UNIVERSITY OF CANBERRA | INSTITUTE FOR GOVERNANCE & POLICY ANALYSIS

NATSEM at the University of Canberra

INDEX OF EDUCATIONAL ADVANTAGE (IdEA)

This report examines the driving factors behind spatial differences in Australia's educational outcomes using a range of metrics from NAPLAN and the Census. It also presents a new index – the Index of Educational Advantage – measuring how well an area supports educational development for school-aged children with a particular focus on secondary education outcomes.

By Jinjing Li, Riyana Miranti and Yogi Vidyattama

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Director: Professor Mark Evans

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NOTES

This report was written in 2016 with a minor update in 2017. Parts of the report are now published in peer-reviewed academic journals.

SUGGESTED CITATION

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Executive Summary

EXECUTIVE SUMMARY

While the education system is commonly viewed as providing each child with equal access, there are substantial variations in educational outcomes across both the spatial and socio-economic spectra in Australia. This report examines a series of secondary educational outcome measures and decomposes the variations into three major factors: the educational socio-economic environment, educational resource availability, and a factor which reflects the efficiencies and the specificities of the local education system.

The analysis in this report is grounded in education production theory and incorporates a structural equation modelling technique to examine the drivers of educational outcomes. The spatial unit used is the Statistical Area Level 2 (SA2), which usually contains one or a few suburbs, with a typical population size between 3000 and 25 000 per area.

The empirical analysis suggests factors outside of the school contribute most in explaining the variations in educational outcomes in Australia on average, echoing the idea that much learning happens and should happen outside the classroom. Educational resource availability is the second most important factor overall (that is, when considering all outcome measures) but is often the most important factor in determining test scores. These findings are converted into a series of indexes to reflect the spatial differences in educational advantage in Australia.

The Index of Educational Advantage Series is a set of composite indexes using data from the 2011 National Assessment Program – Literacy and Numeracy (NAPLAN) scores, the nationwide school database from the Australian Curriculum, Assessment and Reporting Authority (ACARA) and 2011 Census data from the Australian Bureau of Statistics (ABS). The Index of Educational Socio-Economic Factors (IdEA-ESE) measures how well the socio-economic environment in the SA2 supports educational development. The Index of Educational Resources (IdEA-ER) captures the quality and the quantity of the schooling resources available in the area, and the Index of Educational Efficiency and Other Factors (IdEA-EEO) captures factors such as the efficiency of the schools in the SA2. It reflects how well the SA2 utilises the available educational and economic resources, or in other words it captures the SA2's relative performance given its socio-economic circumstances and resource availability. Encompassing all three of these dimensions is the Index of Educational Advantage (IdEA) which summarises all three sub-indexes. It shows the overall educational advantage in the region. A high value in the IdEA indicates an overall high performance in school-aged children's educational development while a low value in this index indicates an overall poor performance in the SA2. All indexes have values ranging between 1 and 5.

The IdEA highlights a number of patterns across, and challenges for, the Australian education system. We see a high concentration of quality educational resources and a good educational socio-economic environment in the capital city SA2s, especially in Sydney, a city with a high density of very advantaged suburbs as measured by household income level. The results also show inequality within the capital cities, particularly between the inner SA2s and those on the outskirts. The close link between socio-economic conditions and educational outcomes calls for policies beyond

schooling if we want to address one of the most important causes of educational inequality. Furthermore, we also find that the relatively poor performance in some rural areas cannot always be explained by poor resources or socio-economic factors alone: other factors such as efficiencies also appear to play an important role in determining educational outcomes in many of the remote SA2s. It is often the case that poor educational performance is the result of multiple factors. Similarly, we also note that some urban SA2s, such as some suburbs in the Australian Capital Territory (ACT), could further advance their performance if educational efficiencies were improved.

This series of indexes are the first composite indexes in Australia specialising in nationwide educational outcomes. They can potentially help educators, researchers and policymakers to identify regions with an overall low performance in education, or regions that need support in a particular dimension. It should be noted that the indexes are derived from the reported data in 2011 which may not necessarily reflect the most up-to-date situation due to changes in policies and socio-economic environments. However, some patterns captured seem to reflect long-term spatial inequalities in educational outcomes.

The indexes can be viewed interactively online at http://www.governanceinstitute.edu.au/research/idea-map/.

Copies of this report can be downloaded from:

http://www.governanceinstitute.edu.au/research/idea-map/

Introduction

INTRODUCTION

Educational disadvantage is a complex policy issue, and the disparity in high school completion rates remains a serious issue in Australia, despite a general societal consensus that education is one of the most significant factors affecting children's development. Recent reports based on the Programme for International Student Assessment (PISA) test state that the performance gap in Australia between 15-year-old students from different socio-economic backgrounds can be equivalent to up to three years of schooling (Thomson et al., 2009; Thomson et al., 2013). Students from a low socio-economic background are also under-represented among all enrolled students in higher education institutions in Australia (although the proportion of tertiary students from a low socio-economic background increased in the past 10 years by 2.1 percentage points to around 17 per cent in 2016 (Department of Education, 2017)).

Patterns of educational disadvantage have been widely reported and examined in many studies (Lupton, 2004; Dyson and Raffo, 2007). Despite these efforts, there are still mixed findings about which factors contribute to the large variations in educational achievement we see in Australia. There is some information available for individual states, but nationwide studies are rare. For example, Chakraborty and Blackburn (2013) analysed how school and non-school inputs such as financial resources, teacher characteristics, family socio-economic status and student composition affect student academic outcomes in secondary schools, but their analysis was limited to New South Wales secondary schools. Furthermore, existing research on the disparities in educational outcomes in Australia tends to be restricted to urban and rural comparisons (Cheers, 1990; HREOC, 2000; Considine and Zappalà, 2002), and does not take into account the complexities of educational disadvantage across a spatial dimension.

This report provides a systemic review of educational outcomes for Australian senior secondary school-aged children, including their participation in higher education, and extracts the key driving factors behind unequal educational outcomes by decomposing the variations across the country into three key components (the educational socio-economic environment, school resource availability and a factor which reflects the efficiencies and specificities of the local education system). Based on data from the Australian Curriculum, Assessment and Reporting Authority (ACARA) and the Australian Bureau of Statistics (ABS), this study has developed a composite index – the Index of Educational Advantage (IdEA) – to reflect the differences in these three main contributing factors to educational outcomes in Australia.

While there are already a variety of indexes of indicators in the field of education, IdEA has a distinct value-added component in that it has included more comprehensive national coverage of Census-related, school-related and small area-related variables that may be missing from other indexes. In terms of its audience, IdEA fills a gap in evidence by aiming to comprehensively measure the educational outcomes of senior secondary school students at the small area level.

In the next section, we present the conceptual framework for the analysis, discussing the key theoretical and empirical concepts used in this report. This is followed by the data and the

methodology sections where the details of the variables and the statistical techniques used are discussed. In the fourth and fifth sections, we examine various properties of the newly constructed indexes and the recommended use of the index. Some major findings are also presented and the IdEA is compared with other indexes (the Socio-economic Indexes for Areas (SEIFA) and the Youth Social Exclusion (YSE) Index). The last section provides concluding remarks about this study.

Conceptual Framework

CONCEPTUAL FRAMEWORK

EDUCATIONAL ADVANTAGE AND DISADVANTAGE

Conceptually, there are several definitions of educational disadvantage. The *Education Act, 1998* in Ireland defines educational disadvantage as barriers to education that result from social and economic disadvantage which also prevent students from experiencing educational benefits from schools. This definition is in line with Jeffers (2002) who argues that educational disadvantage is the complex interaction of various factors such as economic, social/cultural and other factors, not only at home but also in schools and communities which cause a person to derive less benefit from formal education than his or her peers. Beavis (2011) argues that educational disadvantage covers various forms of disadvantage which can be related to students' socio-economic status or other factors such as disabilities, limited English language proficiency, Indigenous status or living in regional, rural or remote areas.

In the context of social exclusion and capability frameworks, education has been identified as one domain of 'social exclusion' and, for children, a critical potential source of exclusion.[1] Being excluded from education may also affect the development of children's capabilities in terms of personality, talents, and mental and physical abilities (Klasen, 2001). Educational attainment in the early stages of life has a profound impact on achievement in adult life. Education is one of the key dimensions of child wellbeing, as identified by the United Nations Convention of the Rights of the Child. While participating in the education process is compulsory for children in Australia, (i.e. from the age of five or six to the age of fifteen to seventeen, depending on the state or territory), there are many factors that can contribute to successful educational outcomes.

Previous studies argue those who experience educational disadvantage are likely to be at higher risk of having poorer socio-economic and general wellbeing outcomes. Issues about the importance of schooling and its transition to working or labour market outcomes have been discussed in the literature. For example, previous studies have highlighted the positive causal relationship between schooling or education and earnings (Psacharopoulos, 1994; Card, 1999; Psacharopoulos and Patrinos, 2004); or securing productive employment (Crowson et al., 2000; Rumberger and Lamb, 2003). The consequences of educational disadvantage may lead to cumulative disadvantage such as lost employment opportunities and health and longevity issues over the life course (Dannefer, 2003).

Further, there has been a growing body of literature estimating disadvantage or wellbeing indicators for particular groups of the population at the local level, improving the ability of policymakers and communities to target locations of disadvantage. This has resulted in increased attention to place

[1] The original coining of the term 'social exclusion' has been attributed to Frenchman René Lenoir (1974).

and location by social and economic policymakers, channelling increased resources towards geographic areas that are particularly disadvantaged. Having area or location-based measures will increase transparency and accountability in allocating resources, inform detailed service planning and promote evidence-based policy (Noble et al., 2010). Thus, using spatial analysis to pinpoint educational disadvantage is also important. In Australia, for example, education is included as one of the domains of the spatial index of social exclusion for children and youth at a small area level (Abello et al., 2015; Miranti et al., 2015).

In this report, educational disadvantage is defined as disadvantage at the spatial level in terms of educational outcomes (with multiple outcome measures including cognitive test results, Year 12 completion rates and attendance rates for university and technical and further education (TAFE)). These outcomes are driven by a combination of one or multiple disadvantages in terms of socio-economic factors, school resources and other unobserved factors. This is explained in more detail in the methodology section.

