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**Bench marking creativity**

**Abstract**

Richard Florida in his two best selling books, *The Rise of the Creative Class* (2002) and *The Flight of the Creative Class* (2004) proposed a new paradigm for economic growth based on the concept that city and regional economic growth is aligned to specific demographic characteristics. These characteristics are recognised as a form of social or creative capital and are considered necessary for the innovation required to promote economic growth for instance in the high technology sector. Creative capital theory states that where creative people live the economy grows faster – which is to say that jobs follow people. And the creative class makes their city choices based on “What’s there?” “Who’s there?” and “What’s going on?” Governments, including the South Australian government, have been keen to incorporate the notion of a creative index into their strategic planning as a means of bench marking their ability to attract industry and increase high technology opportunities. This paper will examine what is meant by the “creative class” and attempt as an exploratory exercise to identify any relationship between an index measuring creativity with economic and social indicators for the sixty five economic regions in Australia.

**Key words:** creative class, innovation, economic growth

**Introduction**

While cities and economies have been recognised as important to each other for some time (Prud’homme 1995), the impact of growth on the welfare of cities has been a particular focus (O’Connor & Stimson 1994). Structural change within an economy could dramatically affect cities and such places were termed cities in transition (Hayes & Bunker 1995). Associated with post fordist urban transition were new concepts of labour, new modes of information, new conditions for economic growth. Cities, location and place were transcended by new modes of information, technology and production which looked for comparative advantage wherever it could be achieved (Yue-man 1995; O’Brien 1992; Dicken 1992).

There was recognition of a new set of productive factors. Innovation, knowledge and ideas were no longer viewed as exogenous variables but as key drivers which could systematically explain economic growth (Porter 1990). Innovation occurred when a new or changed product was introduced or when a new or changed process was introduced. It was achieved best by specialization and dense networks of inter related firms and workers were most competitive; the cluster based theory of economic growth. Workers related by industry, occupation, age or education worked best when spatially close. The highly educated, working in technology and innovative industries, also tended to accumulate knowledge and new ideas best through face to face contact in dense urban areas (Jacobs 1984).

This recognition of the economic benefits of agglomeration especially in the innovation and technology sectors has continued. At a time when comparative advantage is being lost by developed economies there has been a shift back to recognizing the role cities play in national economies. The new focus recognises the importance of place, space, location (Berry 2004). Cities are being described as “magnets”, “sticky places”, “hot spots” (Sokol 2004). There is recognition of the economic importance both of cities and of the regions in which they are located. There has been a shift to competitive advantage where competence, innovation, intellectual capacity are key factors in production. Within such an economy, knowledge and intelligence replace physical labour as the main source of value. People are described as human capital. They add value by means of their innovation, their ideas, their imagination, and their creativity. This capital must be captured and cosseted if there is to be national prosperity. And such factors, that is people with ideas, appear to work best when clustered or agglomerated, as did firms, into knowledge cities or regions of life long learning. Specialization is the key to success. Cities that specialize win, firms that cluster succeed. And people who crowd together in cities to interface and take advantage of “thick” labour markets, produce the ideas, the innovation, the technology that are the new sources of economic growth (Sawicki 2003).

However technology and innovation may not be enough to ensure economic growth. There must also be culture and social capital (Landman 2004). Social capital refers to the relationships between people, their lifestyles, their recreation and cultural pursuits. It includes networks between institutions, governing bodies, and local governments. Urban areas must be able to nurture and support social capital if they are to attract the human capital they need to succeed. Social capital is enhanced by openness, tolerance, and difference within a society and by spontaneity and uniqueness within places. It would appear that cities and regions must be able to offer not just quality of life but quality of place in order to win. This is the new paradigm for economic growth proposed by Richard Florida in his two best selling books *The Rise of the Creative Class* (2002), and *The Flight of the Creative Class* (2004).

