has not been entirely devoid of compassion and has recognised that hopeless job search is psychologically debilitating and often renders the searcher unemployable. In regions where searching for paid work is unrewarding it has accordingly tended to shift unsuccessful searchers, particularly those who are middle aged, onto social security payments which do not require job search, chiefly Disability Support Pension. Persons so shifted are no longer defined as unemployed, with the incidental political benefit of reducing measured unemployment. The ratio of these types of pension recipient to the population aged 40-64 varies widely between regions, from 5 per cent in Sydney Outer North to 31 per cent in Queensland Wide Bay Burnett, with a national average of 15.5 per cent and a Gold Coast ratio of 13 per cent.

Confronted with this situation, the *State of the Regions* reports include several alternative measures of unemployment, starting with the official unemployment rate smoothed to reduce the variation generated by the sample surveys on which it is based (in the report termed the headline rate), which nationally stands at 6.3 per cent of the active workforce (those at work and those deemed to be actively searching for work). The NIEIR rate is the headline rate adjusted for excess take-up of disability support pensions (nationally 8.4 per cent) while the structural rate reports people of workforce age on long-term social security support (9.7 per cent of the workforce). Further related measures include the Social Security take-up rate, which covers all people of workforce age receiving income support other than family allowances (12 per cent of people of workforce age) and the not-employed rate – people of workforce age without paid work as a percentage of the population of that age (nationally 26 per cent). Finally the reports calculate the proportion of the population of workforce age who would not be able to work if current hours of work were redistributed on a full-time basis (nationally 37 per cent). Though regional values of these several indicators tend to correlate, they do not do so completely – for example, Gold Coast is very close to national average for structural unemployment, social security take-up and not-employed people of workforce age, but about a percentage point below national average for both headline and NIEIR unemployment.

## **Gross regional product**

Though it was not designed for this role and its drawbacks receive constant comment, gross domestic product (GDP) has been accepted as the core indicator of the level of national economic activity. The reasons for this acceptance include relative ease of estimation from preliminary data, statistical robustness (unlike national income, GDP does not require the estimation of depreciation), widespread availability across countries and its historic role in Keynesian macroeconomics. The *State of the Regions* reports accordingly include estimates of the regional equivalent of GDP, Gross Regional Product (GRP).

It must, first, be recognised that one major component of GDP, the gross operating surplus of corporate business, cannot be allocated regionally. Most corporate businesses operate cross-regionally and even if they calculate the regional distribution of their profits they keep this information to themselves. Because of the practical and conceptual difficulties encountered in any attempt to allocate corporate gross operating surplus to regions, GRP as estimated in the *State of the Regions* reports includes employment incomes, the mixed capital/labour incomes of family businesses and the incomes generated from individual ownership of housing (most of which are imputed incomes accruing to owner-occupiers). These contributions to GRP are estimated from a wide variety of primary sources and are reconciled to ABS State-level estimates.

Second, thanks to the universality of inter-regional commuting, GRP can be measured on two bases; the region in which production took place (the place-of-work basis) and the region to which the resulting income accrues (the residential basis). As was pointed out above, the majority of Australian regions experience net outbound commuting, a pattern which is strongly reflected in the relationship between residential and place-of-work GRP – the list of regions in which place-of-work GRP exceeds residential GRP (totalling 15 out of 67) is very similar to the list of regions with net inbound commuting. Gold Coast is a typical peri-metropolitan region in that place-of-work employment is 86 per cent of resident employment and place-of-work GRP is 88 per cent of resident GRP (cf NSW Illawarra, 84 and 83 per cent respectively, and Sunshine Coast, 83 per cent and 82 per cent). Place-of-work GRP in 2012-13 dollars is currently approximately \$86,600 per person employed (ten per cent below national average) while residential GRP is \$62,500 per member of the workforce (13 per cent below national average).

## **Exports and imports**

At national level, a vital element in macroeconomic analysis is the balance between exports and imports. This is also true at regional level and in hallowed terminology defines the region's economic base. However, there are no directly observed data for regional imports and exports. For those industries where there is a definite supply chain, inter-regional trade can be inferred from industry GRP and input-output tables, using gravity models to match demand and supply geographically, but this methodology is harder to apply to the ever-increasing trade in services. Accordingly the *State of the Regions* reports do not attempt to measure regional exports and imports. In lieu, inter-regional comparison of the structure of place-of-work employment provides at least preliminary evidence as to each region's economic base. Thus the proportion of employment in tourism-related industries in Gold Coast is roughly 60 per cent greater than national average, with two other areas of specialisation – construction (roughly 40 per cent greater) and retail trade (roughly 30 per cent greater). Though some retail sales may be to tourists, this is not generally a major contributor to net exports, and similarly construction is not directly an economic base activity; the economic base of the region is accordingly tourism. The specialisation of Gold Coast in tourism accounts for its relatively low level of GRP per person employed, since accommodation, food services and recreation on average yield low value added per worker.