The use of multiple outcome measures and the focus on a spatial level of disadvantage has made this index distinctive from the other indexes that are currently in use. These are the main contributions of the index.

EDUCATION PRODUCTION FUNCTION

To understand what drives the variations in educational achievement and to construct an index based on these core factors, we need a framework to analyse the process of education. Economists often analyse the relationship between school and student inputs and a measure of school output via an education production function, for example Coleman et al. (1966), Bowles (1970), Hanushek (1979, 1986, 1989, 1997, 2003), Summers and Wolfe (1977) and recently Scheerens et al. (2011). The concept of an 'education production function' treats education as a process of 'production', where inputs such as teaching, tutoring and student quality are converted to output, which is measured by the scores in a standardised test or other measures. For example, at the school level, the education production function measures the association between school and student inputs and school output. A typical education production function assumes the school output is driven by three important factors, namely the educational socio-economic factor, the school resource factor, and other factors such as student ability and school efficiencies (Coleman et al., 1966; Bowles, 1970; Hanushek, 1979, 1986, 1989, 1997, 2003).

A number of socio-economic factors outside the school environment may influence learning. These include 'home factors' such as parental educational attainment, household income, occupation or level of educational attainment of the parents and household composition. Demographic variables such as gender, Indigenous status, immigration status, and language spoken at home are also usually included under socio-economic characteristics (Sui-Chu and Willms, 1996; Rumberger and Palardy, 2005; Palardy, 2008; Perry and McConney, 2010a, 2010b; Lim et al., 2014).

Factors measuring school resources include the amount and quality of teaching services, the physical facilities of the school, and the length of time students are exposed to these inputs. Resources also include school assets, funding and expenditure. For school resources, indicators used include student–teacher ratio, student–support staff ratio, average salary for teachers or support staff, school funding, expenditures per student and expenditure composition (wages, spending on books and other materials) (Card and Krueger, 1996; Chakraborty and Blackburn, 2013). School resources also cover the type of school (public or private) and class size (Siegfried and Walstad, 1998; Buckingham, 2000; Considine and Zappalà, 2002; Butters et al., 2013).

Additionally, educational outcome is also driven by factors representing other unobserved characteristics, which the literature sometimes refers to as either the student's unobserved innate ability or the institutional features of the school system (such as the differences between the public and private system, or different teaching methods of schools in applying a similar curriculum) that may influence the efficiency of education production. These unobserved factors are more commonly referred to as effectiveness or efficiency factors (Aaronson et al., 2007). Freeman and Viarengo (2014) regarded this efficiency factor as a fixed effect, related to policies or practice beyond those mechanisms which sort students of differing abilities among schools or regions.

The final output of the production function is the educational outcome measures. Many existing studies use standardised test scores as proxies of educational outcomes, reflecting educational quality to some extent. For example, Chakraborty and Blackburn (2013) used the National Assessment Program – Literacy and Numeracy (NAPLAN) scores for the third and fifth grades in reading, writing and spelling as the educational outcomes of primary education in Australia. Perry and McConney (2013) used the Programme for International Student Assessment (PISA) score. Freeman and Viarengo (2014) also used PISA scores to measure educational outcomes across countries. However, others have used other proxies such as attendance rates, retention or dropout rates, Year 12 completion rates and university commencement (Burkhead et al., 1967; Katzman, 1971; Homel and Ryan, 2014).

While there is yet to be a universally agreed upon concept of, or measurement for, educational achievement, there is an increasing realisation in the literature that it is not based on a single test score (Hanushek, 1979). Scholars have suggested that education yields a multitude of results that cannot be easily captured by test scores, such as college attendance, future salaries, saving rates, physical and mental health (Fredriksson et al., 2013; Chetty et al., 2014; Dobbie and Fryer, 2015). As the end goal of education is not a score on a particular test, there is a need to consider a wider range of measurement. Given the growing acceptance of multi-dimensional measures in the field of human development and wellbeing, not only among researchers but also from practitioners and policymakers, it is crucial that we consider multiple educational outcome measures instead of relying purely on a single test score. For example, the UNESCO Education for All Development Index (EFA EDI) is a composite index, which includes several educational outcomes such as primary adjusted net enrolment ratio (ANER), adult literacy and quality of education (this final outcome is based on the proxy measures of survival rate to Grade 5 and gender parity). The education component of the

UN Human Development Index (HDI) does not use test scores and instead uses mean and expected years of schooling as two indicators of educational outcomes.

CONTRIBUTION OF THE INDEX

There are a small number of existing indexes that focus on education. However, they have different intended uses and/or a different target audience than IdEA. IdEA fills a gap in knowledge by aiming to measure the educational outcomes of senior secondary schools, including participation in higher education, at the small area level. This index complements other indexes already in use. Existing indexes, and the ways they differ from IdEA, are described below.

The ABS publishes the Index of Education and Occupation as part of the Socio-economic Indexes for Areas (SEIFA) which is available at various spatial levels (including SA1–4, Local Government Area (LGA) and Postal Area (POD)). The index is designed to reflect the educational and occupational outcomes of the adult population. It includes a combination of educational and occupational factors. Educational factors include the composition of adults aged 15 years and over by highest level of educational qualification while occupational factors include the composition of employed people by their skill levels. In comparison, although IdEA also focuses on educational outcomes, it does not focus on employment outcomes.

Another example is the Index of Community Socio-Educational Advantage (ICSEA) which is an index created by the Australian Curriculum, Assessment and Reporting Authority (ACARA). This index's value refers to the average level of educational advantage of a particular school's student population relative to those of other schools. Taking into account both student characteristics (such as parents' education and occupation) and school level factors (such as geographical location or the proportion of Indigenous students), ICSEA measures educational advantage/disadvantage at the school level. ICSEA is set at an average of 1000 and the higher the value the higher the level of educational advantage of students in a particular school. ICSEA covers Australian regions nationally. It allows impartial comparisons of NAPLAN results between schools. However, ICSEA focuses on school performance only and is limited to NAPLAN results. In comparison, although IdEA also draws on school data such as NAPLAN results, IdEA develops a more comprehensive measure that captures a wider range of academic and social outcomes. It also allows comparisons across regions, not only across schools.

Further, the South Australian Department for Education and Child Development has also published an Index of Educational Disadvantage which is limited to South Australia only. The index covers the following factors: parental economic resources, education and occupation; Aboriginal status; and student mobility. The index is calculated at the school level, where schools are categorised from category 1 (most socio-economically disadvantaged) to category 7 (the least disadvantaged).

In summary, IdEA includes national coverage of Census-related, school-related and small area-related variables that may be missing from other indexes. From a policy perspective, IdEA can assist

policymakers in understanding how best to target senior secondary or higher education equity interventions and outreach.

DATA

DATA SOURCES

All data used in this report are from three sources: the 2011 Australian Bureau of Statistics (ABS) Census of Population and Housing (the Census), the 2011 National Assessment Program – Literacy and Numeracy (NAPLAN) scores and the school profiles provided by the Australian Curriculum, Assessment and Reporting Authority (ACARA). All variables used in this analysis are aggregated to Statistical Area Level 2.

The Census covers the whole of Australia and is conducted by the ABS every five years to obtain a count of the number of people in Australia, their individual and household characteristics, and their dwelling characteristics. The Census used in this study was conducted on 9 August 2011. There are different spatial levels available in the Census given the geocoding of residential addresses in the Census databases. One of the smallest regional boundaries where data is available is Statistical Area Level 2 (SA2). The SA2 is part of the ABS Australian Statistical Geography Standard (the ASGS), with an average population of about 10 000, a minimum population of 3000 and a maximum of 25 000. Each SA2 roughly corresponds to a suburb. This spatial unit represents 'a community that interacts together socially and economically' (ABS, 2011, p. 21). We extracted the mean population characteristics at the SA2 level, the smallest spatial unit with reliable data. From 2214 SA2s listed in the ASGS, only 2196 SA2s can provide valid Census data. This is because several SA2s have been established to include classifications for people with no physical address in Australia, such as migratory, offshore, shipping and 'no usual address' categories.[2]

ACARA is the organisation that manages national school data on behalf of all Australian schools. It collects information such as the results from National Assessment Program (NAP) consisting of full cohort literacy and numeracy assessments (NAPLAN). ACARA also stores school profile information such as the number of teachers and financial resources of the school as well as student records. Since 2008, NAPLAN has been conducted annually for Australian students in Years 3, 5, 7 and 9 . It focuses on testing the abilities of students in four different domains: Reading, Writing, Language Conventions (spelling, grammar and punctuation) and Numeracy. NAPLAN student results include school-level results in numbers and bands. In this study, we extracted the following school-level

[2] Further explanation for these classifications is as follows. Migratory is a classification for people who are in transit on long distance trains, buses, aircraft and long-haul road transport vehicles on Census night. Offshore is a classification for people on oil rigs and drilling platforms and the like. It is also used for expeditioners in the Australian Antarctic Territory. Shipping is a classification for people who are on board vessels in Australian waters, in or between Australian ports on Census night. 'No Usual Address' is a classification for people who have no fixed address, such as travellers who move across Australia.

data: the average funding information and the student–teacher ratio (weighted by the number of students) and average Year 9 NAPLAN scores (weighted by the number of participants) for all schools except special schools for each SA2.

ACARA held profile information for 9498 schools in 2011, of which 9055 schools were non-special schools. This study excludes the special schools as they primarily target students with disabilities and diverse learning needs, and therefore may adopt very different teaching methods and curriculums. They are also covered by different regulations, including their funding arrangements (Harrington, 2011). Out of the 9055 schools, 8780 schools had detailed school enrolment and funding information. We estimated the resource availability per SA2 using these schools.[3] Figure 1 shows the distribution of the school sizes in the sample and Figure 2 shows the school density per SA2.