### **Creative class**

According to Florida there are three conditions that encourage economic growth in the post industrial economy, technology, talent and tolerance. These traits are embodied in a new assemblage of workers termed by Florida as the creative class (2002). These are the scientists, engineers, architects, educators, writers, artists and entertainers whose function it is to generate new ideas, technologies and creative content. Florida breaks down the creative class into a super creative core which includes engineers, scientists, artists, professors and technology innovators. They are backed up by the creative professionals who use the knowledge in their work including managers, lawyers, financial experts, health care professionals and technicians. In the USA where Florida is based the combined group represents about 30 percent of the workforce (Florida 2002). People in Florida’s creative class are not necessarily highly educated. According to Florida (2002) the key to understanding urban and regional economic growth is not a high level of education but creativity. Florida is designing categories for people who are not necessarily highly educated yet are very important for economic production and growth.

Florida proposes that cities and regions are competitive because of the creative numbers they contain (Florida 2002, 2004). His creative capital theory states that where creative people live the economy grows faster – which is to say that jobs follow people. In brief tolerance attracts talent which attracts technology. Place is fundamentally important. It is what draws creative people to a city. However creative people are attracted most to places which are lively and open with physical and social environments that show character and distinctiveness. The creative class make their location choices based on “What’s there?”, “Who’s there?”, “What’s going on?” (Berry 2004). They value time and hence accessibility. They seek functional homes and easy access to airports. The inner city is most attractive for living and for work. They value infrastructure as well as culture, place as much as style.

Florida has created a series of indexes that highly correlate with economic growth (2002). His Creative Index is based on four factors. These include the proportion of the workforce based in certain occupations; innovation as measured by patent activity; the high technology share of the economic base; and diversity, a factor which is based on measurements related to sexual orientation, bohemian lifestyles (cutting edge or counter culture) and diversity (foreign born). By assembling data and constructing a variety of indexes Florida has ranked metropolitan regions in the USA and across the world according to a creativity index. This he regards as the most accurate gauge of each areas ability to generate new ideas, high tech business and regional growth (Florida 2004). He then correlates the index with a city or region's economic performance. For the USA Florida finds a high positive correlation between cities that rank high on the Creative Index and cities that are prosperous in terms of growth of regional product and employment and rising average earnings. His conclusion is that employment growth can be predicted from the presence of a large creative class.

Writers acknowledge that while Florida's recognition of the economic role of cities is not new his contribution to regional analysis is significant (Blakely 2004, Berry 2005). Economists have long identified that agglomeration economies establish efficiencies and comparative advantage occurs when firms cluster in geographic space (Berry 2003; Porter 1990). Florida's job growth in the new information economy is strongly correlated with labour force characteristics that match up with the traditional requirements of technology based employment. Research does indicate that some cities in the USA such as Boston, San Francisco and Austin have attracted a large percentage of creative talent from other parts of the USA (Blakely 2004). Florida rates metropolitan areas on a creativity index which places San Francisco first, Austin second, San Diego and Boston equal third and Seattle fourth. Florida has also calculated that creative occupations make up fully half the workforce in both central Sydney (51.1 percent) and central Melbourne (49.5 percent) far greater than in virtually any inner city in the USA. Sydney and Melbourne would rank fourth or fifth if they were USA regions. Florida has also estimated (2004) that the creative class constitutes around a third of the workforce in "hot spots" such as Ireland, Belgium, Australia and the Netherlands, and accounts for about one quarter of the workforce in six other countries including New Zealand, Estonia, the UK, Canada, Finland and Iceland. Since 1991 New Zealand's creative class has jumped from 18.7 percent to 27.1 percent and Ireland's has nearly doubled from 18.7 percent to 33.5 percent. The creative class makes up 38.1 percent of Wellington's workforce and 31 percent of Auckland's. Wellington's proportion of the super creative core is 20 percent, Dunedin's 18.7 percent, Palmerston North 18 percent, Hamilton, 16.7 percent and Auckland 16.5 percent. Florida (2004) believes that these cities and regions will be important in attracting the new creative classes that may well abandon the USA.

### **Creative vision**

Berry (2005) describes Florida's approach as "persuasive" and acknowledges that it resonates with policy makers. State governments, city councils and city regions have looked to this new paradigm as a convincing means of invigorating their local economies. Members may not appreciate input output tables, econometrics or structural equations but local councils and regional committees understand people. They know their local regions and can identify lifestyle and place advantages. They understand promotion. And so cities in the USA, Australia, New Zealand and Europe have been keen to benchmark their creative talent, identify ways to make it grow and then plan for the firms and businesses it will attract.