Despite ambitions to develop Gold Coast as a centre for health, education and professional services, these industries are represented at around national average levels, while the media and financial services industries are noticeable by their low representation. These 'knowledge economy' industries flourish in high-density urban centres in which a variety of skilled people work within walking distance of one another. Currently the only such centre in Queensland is the Brisbane CBD, which is served by a mass transport system capable of bringing commuters from the whole metropolitan area. Gold Coast faces the familiar Australian problem in building up centres for the knowledge economy outside the CBDs – investment in roads increases the area from which commuters can be drawn but, thanks to the voracious land demands of private car transport, destroys the internal pedestrian connectivity of the centre that it is trying to support. Gold Coast has identified its major centre as Southport and has invested to support it, but there is a long way to go yet.

## **Disposable incomes**

Place-of-work GRP is of primary interest to people concerned with local production but resident GRP is of greater interest to people primarily concerned with local standards of living and welfare. Fortunately

for this latter group the data available by residential area allow reasonably accurate estimation of the components of residential GRP and indeed of household disposable income. Postcode tax statistics (supplemented for farm income by data on agricultural production and costs) yield estimates of two components of residential GRP: wages and salaries and business mixed income. In conjunction with Social Security statistics they also yield data on two further sources of income which, as 'transfer payments', are not included in GRP: social security benefits (financed out of taxes) and property income including superannuation – the latter paid partly out of taxes, partly out of interest charged to households, and partly out of the operating surpluses of corporate business. The tax data again yields deductions from household income due to income tax. A further major deduction is interest paid on housing mortgages, personal loans and credit card debt. NIEIR has developed a household debt model to estimate these deductions. Finally, NIEIR estimates the imputed income from owner-occupied property, less depreciation, from primary data on dwelling values. Australia-wide, disposable income so calculated is 93 per cent of aggregate GRP (GDP less corporate gross operating surpluses).

In Gold Coast, disposable income per capita in 2012-13 dollars is \$37,825 a year, having fallen from over \$41,000 since 2010. Average disposable income in Gold Coast currently stands at 86 per cent of national average but close to the regional median – the average is skewed upwards by a few high-income regions, which are mostly clustered round Sydney Harbour but include the ACT. The components of disposable income in Gold Coast are as follows (with the national average in brackets): wages and other employee income 60 per cent (63 per cent); business mixed income 13 per cent (12 per cent), property income 14 per cent (15 per cent) and social security benefits 15 per cent (14 per cent) with deductions for income taxes 15 per cent (17 per cent) and mortgage and other interest 8 per cent (7 per cent). The structure of disposable income in Gold Coast is very similar to that in Australia as a whole.

A few magnitudes are worth keeping in mind. Across Australia household income tax payments exceed social security receipts by 26 per cent, but the balance differs considerably by region. In 39 regions income tax payments exceed social security receipts, ranging up to four times in the ACT and in Sydney Eastern Beaches and even further in WA Pilbara Kimberley; however, in 28 regions the balance is reversed. These tend to be regions with low earned incomes and elderly populations, the most pronounced case being Queensland Wide Bay Burnett where social security receipts are 2.2 times income tax payments. Again, Australia-wide, property income exceeds social security income by around 13 per cent but it does so only in a bare majority of regions – there is a long way to go before property income (which includes superannuation) exceeds social benefits. The redistributive power of direct taxation, social security and property income, not to speak of government services including education and health, should not be underestimated and in many regions significantly supplements (and in others subtracts from) income derived from the economic base.

### **Household wealth**

The National Accounts include not only the national income and expenditure accounts but the national balance sheet. As with income and expenditure, not all aspects of the national balance sheet can be replicated at regional level, but it is possible to replicate major variables for the household sector. Over the past three decades Australian governments have put their faith in neo-classical economics and in the wisdom of the finance sector, resulting for the household sector in an increase in the value of land owned (from 36 per cent to 46 per cent of net worth); an increase in financial assets (from 39 per cent to 50 per cent) and an increase in debt (from 17 per cent to 29 per cent). Household debt has burgeoned in relation to income and the household sector as a whole has to devote 18 per cent of its annual income to debt servicing, a commitment which eats into disposable income.

Values for household assets and liabilities can be estimated regionally from data on property values and asset-related incomes, requiring resort to microsimulation based on the Household Expenditure Survey. The result is that the average Gold Coast household has slightly more property assets than the average household nationally but significantly less financial assets – a younger population has less accumulated superannuation. The value of household liabilities is close to national average while the debt service ratio is a little above. It should be remembered that by the nature of averages, in all regions there will be households whose position is more vulnerable than average. Any economic disruption which causes a fall in land values will erode the value of borrowers' collateral while any similar disruption which interrupts the flow of household income will erode their capacity to service debt. Judging by the debt service ratio, households in the middle and outer west of Sydney are the most vulnerable; Gold Coast is once again more or less at national average.

### **Conclusion**

As exemplified by the *State of the Regions* reports, from the available data it is possible to build up reasonably complete and accurate accounts of regional economies within Australia. These data, which are available for academic analysis, confirm that Gold Coast specialises in tourism, which generates GRP per capita and incomes per capita below national average, leaving the unemployment rate at around national average.

### **References**

ABS: National Accounts, especially Catalogue 5204, 5220 and 5216.

NIEIR: State of the Regions, annual 1998 to date; Canberra, ALGA.

For readers' benefit, a copy of the *State of the Regions* data for Gold Coast is available for download from the ALGA and NIEIR websites.