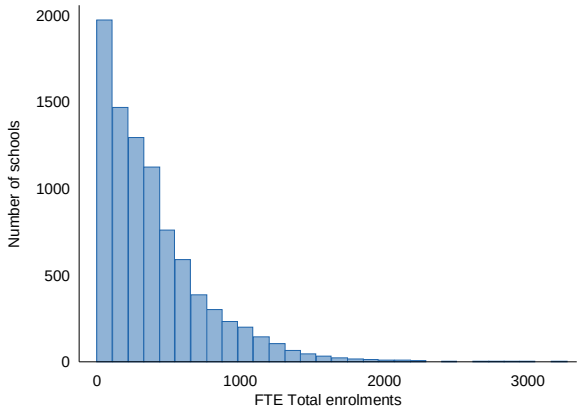

Figure 1 Total number of full-time equivalent (FTE) enrolments per school in Australia (non-special schools)

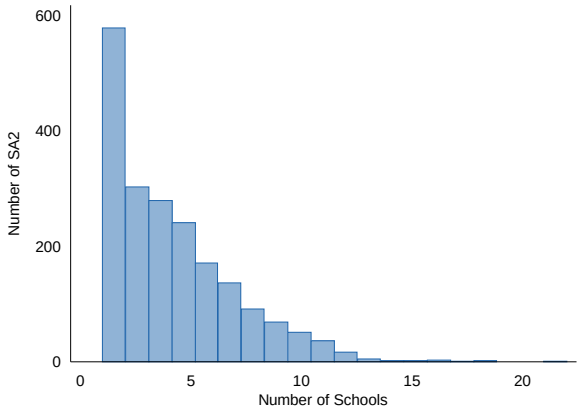

Figure 2 Distribution of the number of included schools per SA2

EDUCATIONAL OUTCOME MEASURES

In order to capture a more comprehensive picture of outcomes for secondary education in Australia, we use a series of measures, ranging from NAPLAN test scores to societal based measures such as Year 12 completion rates and the combined attendance rate for universities and TAFE.

[3] A small number of schools do not have detailed location information registered with the ACARA database. In such cases, the school was manually allocated to an SA2 based on school name, postcode information, etc.

From NAPLAN, we use four test results (Reading, Writing, Numeracy and Spelling). The use of all four scores reflects the academic progress of Australian students in a more comprehensive manner than other literature using one test score only.

The regional scores (SA2 level) for four subjects, one from each domain tested, are calculated based on the average score of the schools and weighted by the number of test participants. The NAPLAN data suggests that the academic performance of the SA2s varies substantially across Australia. Figure 3 visualises the distribution of the average Year 9 NAPLAN Reading score at SA2 level around Australia: darker colours indicate quintiles with better outcomes. The figure suggests that most of the SA2s in the best performing quintiles are located in the capital cities, although some regional and remote SA2s such as in the outback of South Australia and the north-west area of Victoria (Mildura and the Grampians) also have a good average NAPLAN Reading score. A similar pattern can be found for other NAPLAN subjects. It is worth noting that that the agricultural SA2s, such as those in the Murray-Darling Basin and the Wheatbelt of Western Australia (WA), are doing slightly better than other remote and regional SA2s.

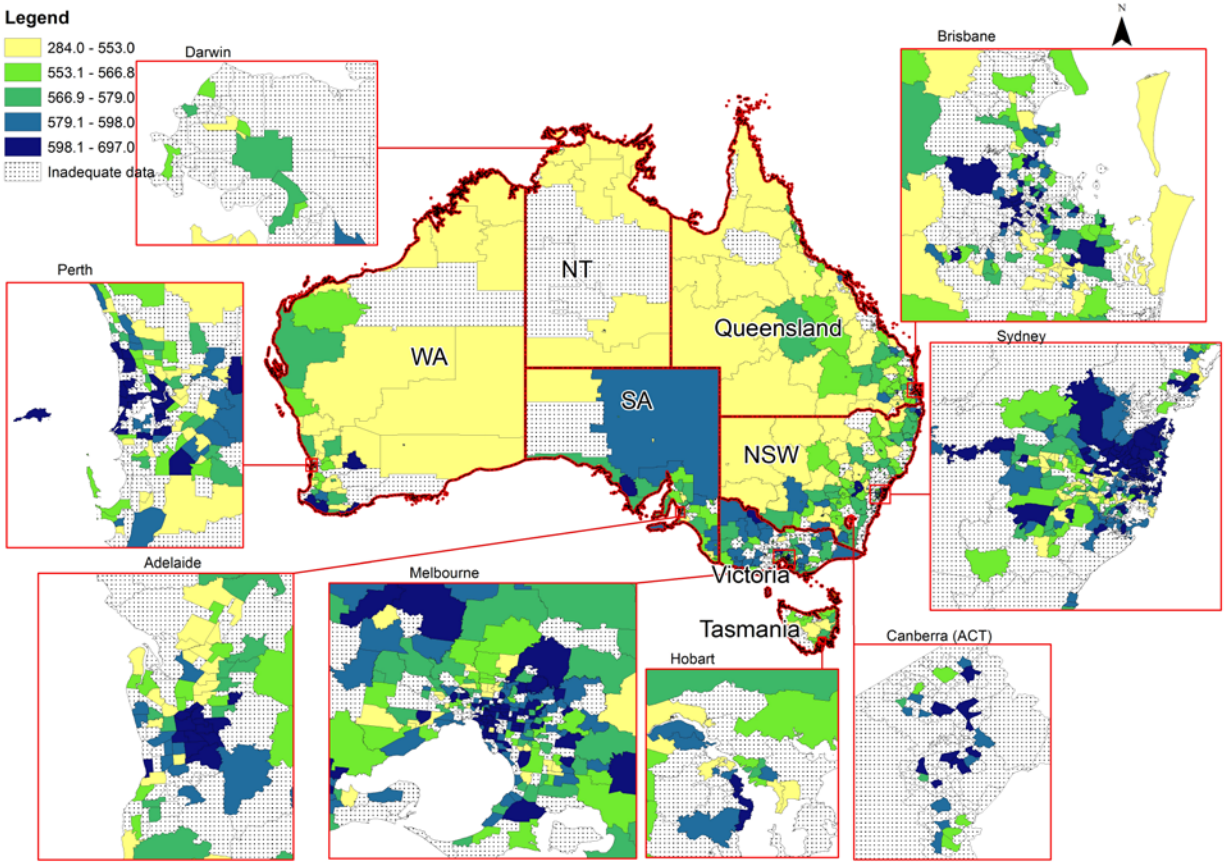

Figure 3 The average Year 9 NAPLAN Reading score in Australia at Statistical Area Level 2

Note: Classification is based on quintiles with darker colours indicating a better quintile. The patterned areas in this map represent areas where data are inadequate as a result of small population or the absence of a high school with sufficient observations of NAPLAN results.

Besides the NAPLAN test, which examines academic performance, we also include measures of post-school activities to reflect overall educational achievement. We selected two area-based outcome measures from the Census: the proportion of school leavers who have completed Year 12 (completion rate) and the proportion of school leavers who pursued further study in technical and further education (TAFE) or tertiary education, to complement the academic outcome measures. We restricted these measures to young people aged 17–21 years who are no longer attending high school, as this cohort would have just finished secondary schooling and are more likely to be enrolled in further education. As there is a possibility that students may have moved to attend college or university, we use their address five years ago, when they were still in high school, to better reflect the educational outcomes of an SA2 in terms of its basic education. On average around 36 per cent of those between 17 and 21 years old were attending a TAFE or a university in 2011.

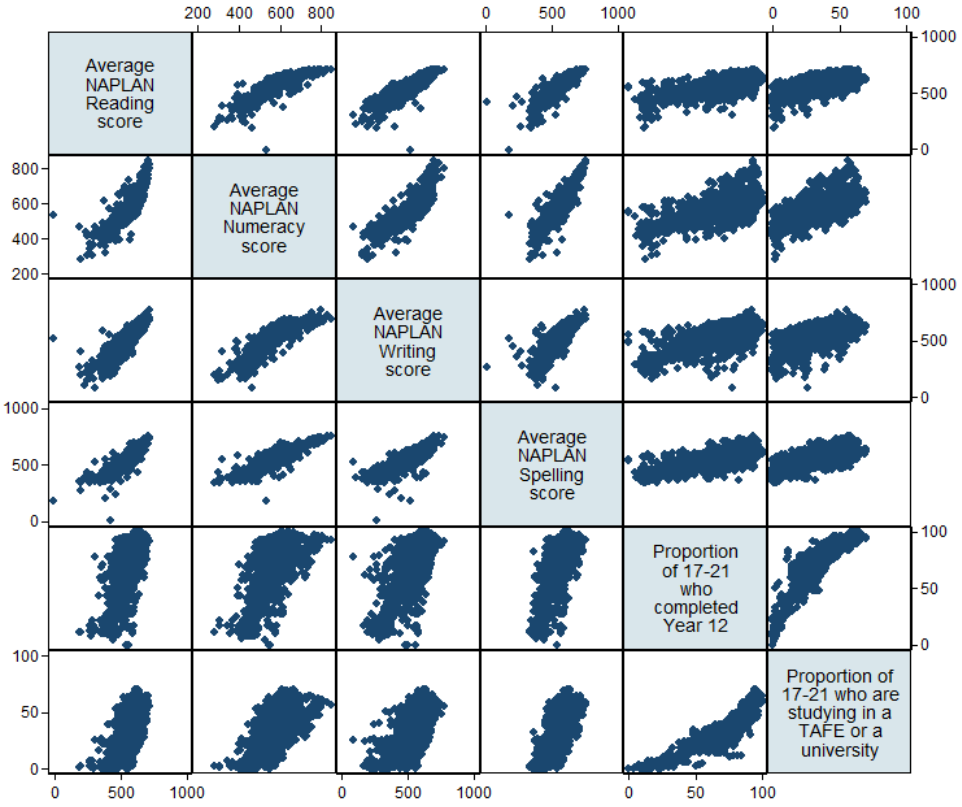

Figure 4 Correlations of the outcome measures

Notes: Each box shows the scatter plot of data between the six output measures. The names of the variables are written in the diagonal blocks. The scatter plot in the boxes indicates positive correlation among the six variables.