City such as Palmerston North New Zealand state in their strategic plan

*Together we will make Palmerston North an exciting city in which to live, learn, work play. Ours will be a caring community where differences are valued. Education, research and knowledge will be our strengths. Our goal is to be a recognised leader in life long learning. We strive to be creative in work and skillful in business.* Palmerston North Vision Statement 2002

Arlington USA states that their city *will be a diverse and inclusive world class urban community with secure attractive, residential and commercial neighbourhoods where people unite to form a caring, learning, participating, sustainable community...* Arlington County Board 2002

The South Australian Government in its Strategic Plan (2004) states

*Our priority is to reinforce South Australia as a place that thrives on creativity and innovation. The capacity to do things differently will be one of the keys to achieving our objectives. The focus will be on fostering a culture of creativity, on developing creative, innovative and enterprising people ....* SA Strategic Plan 2004

The South Australian State Government wishes to achieve a ranking in the top three regions of Australia, using Florida's creative index, within 10 years (SA 2004). Based on the fundamentals that Florida uses within his index they also want patent applications within South Australia to exceed per capita share with five years. They seek a growing share of the national film industry, wish to increase the number of families in life long learning, improve learning outcomes in the fine arts and have introduced an international "Thinker in Residence" scheme.

### **Creativity & growth**

In an effort to quantify any association between creativity and economic growth at the most basic level bivariate correlation was applied to local government data obtained from National Economics (ALGA 2003) for each of the sixty-five economic regions within Australia (appendix 1). The data is sourced from the National Institute for Economic & Industry Research (NIEIR) and includes growth in employment between 1998 and 2002, population and business income between 1998 and 2002, change in housing affordability between 1996 and 2002, the proportion of unemployed families and very poor households in 2002 and the proportion of workers aged 15 to 34 years who were earning more than \$50,000 in 2001 (ALGA 2003). These measurements have been correlated with the NIEIR Creative Index for each region (ALGA 2003) as well as the percentage of the population classified by occupation as part of the Creative Core and/or the Creative Class. The NIEIR Creative Index is based on a ranking of each region according to its level of innovation, high-tech activity, diversity, and proportion of the creative class as of 2001 (ALGA 2003). Percentages measuring the Creative Core and the Creative Class are sourced from the Australian Bureau of Statistics (ABS) 2001 Census of Population & Housing.

Significant associations as measured by Pearson's Correlation coefficient are indicated in Table 1. The direction of most of the significant associations (2 tailed) are as expected. For the 65 economic regions the NIEIR Creative Index is positively associated with population growth between 1998 and 2002 ( $r=.542$ ) and in the proportion of 15 to 34 year olds earning more than \$50,000 per annum ( $r=.432$ ). It is correlated negatively with change in housing affordability between 1996 and 2002 ( $r=-.587$ ) and the proportion of very poor households within a region as of 2001 ( $r=-.443$ ). However while it is negatively associated with long term or structural unemployment ( $r=-.699$ ), and is significant against increase in business income between 1998 and 2002 ( $r=.452$ ), it is not significant against employment growth between 1998 and 2002. This would appear to contradict the Florida paradigm which suggests that a creative environment in terms of people, place and lifestyle prompts job growth.

These associations are supported when items are also measured against the proportion of the population engaged in occupations deemed to be part of the Creative Core (computer, maths, architecture, engineering, life, physical & social sciences, education, training & library occupations, arts, design, entertainment, sports & media occupations) or the Creative Class (Creative Core plus Management, business & financial legal, healthcare & technical, high end sales and sales management occupations)(Table 1). Again these items while positively associated with growth in business income ( $r = .492$ ;  $r=.545$ ), are not significant against employment growth between 1998 and 2002. The strongest

positive association is between the Creative Core and those young persons aged 15 to 34 years earning more than \$50,000 per annum ( $r=.644$ ). As one is likely to be a subset of the other this is largely a redundant finding. The strongest negative finding is between the Creative Index and structural unemployment growth ( $r=-.699$ ).

**Table 1**

Australia LGA Regions N=65	Creative Index <sub>1</sub> (65 highest 1 lowest)	Creative Core <sub>2</sub>	Creative Class <sub>3</sub>
Population % p.a. growth 1998-2002 <sub>a</sub>	.542**	.267*	.351**
Employment growth % p.a. growth 1998-2002 <sub>b</sub>	n.s.	n.s.	n.s.
Structural unemployment % p.a. growth 1998-2002 <sub>c</sub>	-.699**	-.506**	-.561**
Business income % p.a. growth 1998-2002 <sub>d</sub>	.452**	.492**	.545**
House price affordability % change 1996–2002 <sub>e</sub>	-.587**	-.442**	-.465**
Aged 15-34 years income \$50+k % persons <sub>f</sub>	.432**	.644**	.603**
Unemployed families % households <sub>g</sub>	n.s.	-.332**	-.460**
Very poor families % households <sub>h</sub>	-.443**	-.574**	-.630**

\*\* significant at 0.01 level (2 tailed) \*significant at 0.05 level (2 tailed) n.s. not significant

<sub>a</sub> ABS Estimated resident population series (ERP) (Source NIEIR 2002)

<sub>b</sub> Dept of Employment, Workplace Relations & Small Business (DEWRSB) (Source NIEIR 2002)

<sub>c</sub> Centrelink long termed unemployed (Source NIEIR 2002)

<sub>d</sub> Taxation Dept Canberra (Source NIEIR 2002)

<sub>e</sub> Valuer General SA, NSW, Vic, WA, NT, Qld, Tas, ACT (Source NIEIR 2002)

<sub>f</sub> ABS Census 2001 (Source NIEIR 2002)

<sub>g</sub> Based on ABS Household Expenditure Survey 1998-99 (Source NIEIR 2002)

<sub>h</sub> Based on ABS Household Expenditure Survey 1998-99 (Source NIEIR 2002)

<sub>1</sub> Creative Index based on calculation of innovation, high-tech activity, diversity, creative class (Source NIEIR 2002)

<sub>2</sub> Creative Core ABS Census 2001 Computer, maths, architecture, engineering, life, physical & social sciences, education, training & library occupations, arts, design, entertainment, sports & media occupations (Source NIEIR 2002)

<sub>3</sub> Creative Class ABS Census 2001 Creative Core + Management, business & financial legal, healthcare & technical, high end sales and sales management occupations (Source NIEIR 2002)

The same items were then measured against the nine major metropolitan areas in Australia (Table 2). These are the types of regions for which Florida has had a particular focus (Florida 2002). The NIEIR Creative Index is only positively correlated with increase in business income ( $r=.959$ ). It is negatively correlated with structural unemployment ( $r= -.748$ ), housing affordability ( $r= -.854$ ), unemployed families ( $r= -.693$ ) and very poor households ( $r= -.707$ ). It is not significantly associated with population or employment growth.

**Table 2**

<b>Australia Core Metropolitan n= 9</b>	<b>Creative Index<sub>1</sub> (65 highest 1 lowest)</b>	<b>Creative Core<sub>2</sub></b>	<b>Creative Class<sub>3</sub></b>
Population % p.a. growth 1998-2002 <sub>a</sub>	n.s.	n.s.	n.s.
Employment growth % p.a. growth 1998-2002 <sub>b</sub>	n.s.	n.s.	n.s.
Structural unemployment % p.a. growth 1998-2002 <sub>c</sub>	-.748*	n.s.	n.s.
Business income % p.a. growth 1998-2002 <sub>d</sub>	.959**	n.s.	.701*
House price affordability % change 1996 – 2002 <sub>e</sub>	-.854**	n.s.	n.s.
Aged 15-34 years income \$50+k % persons <sub>f</sub>	n.s.	n.s.	.687*
Unemployed families % households <sub>g</sub>	-.693*	n.s.	-.732*
Very poor families % households <sub>h</sub>	-.707*	-.709*	-.771*

\*\* significant at 0.01 level (2 tailed) \*significant at 0.05 level (2 tailed) n.s. not significant

<sub>a</sub> ABS Estimated resident population series (ERP) (Source NIEIR 2002)

<sub>b</sub> Dept of Employment, Workplace Relations & Small Business (DEWRSB) (Source NIEIR 2002)

<sub>c</sub> Centrelink long termed unemployed (Source NIEIR 2002)