Thus, in total, this study uses six outcome measures with four school-based indicators and two general education indicators in each SA2. Figure 4 shows the correlations between these measures. All of the measurements are positively correlated while the correlations between the NAPLAN scores are stronger than the correlations between NAPLAN scores and the Year 12 completion or further education attendance rates. The six indicators give a richer picture of educational outcomes in Australia than any of the indicators can convey alone. Therefore, the six outcome measures are used to derive a single summary educational outcome which forms the basis of the Index of Educational Advantage (IdEA), described further below.

VARIABLES SELECTED FOR THE STATISTICAL MODEL

Having developed a comprehensive set of outcome measures, we then needed to develop the index by selecting appropriate variables to be incorporated in the statistical model. Table 1 gives an overview of all the included variables for both the input variables and the output measures used in the model. Each row of the table represents a major component in the education production function, and the second column lists the variables associated with the major factors, with the exception of the 'other (unobserved) factors' which are not directly measured.

Table 1 An overview of included variables

Component	Variables included
Outcome measures	NAPLAN Reading, Numeracy, Writing and Spelling scores, Year 12 completion rate, TAFE and university attendance rate.
Component	**Input variables**
Educational socio-economic factor	The proportion of Indigenous population, single parents, youth disability between ages 6 and 17, educational attainment of bachelor degree or above among the adult population, proportion of population according to language spoken at home, number of persons per bedroom (household overcrowding measure) and remoteness classification.
School resource factor	Capital expenditure per student, student–teacher ratio, proportion of teachers with a postgraduate degree, proportion of full-time students between ages 6 and 17 and the average school size.
Other (unobserved) factors	These factors are not specifically measured but may contribute to outcomes. They may include students' innate ability and the institutional features of the school system that may influence the efficiency of educational production.

Most measures of the socio-economic background of students are derived from the Census. These include the proportion of people with a bachelor degree or above, the proportion of single parents, remoteness criteria as well as ethnicity based on Indigenous status and language used at home.[4] The use of an Asian language at home is used as a proxy for cultural factors. This is an important variable as people with different cultural backgrounds often have different perspectives and motivations in pursuing education that may affect educational achievement (Robinson, 2012). McInerney (2008) found that Asian students have more sense of purpose, intention to complete further education, affect to school, and valuing school that increase their chances of higher achievement at school.

For the remoteness variable, each SA2 is mapped into one of three categories – Major Cities, Regional, and Remote SA2s – based on the ABS remoteness definition (ABS, 2011). A small number of SA2s include more than one category, and the remoteness of any affectedSA2 is classified as per the majority of the population that dominates in the SA2. Household overcrowding is also captured in the Census. This a proxy for the quality of housing, and measured here as the average number of persons per bedroom. This measure is important, as students would derive some educational benefit from having a space to study at home.

Measures of school resources should capture financial investment and the school characteristics in each SA2. The ACARA school level data provides information regarding school type, year range, enrolments, teaching staff and school finances. We selected capital expenditure per student, the student–teacher ratio and the number of full-time equivalent (FTE) students per school as the key variables describing resource availability. Our approach focuses more on the expenditure side of resources rather than the revenue side, as how funding is spent links better to educational outcomes. Although we do not include other expenditure items due data limitations, we mitigate this by incorporating the extra variables associated with the funding situation such as student–teacher ratio. From the Census, we extracted the proportion of teachers in the SA2 with a postgraduate degree and the proportion of full-time students among young people aged 6 to 17 years to reflect the quality of the teachers and the efforts made to retain students in education, respectively. The proportion of full-time students can be derived from the Census based on residence while the proportion of teachers with a postgraduate degree is based on work locations. Postgraduate qualifications among teachers is an important measure of school resources since

[4] Language used at home is divided into the following groups: English, other European, Asian and other according to the broad groups of the Australian Standard Classification of Languages. Further breakdown of this classification can be found at ABS cat. No. 1267.0 Australian Standard Classification of Languages, 2016. While language itself may not be directly linked to educational outcomes, it is sometimes argued that the cultural element (which is correlated with languages used) may be a contributing factor (Howard, 2010).

teachers are the most important assets of schools and teacher education has been seen as one important determinant in student academic achievement (Goldhaber and Brewer, 2002; Rowe et al., 2014)

The other (unobserved) factors are not directly measurable. Therefore, we model the effects as a latent variable in the statistical model. The measure reflects the specific conditions in the region, which could include student ability, instructional setup and local efficiencies in utilising the available educational resources.

Initial analysis of the data showed that among all SA2s, 1380 SA2s had data for all the variables required and data for all six educational outcome measures (all four Year 9 NAPLAN scores, TAFE and university attendance rates, Year 12 completion rates). Table 2 shows the detailed NAPLAN data filtering process, demonstrating how data availability affected the inclusion of SA2s in the modelling. The last row of the table summarises the data used in the final statistical modelling. The primary reasons for the reduced number of SA2s compared with the raw data are low population size and insufficient data for the key variables used in the model. Table 2 shows that the availability of high school information (schools with Year 9 NAPLAN scores) is crucial in determining the number of SA2s that can be used. Table 3 gives an overall description of those SA2s included in the statistical estimation, after the data filtering process was complete.

Table 2 Data filtering process description

Number of	Schools	SA2	SA3[5]
Schools in ACARA 2011 database	9498	1994	328
Non-special schools	8988	1992	327
with Profile and Funding Information	8780	1985	327
with NAPLAN Year 9 scores	2346	1382	325
Census 2011 (Excl. migratory/offshore)	-	2196	337
Final (with both valid Census and school information)	-	1380	325

Table 3 Key statistics of included variables

Variable Name	Mean	S.D.
Outcome Measures		
NAPLAN Reading Score	573.28	34.85
NAPLAN Numeracy Score	576.90	38.42
NAPLAN Writing Score	554.99	51.46
NAPLAN Spelling Score	572.76	33.87
Year 12 completion rate	0.75	0.13

[5] Statistical Areas Level 3 (SA3) are geographical areas aggregated from Statistical Areas Level 2 (SA2). There are 358 SA3 regions in Australia without gaps or overlaps. (ABS, 2011)

Variable Name	Mean	S.D.
TAFE and university attendance rate	0.36	0.12
Educational socio-economic factor		
Proportion of Indigenous people	0.04	0.10
Proportion of single parent families	0.16	0.05
Proportion of disability among people in school aged 6–17 (Youth)	0.03	0.01
Proportion of people with a bachelor degree or above	0.20	0.13
Proportion of people with Asian language	0.09	0.13
Proportion of people with other non-Asian, non-English language	0.02	0.07
Average number of people per bedroom (household overcrowding)	0.88	0.13
Household in a Regional SA2 (both inner and outer regional)	0.38	0.49
Household in a Remote SA2 (remote and very remote)	0.06	0.23
School resource factor		
Capital expenditure per student ($1k)	0.27	0.51
Student–teacher ratio	13.73	2.02
Proportion of teachers with a postgraduate degree	0.09	0.06
Proportion of full-time students among ages 6–17	0.96	0.02
School size	5.96	0.70
Others		
Total number of FTE students per SA2	5476.09	3766.75
Total number of Statistical Areas Level 2 (SA2s)	1380	

Note: Remoteness classification is based on the Australian Statistical Geography Standard (ASGS) Remoteness Structure.

EXPLORATION OF SELECTED VARIABLES

Geographically, there are large variations in both the outcome measures and the input measures. The geographical distributions of most variables suggest some advantages for capital city SA2s. We have selected some variables to illustrate the distribution of these variables.

In terms of school resources, the distribution of capital expenditure, the proportion of teachers with postgraduate degrees and the average size of schools are mapped. Figure 5 shows the geographical distribution of the average capital expenditure per student of the schools in different SA2s. As before, darker shading represents quintiles with higher values for the variables. The map shows the SA2s with considerably higher capital expenditure can be found in Sydney (especially to the north), Melbourne and Perth while relatively high capital expenditure can also be found in certain SA2s in Adelaide, Canberra and Brisbane. The upper quintile of the classification has a huge range from an average of $350 per student to $4500 per student. From around 275 SA2s in this category, only 89 SA2s have capital expenditure above $1000 per student.

The remote and rural SA2s have relatively lower capital expenditure than the urban SA2s. However, there are some regional and even remote SA2s with high capital expenditure per student (in the first and second quintiles) such as in Kimberley and the Wheatbelt in WA, Mount Isa, Maranoa, Mackay and the outback of Queensland. In New South Wales (NSW), the outback SA2s around Broken Hill have capital expenditure per student in the second quintile, in addition to Inverell, Lachlan Valley and Wentworth. However, it is important to note that these SA2s outside capital cities have relatively low numbers of students, meaning the total amount of expenditure is not as large as in the capital cities and they also have to deal with lower levels of infrastructure given the small population numbers. And despite these instances, there are still more SA2s with spending in the first quintile located in the capital cities.