<sub>d</sub> Taxation Dept Canberra (Source NIEIR 2002)

<sub>e</sub> Valuer General SA, NSW, Vic, WA, NT, Qld, Tas, ACT (Source NIEIR 2002)

<sub>f</sub> ABS Census 2001 (Source NIEIR 2002)

<sub>g</sub> Based on ABS Household Expenditure Survey 1998-99 (Source NIEIR 2002)

<sub>h</sub> Based on ABS Household Expenditure Survey 1998-99 (Source NIEIR 2002)

<sub>1</sub> Creative Index based on calculation of innovation, high-tech activity, diversity, creative class (Source NIEIR 2002)

<sub>2</sub> Creative Core ABS Census 2001 Computer, maths, architecture, engineering, life, physical & social sciences, education, training & library occupations, arts, design, entertainment, sports & media occupations (Source NIEIR 2002)

<sub>3</sub> Creative Class ABS Census 2001 Creative Core + Management, business & financial legal, healthcare & technical, high end sales and sales management occupations (Source NIEIR 2002)

For the 15 dispersed significant urban areas in Australia (Table 3) the Creative Index is only positively correlated with persons 15 to 34 years that are earning more than \$50,000 per annum. It is negatively correlated with structural unemployment, housing affordability, unemployed families and very poor households. It is not significant against population or employment growth.

**Table 3**

Australia Dispersed Metropolitan n= 15	Creative Index <sup>1</sup> Rank (65 highest 1 lowest)	Creative Core <sup>2</sup>	Creative Class <sup>3</sup>
Population % p.a. growth 1998-2002 <sup>a</sup>	n.s.	n.s.	n.s.
Employment growth % p.a. growth 1998-2002 <sup>b</sup>	n.s.	n.s.	n.s.
Structural unemployment % p.a. growth 1998-2002 <sup>c</sup>	-.744**	-.563*	-.698**
Business income % p.a. growth 1998-2002 <sup>d</sup>	n.s.	.702**	.751**
House price affordability % change 1996-2002 <sup>e</sup>	-.673**	-.549*	n.s.
Aged 15-34 years income \$50+k % persons <sup>f</sup>	.753**	.747**	.878**
Unemployed families % households <sup>g</sup>	-.654**	n.s.	-.743**
Very poor families % households <sup>h</sup>	-.777**	-.578*	-.866**

\*\* significant at 0.01 level (2 tailed) \*significant at 0.05 level (2 tailed) n.s. not significant

<sup>a</sup> ABS Estimated resident population series (ERP) (Source NIEIR 2002)

<sup>b</sup> Dept of Employment, Workplace Relations & Small Business (DEWRSB) (Source NIEIR 2002)

<sup>c</sup> Centrelink long termed unemployed (Source NIEIR 2002)

<sup>d</sup> Taxation Dept Canberra (Source NIEIR 2002)

<sup>e</sup> Valuer General SA, NSW, Vic, WA, NT, Qld, Tas, ACT (Source NIEIR 2002)

<sup>f</sup> ABS Census 2001 (Source NIEIR 2002)

<sup>g</sup> Based on ABS Household Expenditure Survey 1998-99 (Source NIEIR 2002)

<sup>h</sup> Based on ABS Household Expenditure Survey 1998-99 (Source NIEIR 2002)

<sup>1</sup> Creative Index based on calculation of innovation, high-tech activity, diversity, creative class (Source NIEIR 2002)

<sup>2</sup> Creative Core ABS Census 2001 Computer, maths, architecture, engineering, life, physical & social sciences, education, training & library occupations, arts, design, entertainment, sports & media occupations (Source NIEIR 2002)

<sup>3</sup> Creative Class ABS Census 2001 Creative Core + Management, business & financial legal, healthcare & technical, high end sales and sales management occupations (Source NIEIR 2002)

### Some discussion

While Florida's analysis has struck a chord with policy makers around the world criticisms have been raised in terms of analysis and application.

First correlation only identifies association. No causality can be inferred. Are cities successful because they attract creative people or are creative people attracted to successful places? Florida has identified important and highly correlated associations which policy makers understand. However policy based

solely on such correlation is likely to be highly simplistic and badly specified (Berry 2005). Casual relationships need to be explored and if possible the mechanics of the causality identified.

Florida does not factor in the spatial aspects of urban development. The *where* of city development as well as the *when*. Berry (2005) writes that Florida largely ignores the “systematic linkages, hierarchies and asymmetries between urban centers and the very different histories of each”.

Florida writes of community and tolerance. Yet at a time when creativity and openness are being touted as the new economic paradigm the number of gated communities both in the USA and in the UK is on the rise (Minton 2004). Some 12 percent of the US population live in neighbourhoods which have walls and regular security patrols (Minton 2004). The number of such communities is also increasing in the UK especially in cities such as London, a creative hot spot, as a result of social polarization, mutual suspicion, demand for greater security and fear of rising crime. We may be entering an era where the factors that Florida suggest promote growth such as tolerance, cultural diversity, integration, and openness may become rare as urban commodities.

Another issue is that of housing affordability which can be a significant drag on fostering creativity and job growth. Florida acknowledges this as a critical issue which needs to be addressed if regional growth is to be sustained (Florida 2004; Minton 2002; Jones 2002). Especially the provision of affordable housing for those in the creative classes such as health care workers and education professionals who are not high income earners, but are key workers for a growing city economy (ODPM 2005).

Finally policy advocates themselves have suggested that if growth based on creativity and community is to be sustained then decisions need to be made which are inclusive of everyone not just those who are part of the knowledge elite. There are renewed calls for community housing not just affordable housing. In the UK property professionals (Brooke 2004) and government (ODPM 2005) have recognised the creative imperative and have called for urban renewal to retain the souls of places (Chambers 2004). They suggest housing developments should use cultural projects to promote image and personality of place. They recognise that for cities to be competitive they must be able to contribute to the knowledge economy and recommend that policy makers and planners use lifestyle as a lever to attract certain kinds of workers to a city or region.

### **Research questions**

In conclusion there are a number of research questions that arise from such discussion, which include;

Is the creative paradigm plausible?

Can it work in countries such as Australia, where there may be too few core metropolitan areas to allow specialisation?

Who are the knowledge workers & why do they agglomerate in so few urban locations?

What are the factors important in the residential location choices of the so called creative class?

Does the creative paradigm with its emphasis on mobility, individuality and freedom undermine sustainable communities?

Could the community housing sector take advantage of this creative paradigm with its emphasis on diversity, independence and uniqueness?

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## Appendix 1 NIEIR 65 regions Australia