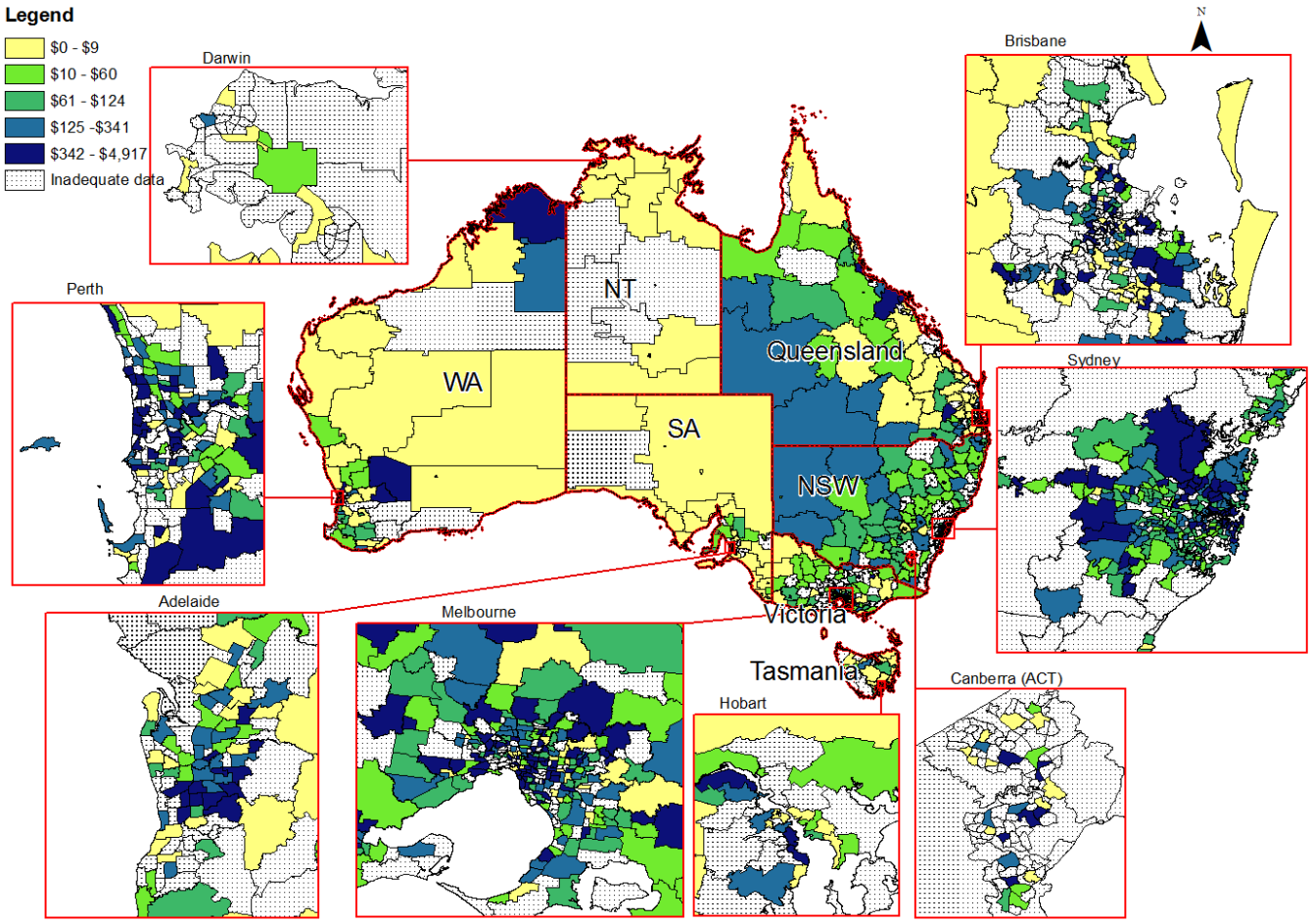

Figure 5 Average capital expenditure per student (by quintile, unit: dollar)

The Census data of teachers with postgraduate education based on place of work indicates that Sydney has the advantage in this category, as shown in Figure 6. The SA2s with a relatively high proportion of teachers with postgraduate qualifications are spread across many places within Sydney. Canberra and Darwin are two other cities where considerable proportions of teachers with postgraduate degrees are working, while the higher proportions of teachers with postgraduate degrees in Melbourne and Brisbane are more concentrated in the CBD SA2s. SA2s with high proportions of teachers with postgraduate qualifications can also be found in rural and remote regions, most notably in the South Australian outback, as well as south of Alice Springs (although it is possible these high proportions may be affected by the small number of teachers working in these SA2s).

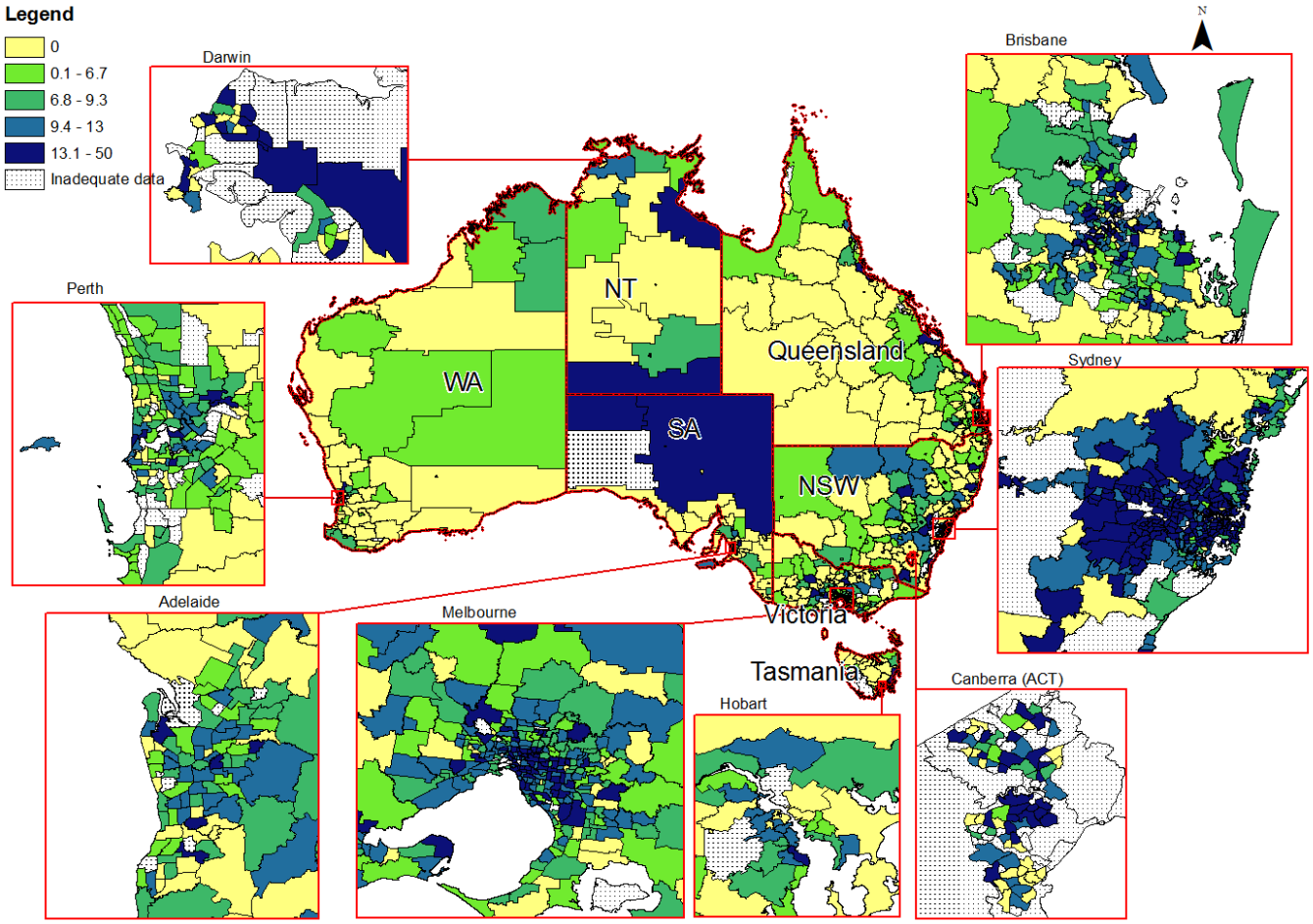

Figure 6 Proportion of teachers with postgraduate degrees (by quintile, unit: percentage)

Larger school size (shown in Figure 7) also appears to be commonly found in capital cities. However, the dominance of these capital cities is less marked if very remote SA2s are not considered. Within cities, there is no clear pattern as to where bigger schools are located. Lower population density could be one reason why the school sizes in rural SA2s are relatively small. On the other hand, the average size of schools in cities such as Sydney and Melbourne is not that high. This is because the large number of students would be distributed among the larger number of schools available in those cities.

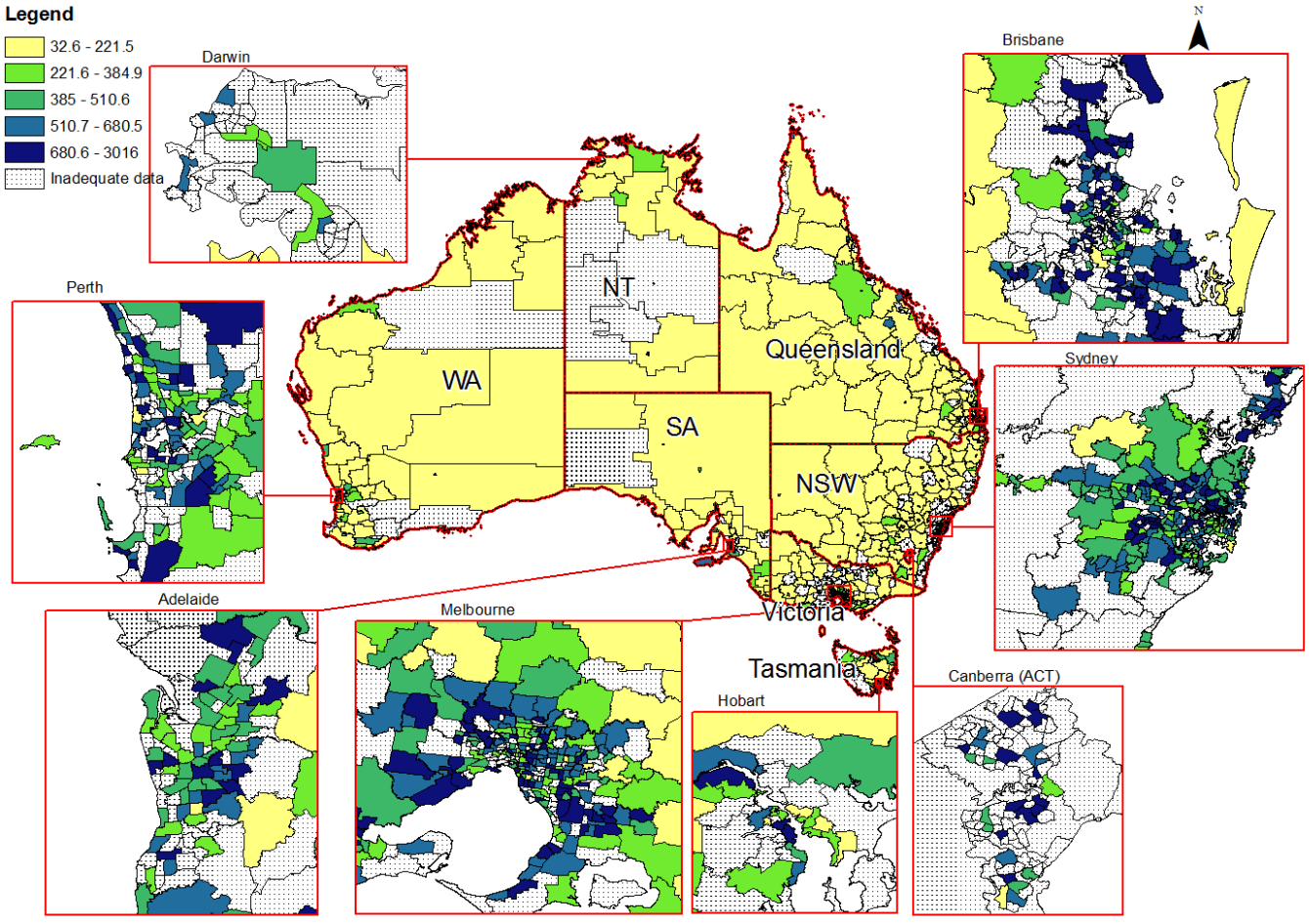

Figure 7 Average school size (by quintile, unit: number of FTE enrolments)