Name of Region	Region type	Super Core	Creative Class	Creative Index	Rank	Pop Growth % increase	Employ growth % increase	Unemploy % increase	Business income & increase	Housing affordability % change	15 to 34 years \$50k+ %	Unemployed families %	Very poor households %
Sydney Global (CBD)	Core Metro	12.5	37.9	65	1	1.1	0.21	3.7	9.1	-21.5	28.6	5.9	7
Melbourne Inner	Core Metro	12.5	37.4	64	2	2.3	2.6	4.3	7.5	-13.1	23.5	6	8.6
ACT	Core Metro	14.6	37.9	63	3	0.5	1.9	4.5	7.1	-12	13.3	9.4	9.7
Perth Central	Core Metro	10.6	29.6	62	4	0.6	1.5	4.4	5.7	-14	12.2	7.2	9.5
Adelaide Central	Core Metro	10.3	30.7	61	5	0.4	0.5	4.6	6.8	-16.7	9.2	6.5	8.7
Sydney Inner West	Core Metro	11.4	29	60	6	1	4.6	4.9	7.4	-14.9	25.5	7.6	7.7
Brisbane City	Core Metro	7.5	20.8	59	7	1.6	1.3	3.7	4.3	-7.2	5.5	12.6	13.7
Melbourne South	Dispersed Metro	8.7	25.4	58	8	0.8	0.4	4.5	4.1	-22.4	14.6	7	8
Sydney Outer North	Dispersed Metro	11.4	30.1	57	9	1.3	2.5	3.9	6.6	-20.2	19.2	6.3	5.9
Melbourne East	Dispersed Metro	10.8	28	56	10	0.7	2.3	3.7	5.5	-24	13.2	7.6	7.3
Sydney Mid West	Productive regions	7.9	22.5	55	11	1.1	1.6	3.3	3.9	-19.4	10	14.5	12.4
Melbourne North	Productive regions	8.6	22.2	54	12	1	1.4	3.9	4	-27.4	9	11.4	10.9
Adelaide Plains	Productive regions	6.9	20.6	53	13	0.3	1.6	4.4	4.8	-14	4.4	11.9	13.4
Melbourne West	Dispersed Metro	8.8	22.2	52	14	1.7	1.8	4.1	4.4	-23.3	9.3	12.6	11.1
Qld Sunshine Coast	Lifestyle regions	6.8	23.3	51	15	2.5	5.8	5.3	5.2	-8	4.6	11.2	13.9
NSW Richmond - Tweed	Lifestyle regions	7.5	20.4	50	16	0.9	0.8	5.5	4.9	-6.8	3.2	12.2	14.5
Sydney Outer West	Dispersed Metro	8.5	21.1	49	17	0.7	3	4.8	2.5	-21.3	9.8	12	12.5
Sydney South	Dispersed Metro	8.6	24.5	48	18	1	1.4	4.3	4.8	-12.8	15.9	7.9	7.7
Darwin	Core Metro	9.4	26.8	47	19	1.7	3.1	6.4	0.2	-5.3	10.3	11.8	12.7
Tas Hobart-South	Core Metro	9.6	25.2	46	20	0.1	0.3	5	0.5	-0.8	4.6	10.7	12.3
NSW Central Coast	Dispersed Metro	7.2	20.6	45	21	1.6	2.9	5	3.8	-21.5	8.2	10.9	12.3
NSW South East	Rural based & remote regions	7.2	21.9	44	22	0.8	-4.2	5.9	5.4	-12.4	7.7	9.3	11.8
Melbourne Westernport	Dispersed Metro	8.1	21.8	42.5	23	1.7	2.8	3.9	3	-20.5	6.5	11.5	11.7
Qld Far North Cairns	Lifestyle regions	6.7	20.1	42.5	23	1.2	-0.4	5.4	4.7	3	6.1	10.9	13.7
Perth Outer South	Dispersed Metro	7.8	21.3	41	25	1.4	2.1	4.4	3	-6.6	7	11.1	10.6
NSW Hunter	Productive regions	7.5	19.8	40	26	0.8	-8.9	4.3	3	-9.9	6.8	11	12.5
NT Lingiari Tennant Creek	Resource based regions	9	21.4	39	27	0.6	1.2	6.9	3.4	2.8	8.6	13	15.4
NSW Illawarra	Productive regions	9.1	22.1	38	28	1	2.3	4.6	6.3	-10.8	8.4	11.7	12.3
Qld Gold Coast	Lifestyle regions	6.9	22.9	37	29	2.2	5.1	4	3.8	-8	5.6	11.9	13.3
Perth Outer North	Dispersed Metro	6.5	19.9	36	30	1.8	2	4.6	4.1	-8.2	7.2	11.4	11.1
Adelaide Outer	Dispersed Metro	8	21.4	35	31	0.6	1.2	4.7	3.8	-17.8	4.8	10	11.3
Vic Central Highlands	Rural based & remote regions	6.9	17.8	34	32	0.6	2.7	5.9	3.3	-8.7	4.9	11.1	12.4
Vic Barwon	Dispersed Metro	8	21.1	32.5	33	1.1	2.8	5.1	2.6	-13.8	6.8	10	11.4
Vic Geelong	Dispersed Metro	8	21.1	32.5	33	1.1	2.8	5.1	2.6	-13.8	6.8	10	11.4
Qld West Moreton	Productive regions	7.3	18.5	31	34	0.7	3.7	5.7	3.3	-0.3	3.8	13.1	13.8
Vic Loddon	Rural based & remote regions	7.6	20.3	30	35	0.7	1.9	5.7	4.4	-7.4	4.5	10.8	12.3
NSW Mid North Coast	Lifestyle regions	6.9	20	29	36	0.8	0.2	5.2	6.5	-1.5	3.5	12.4	14.3
Vic Ovens-Hume	Rural based & remote regions	7.1	20.9	28	37	0.5	0.4	6.7	1.3	-1.8	6.5	9.8	11.8
Qld North	Lifestyle regions	6.8	18.9	27	38	1.1	-4.9	5.4	1.8	0.5	7	10.9	13.2
Sydney Outer South West	Dispersed Metro	9.3	20.9	26	39	1.2	2.3	5.2	4.9	-17.2	8.9	16.7	15.3