If we examine some of the socio-economic factors, we can find substantial variations across SA2s. While the general spatial patterns of socio-economic status such as household income, wages and salary, employment and occupation, household characteristics as well as home ownership are well

studied (Stimson et al., 2003; Baum, 2006), we have also included two variables less often discussed in spatial terms. The first one is the quality of housing, here measured with the proxy of household overcrowding (as captured by the average number of persons per bedroom). The second variable is related to cultural group with the use of an Asian language at home as the proxy. The inclusion of these variables enriches our exploration of the data and our understanding of spatial differences in these aspects of socio-economic status.

The distribution of household overcrowding, based on the average number of persons per room in different SA2s, shows an interesting picture (Figure 8), with darker quintiles representing more overcrowding. Households in the north and north-west of Australia are relatively more crowded than those in the south and especially south-east of the country. This could be influenced by cultural and social specificities in regions. In addition, the rural agricultural SA2s of NSW and Victoria (e.g. the Murray-Darling Basin) as well as WA (e.g. the Wheatbelt) show relatively little crowding. It is interesting to see the agricultural SA2s in Queensland such as Maranoa and Ballone do not share this pattern, although crowding there is still relatively low. The level of overcrowding in the capital cities is generally lower than the SA2s in the north and north-west regions of Australia, but households become more crowded in SA2s that are closer to CBDs. This pattern is clearer in Sydney and Melbourne, the two largest cities in Australia.

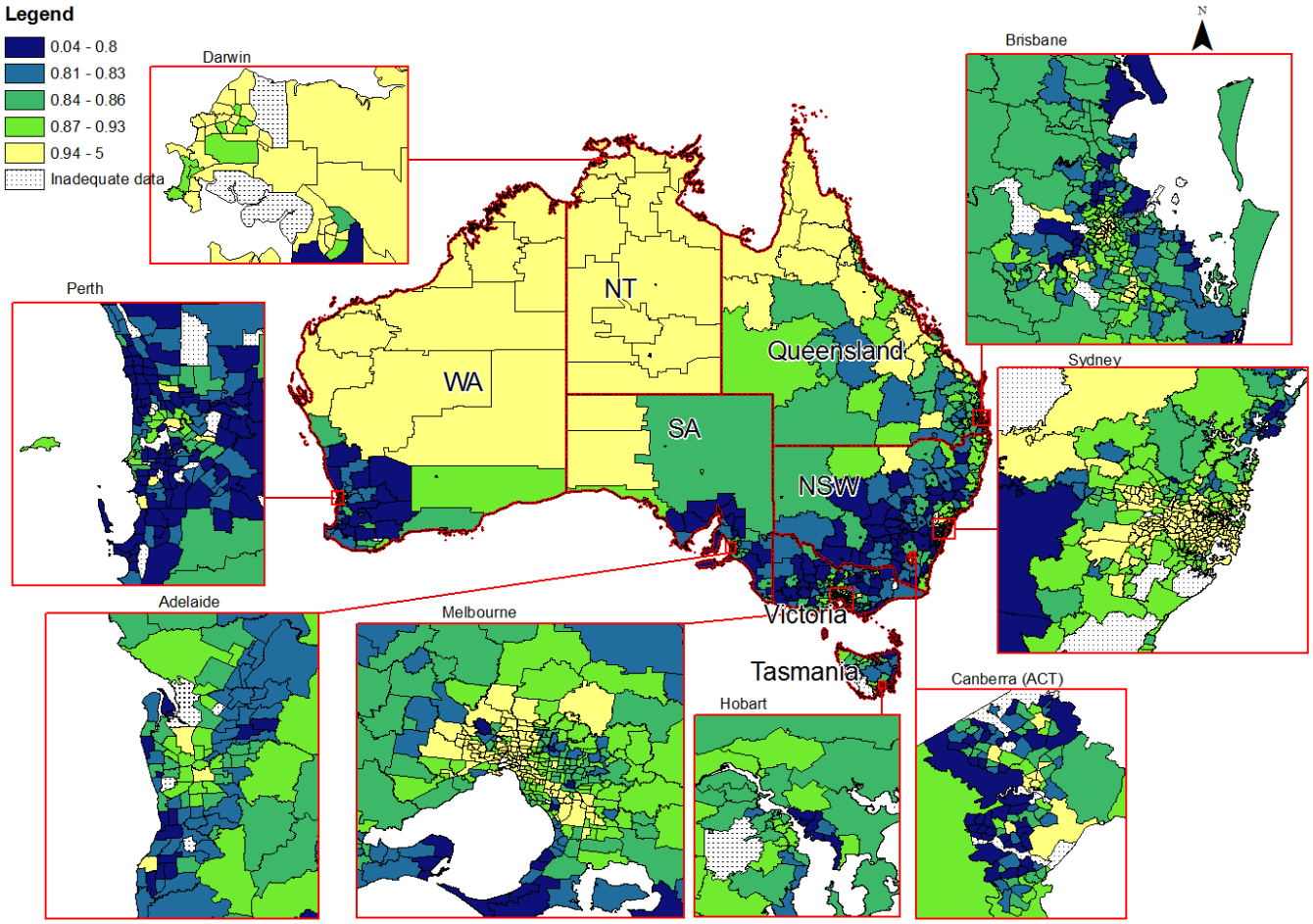

Figure 8 Average number of persons per bedroom (by quintile, unit: persons)

Note: darker quintiles indicate a higher average number of persons per bedroom (i.e. greater overcrowding).

Another variable in the socio-economic factor category is the use of an Asian language at home (to proxy the cultural background of students). Figure 9 shows a very high concentration of this variable in particular places within capital cities (darker shading indicating higher proportions of people speaking an Asian language at home). In Sydney, the SA2s from Sydney's inner west (Ashfield) to Parramatta and Fairfield are well-known as places where many people with Asian origins live. In Melbourne, Broadmeadows and Dandenong are also known for their high Asian population concentrations. The proportions are also high near the inner cities of Brisbane, Perth and Adelaide, while the Asian population is more evenly distributed in Canberra and Darwin. Another interesting pattern is that many mining SA2s, especially in WA, seem to have a considerable proportion of people speaking an Asian language at home.

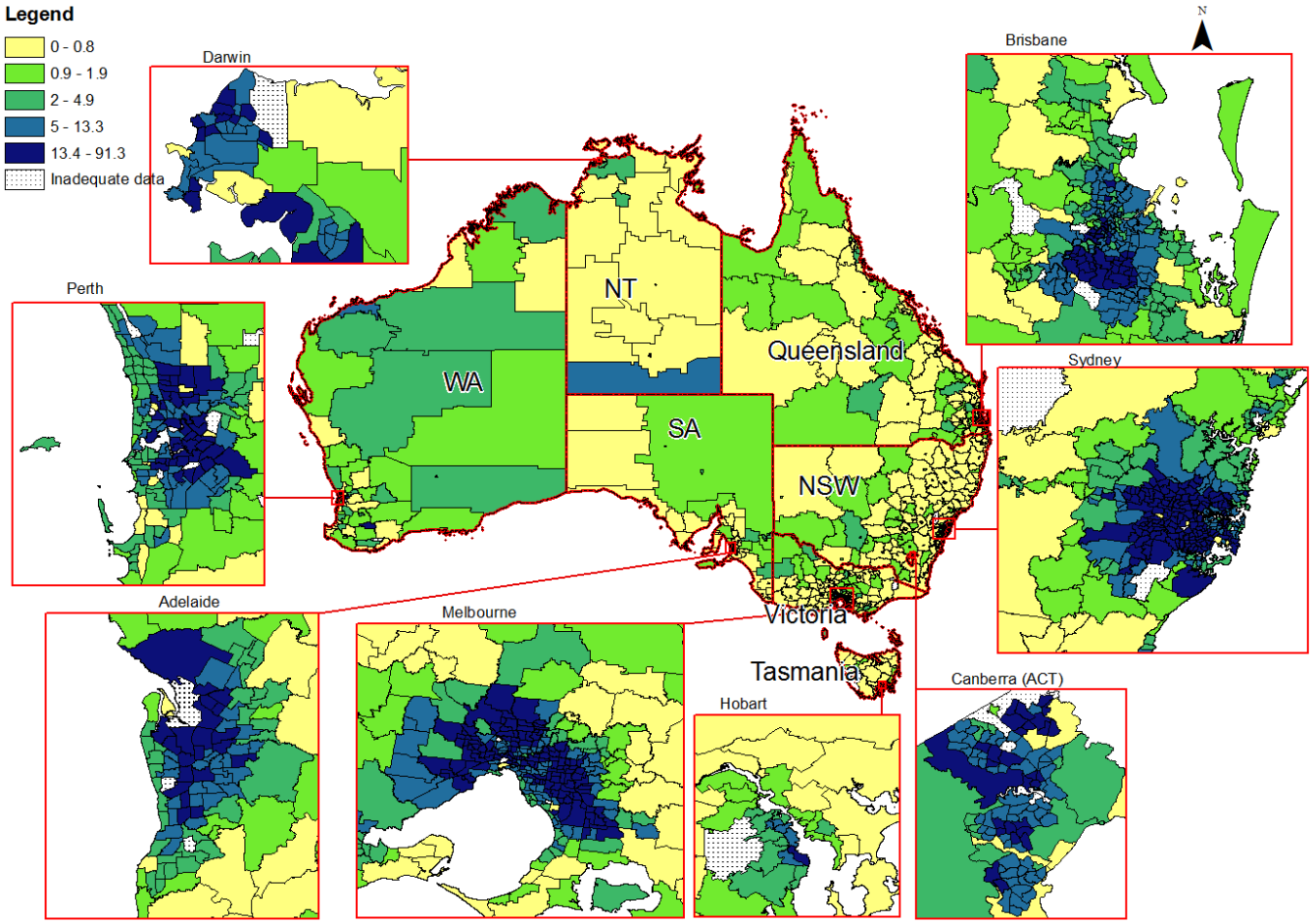

Figure 9 Proportion of the population using an Asian language at home (by quintile, unit: percentage)