WA Peel-South West	Resource based regions	6.9	18.7	25	40	2.4	2.8	5.7	0.3	-4.8	7.6	10.5	11.9
Qld North West	Resource based regions	7.2	16.5	23.5	41	0.1	-5.3	10	-0.3	6.4	21	11.4	12.6
WA Gascoyne-Goldfields	Rural based & remote regions	7.8	18.9	23.5	41	0.5	-2.4	6.3	0.8	8.5	18.7	9.9	11.8
WA Wheatbelt-Great Southern	Rural based & remote regions	5.5	16.2	22	42	0.4	1.3	6.3	0.9	-0.6	5.2	8.8	10.7
Brisbane North	Dispersed Metro	7.5	20.8	20.5	44	1.7	3.2	5.1	4.1	-7.2	5.5	12.6	13.7
WA Pilbara-Kimberly	Resource based regions	7.7	18.9	20.5	44	1	-3.3	7.3	8.3	26.8	22.5	10.1	12.7
Tas North East	Rural based & remote regions	7.1	20.8	19	45	0.1	1.8	6	0.7	-2.1	4	10.4	12.6
Qld Mackay	Resource based regions	6	17.3	18	46	1.2	-0.4	6.1	4	-0.2	10.9	10.2	12.3
Qld Agricultural SW	Rural based & remote regions	6.5	18.2	17	47	0.5	1.5	5.5	2.3	-5.7	5.1	9.5	12.2
Vic Gippsland	Resource based regions	7.3	19.9	16	48	0.1	-2.3	5.8	4.5	1.6	5.9	10.9	12.1
Qld Wide Bay-Burnett	Lifestyle regions	6.2	17.8	15	49	1	-2	5.4	4.4	1.7	3.5	11.9	14
SA Eyre & York	Rural based & remote regions	6.3	17.8	14	50	-0.2	-3.3	5.7	-0.9	-7.4	6.9	10.1	12.8
NSW Central West	Rural based & remote regions	7.2	18.6	13	51	0.1	-2.2	5.8	1.8	-5.1	6.8	10.5	12.3
NSW North	Rural based & remote regions	7.3	18.8	12	52	-0.5	-2.1	5.7	3.4	4.6	4.8	11	13.4
NSW Murray	Rural based & remote regions	6.1	19	11	53	-0.1	2.1	6.4	3.6	-3.6	5.8	9.4	11.9
Vic Goulburn	Rural based & remote regions	6.5	18.5	10	54	0.7	0.4	5.6	0.7	-5.1	5.3	10.1	11.9
Tas North West	Rural based & remote regions	6.9	18.9	9	55	-0.2	-1.1	5.7	1.5	9.4	4.8	11.8	13.5
Qld Fitzroy	Resource based regions	7	18.3	8	56	0.4	-0.3	5.5	2.9	0.7	9.3	10.8	13
NSW Murrumbidgee	Rural based & remote regions	6.5	17.6	7	57	0	2.1	5.9	5.8	-6.1	5.7	10.4	12.4
NSW Far & North West	Rural based & remote regions	6.7	17.8	5	58	-0.4	-1.2	6	5	8.2	7.2	11.6	13.4
SA Murraylands	Rural based & remote regions	5	14.4	5	58	0.1	3.5	7.2	3.3	-7.5	3.2	9.5	12.7
Vic West	Rural based & remote regions	6.1	16.8	5	58	-0.3	2.7	6.5	2.9	-4	5.9	9.3	11.1
SA South East	Rural based & remote regions	5.1	16.3	2.5	62	0	2.9	7.4	7	-13	6.2	8.3	11
Vic Mallee-Wimmera	Rural based & remote regions	6.1	17	2.5	62	0	2.5	6	1.7	-8.5	4.6	8.9	11
Qld Pastoral	Rural based & remote regions	5.7	15.6	1	65	-0.4	1.2	7.5	-0.2	-3.1	8.4	8.6	11.4