INDEX DEVELOPMENT

MODELLING METHODOLOGY

The strengths and weaknesses of any composite indicator depend on the method through which the numeric values or weights are derived, and the interpretability of the numbers in the context of the chosen method. One popular method of indicator construction is principal components analysis (PCA). PCA is a multivariate statistical technique used to reduce the number of variables in a dataset into a number of unrelated 'components'. However, PCA has some weaknesses and in particular does not incorporate any theoretical underpinning.[6] This report adopts structural equation modelling (SEM) techniques, which allow us to incorporate the theoretical production function of education into the index construction. As SEM allows parametric specification of the relation between the educational outcomes and the social, economic and educational characteristics, it is possible to incorporate the theory of the educational production into the model, where variables that are known to affect educational outcomes and the outcome measures can be part of the model. This provides a strong theoretical justification for the estimation, and the results can be interpreted with relative ease. As discussed earlier, we use multiple indicators to represent educational outcome.

The core of the model is an education production function, where 'production' is seen as a combination process that adds value to human capital. Educational outcome will be affected by the quality of the inputs, including the socio-economic background of the student and school resources. We represent the proposed modelling framework graphically in Figure 10. Each of the three intermediate components (socio-economic, resources and others) can be converted to an index that measures the performance of the region. While socio-economic factors and resource availability are directly measured by the observed characteristics of the region, the model also incorporates an 'unobserved factor'. This is a latent variable that affects the performance of the region for all measurable educational outcomes. It incorporates factors such as the efficiencies of the education

[6] In PCA, the weights for each principal component are given by the eigenvectors of the correlation matrix (Nardo et al., 2005). PCA, however, imposes a number of strong assumptions. Firstly, it assumes that the direction of the largest variation in the data is aligned with the direction of the subject of interest. However, it is possible that the same sets of variables can reflect the variations of different domains. The lack of theoretical underpinning can sometimes make the discussion of the eigenvectors difficult, and cannot go beyond its mathematic meanings. Secondly, PCA assumes the equal importance of the variances for each contributing factor. This makes the results very sensitive to the scaling of variables and can be hard to justify, especially when contributing variables may not be directly comparable (for example, one measures the remoteness of an SA2 while another variable measures the number of students).

system, student quality, institutional features and the availability of auxiliary educational resources that are not reflected in any other observable measures.[7]

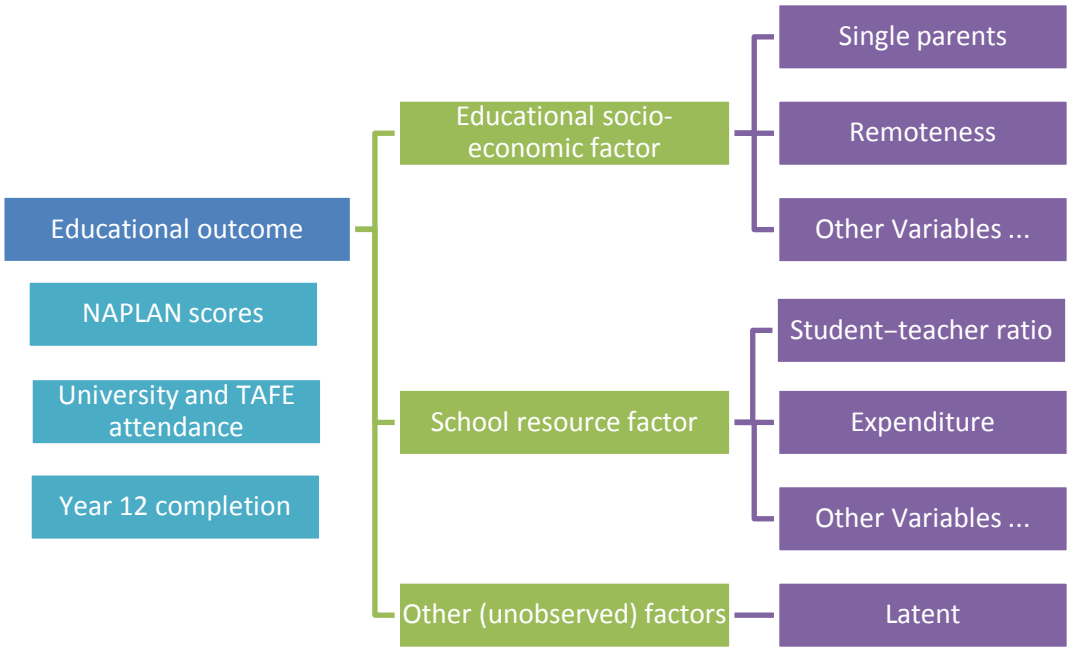

Figure 10 Modelling Framework

Note: 'Other variables…' means other socio-economic variables and other school resource variables respectively.

The form of the education production function can be expressed in different ways. The Cobb-Douglas production function is often used in the economic literature on manufacturing (Douglas, 1976; Blundell and Bond, 2000).[8] Although mathematically convenient, the specification has limited support in educational literature (List et al., 2012). For example, if the effects of school inputs on student achievement could be modified by the size of the school, the Cobb-Douglas's constant elasticities assumption could be overly restrictive (Bowles, 1970; Figlio, 1999). Additionally, empirical literature finds no evidence of complementarities between inputs, contrary to the Cobb-

[7] The unobserved factor differs from the error term in the sense that it is not random across the outcome measures; instead, it affects all outcome measures consistently.

[8] The Cobb-Douglas production function refers to a function that shows a relationship between two or more inputs, usually physical capital (K) and labour (L) and the amount of outputs that can be produced (Cobb and Douglas, 1928).

Douglas production function's assumptions (List et al., 2012). Various other nonlinear forms have also been explored but the notion of diminishing returns in some of the nonlinear applications is not well established in the field of education (Betts, 1996; Baker, 2001).

For simplicity and intuitive interpretation, most research (Bowles, 1970; Hanushek, 1979) adopts a linear specification when expressing such relations between the key inputs and output in the education process. Bowles (1970) suggested the education function is additively separable in its inputs, implying a linear specification may be more suitable in describing the education process. In this report, we use the same linear approach to specify the education production function.

When modelling the education process using the production function, there are still two main issues that need to be addressed. Firstly, educational outcome is a multi-dimensional concept that encapsulates all processes involved, and can have an impact on many outcomes, including but not limited to the results of a particular test. Secondly, some factors that affect outcomes, such as efficiency, are not directly observable. For example, it may be that good educational outcomes in some areas could be due to good educational efficiency despite limited resources. To address the issues above, in this study we jointly estimate multiple educational outcomes using a latent variable approach. We decompose the educational outcome into three major components, with each one having a straightforward interpretation. Each major component remains the same across outcome measures although its contribution to the particular measure may vary. All inputs are effectively mapped to one of the three latent factors (the socio-economic factor, the resource factor, and the other (unobserved) factor). Mathematically, this can be expressed as

$$y_{ij} = w_{1j}X_i\beta + w_{2j}Z_i\gamma + w_{3j}\theta_i + c_j + \epsilon_{ij}$$

Where

- y_{ij} represents the educational outcome measure j for the geographical area (SA2) i
- X_i represents the student's educational socio-economic factors in SA2 i
- β is the coefficient vector for socio-economic factors
- Z_i represents the school resource factors in SA2 i
- γ is the coefficient vector for school resource factors
- θ_i represents other (unobserved) factors in education in the SA2 i
- $w_{1j} \cdots w_{3j}$ are the weights for each component for outcome measure j
- c_j is the constant term for outcome measure j
- ϵ_{ij} is the idiosyncratic error term that follows a normal distribution

MODEL RESULTS

The model is estimated using maximum likelihood.[9] For numerical convenience and comparison purposes, all outcome measures are scaled to a mean of zero and a standard deviation of one in the estimation. Table 4 reports the estimation results of the effect of the three major factors on regional educational outcome achievement. Consistent with the descriptive statistics, we find generally richer school resources and better socio-economic conditions positively affect the educational outcome measures.

Table 4 Model estimation result (exclude weight parmeters)

Variables	β	S.E.
Educational socio-economic factor measures		
Proportion of Indigenous people	−0.70**	0.26
Proportion of single parent families	−0.59***	0.17
Proportion of disability among persons in school ages 6-17	−4.74***	1.19
Proportion of persons with Asian language	0.65***	0.16
Proportion of persons with other non-Asian, non-English language	0.05	0.20
Average number of persons per bedroom	−0.46***	0.13
Household in a Regional SA2	−0.05*	0.02
Household in a Remote SA2	−0.13**	0.04
Proportion of persons with a bachelor degree or above	1.33***	0.33
School resource factor measures		
Capital expenditure per student ($1k)	0.19***	0.04
Student−teacher ratio	0.01	0.01

[9] The parameters of the above model require extra assumptions and constraints as the model can have multiple solutions. For instance, if the sign of w is unconstrained, another set of the coefficients can have the same log-likelihood value with signs of w and β reversed. Similarly, the size of w would affect the size of β, γ, θ coefficients. To make the results stable and comparable, we constrain $w_{k1} = 1$ and $w_{kj} > 0$ for all $j > 1, k = 1,2,3$ in the estimation. As for the identification of θ, we can either impose a distributional assumption or estimate θ at a larger region than i. Since we have little knowledge of the potential distribution of θ, such assumptions can be strong and hard to verify. Therefore, we keep the θ unconstrained but estimated with a slightly lower resolution than i (SA2 level). This means θ is constant within an SA3, which contains 6 to 7 SA2s on average.

Proportion of teachers with a postgraduate degree	2.46***	0.60
Proportion of full-time students among ages 6–17	7.54**	2.50
School size (logarithm)	0.24***	0.04
Constant		
Constant for NAPLAN Reading	−8.85***	2.47
Constant for NAPLAN Numeracy	−8.70***	2.21
Constant for NAPLAN Writing	−9.18***	2.66
Constant for NAPLAN Spelling	−9.35***	2.56
Constant for Year 12 completion	−2.86	1.96
Constant for TAFE and university enrolment	−1.98	1.31

* indicates p-value <0.05, ** <0.01 *** <0.001. Standard errors are clustered by SA2s

Of the socio-economic measures, all factors are significant and consistent with the theoretical expectations. The findings are in line with a large volume of literature which finds positive associations between better socio-economic environments and educational outcomes (Renzulli and Park, 2000; Connor et al., 2001; Perry and McConney, 2010a, 2010b, 2013). Demographic variables such as gender, Indigenous status, immigration status and language spoken at home are often included as the socio-economic variables in examining educational outcomes (Lim et al., 2014). Our results show that a high concentration of Indigenous population negatively correlates to educational outcomes. Interestingly, the use of an Asian language is a significant positive factor. It is likely that the Asian educational culture, rather than the use of the language *per se*, positively contributes to the educational outcome. This result differs from some findings in other countries where migrants are not usually Asian. In Europe, for instance, the effect of non-native language use at home tends to be negatively associated with reading scores (Oppedisano and Turati, 2015).

In general, our empirical results from the educational resource factor measures are as expected. All variables have significant positive coefficients, with the sole exception of the student–teacher ratio. Student–teacher ratio may have been correlated with school size, as in Siegfried and Walstad (1998), who found the opposite (i.e. that class size did not matter once the student–teacher ratio was controlled). In terms of capital expenditure, our findings show that for every $1000 increase in capital expenditure per student, the outcome measure (e.g. test scores) will increase by 0.19 standard deviations, assuming the weight for the school resource component is one. This finding is in line with Hedges et al. (1994) and Pugh et al. (2015) who found positive relationships between

expenditure and educational outcomes.[10] The proportion of teachers with postgraduate degrees, the proportion of full-time students among people aged 6–17 years and school size are all found to be strongly significant and positively contribute to the outcome measures. The quality of a teacher (as proxied by the postgraduate qualification variable) seems to have a much clearer impact than the student–teacher ratio. The positive sign of school size may also suggest economies of scale in the schooling system, where larger schools can afford shared educational resources (such as sports facilities) better than the smaller schools.

Table 5 Estimations of component weights ($\boldsymbol{w}$)

Estimated w (ln)	Full Model	
Educational socio-economic factor	β	S.E.
$w_{1,1}$ (NAPLAN Reading)	0.000	-
$w_{1,2}$ (NAPLAN Numeracy)	0.237*	0.102
$w_{1,3}$ (NAPLAN Writing)	0.053	0.088
$w_{1,4}$ (NAPLAN Spelling)	0.113	0.125
$w_{1,5}$ (Year 12 completion)	0.913***	0.207
$w_{1,6}$ (TAFE and university attendance)	1.070***	0.222
School resource factor		
$w_{2,1}$ (NAPLAN Reading)	0.000	-
$w_{2,2}$ (NAPLAN Numeracy)	-0.005	0.060
$w_{2,3}$ (NAPLAN Writing)	0.042	0.067
$w_{2,4}$ (NAPLAN Spelling)	0.063	0.073
$w_{2,5}$ (Year 12 completion)	-0.896**	0.313
$w_{2,6}$ (TAFE and university attendance)	-1.109***	0.255
Other (unobserved) factors		
$w_{3,1}$ (NAPLAN Reading)	0.000	-
$w_{3,2}$ (NAPLAN Numeracy)	-0.147**	0.052
$w_{3,3}$ (NAPLAN Writing)	-0.347***	0.068
$w_{3,4}$ (NAPLAN Spelling)	-0.576***	0.087
$w_{3,5}$ (Year 12 completion)	-1.678***	0.431
$w_{3,6}$ (TAFE and university attendance)	-2.344**	0.825

* indicates p-value <0.05, ** <0.01 *** <0.001. Standard errors are clustered by SA2s

[10] See also Hanushek and Kim (1995) who have compiled literature examining the relationship between resources (including teacher salary and expenditure per student) and educational performance.

In addition to the coefficients discussed, the model also allows identification of the weight parameters (w) as reported in Table 5. This result reveals which of the three factors contribute the most to the educational outcome. While the weight coefficients are directly estimated, they may not be comparable, due to different variances across the three main factors. To address this, we standardised the weight according to the standard deviation of the numeric results of the component. [11]

Table 6 reports the contribution from each factor after standardisation as a proportion of the total change accumulated from all three components. As shown, a standard deviation improvement in educational resources will provide a larger boost to all NAPLAN scores compared with the same improvement to the socio-economic factors. Socio-economic factors contribute to about 30 per cent of NAPLAN outcome measures but around 80 per cent for the Year 12 completion rate and TAFE and university attendance rate. Conversely, the school resource factor and the other (unobserved) factor, which correlates to the efficiency of the education system and other unobserved local characteristics, matters only to the NAPLAN score, and their importance drops substantially for the other two outcome measures. Overall, socio-economic status has the largest impact on educational achievement, while school resource availability is often the most crucial factor for NAPLAN scores.

Table 6 Standardised weight ($\boldsymbol{w}$) for each factor as a proportion of total weights of the modelled components

Measurement Type	Socio-economic factor	School resource factor	Other (unobserved) factor
NAPLAN Reading	0.26	0.36	0.38
NAPLAN Numeracy	0.32	0.35	0.32
NAPLAN Writing	0.30	0.41	0.29
NAPLAN Spelling	0.33	0.43	0.24
Year 12 completion	0.75	0.17	0.08
TAFE and university attendance rate	0.83	0.13	0.04
Average	0.47	0.31	0.23

INDEX DERIVATION

As the model decomposes the variations of educational outcomes into three factors that carry distinct meanings, each of the latent factors can be calculated from the coefficients presented in

[11] Mathematically, the standardised weight can be expressed as $w'_{kj} = w_{kj}/sd\ (\Lambda_i)$ where $sd(\Lambda_i)$ indicates the standard deviation of Λ_i. Λ_i equals to $X_i\beta$ when k =1, $Z_i\gamma$ when k =2 and θ_i when k=3. The standardised weight therefore indicates the effect on the outcome measure given one standard deviation change.

Table 4 and translated into an index. The numeric value of each factor can be seen as a composite score of how well the region fares in one particular dimension. Figure 11 presents the distribution of these factors, together with a normal distribution curve for reference. It is worth noting that the estimation process does not impose any distributional assumptions on any of the factors. The educational resource factor more or less resembles a normal distribution while distributions of both the socio-economic factor and the unobserved factors are skewed.

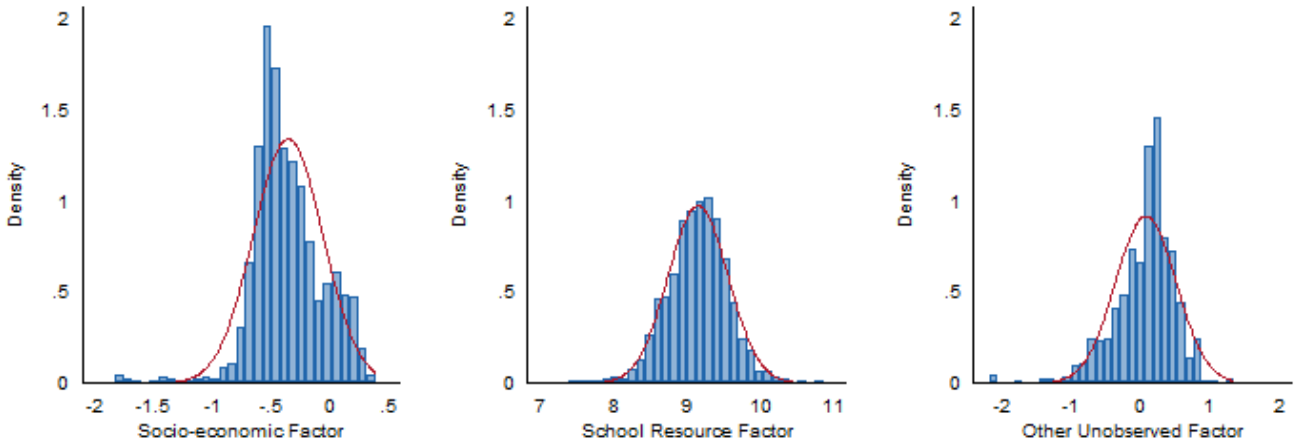

Figure 11 Distribution of the socio-economic, school resource and other (unobserved) factors at the SA2 level in Australia

The derivation of the index is achieved by discretising each of the components estimated in the model. The model structure leads to a series of indexes, with one focusing on socio-economic factors (I_i^{social}), another one focusing on school resources (I_i^{resource}) and the last one focusing on all the other factors such as efficiencies (I_i^{other}). Additionally to these three components, an overall index of educational advantage can be constructed based on the weighted mean.

Mathematically, these indexes can be expressed as,

$$
\begin{aligned}
I_i^{\text{social}} &= Q(X_i\beta) \\
I_i^{\text{resource}} &= Q(Z_i\gamma) \\
I_i^{\text{other}} &= Q(\theta_i) \\
I_i^{\text{overall}} &= Q(\bar{w}_1.X_i\beta + \bar{w}_2.Z_i\gamma + \bar{w}_3.\theta_i)
\end{aligned}
$$

Where $\bar{w}_k$. indicates the average weight contribution for the component k as specified in Table 6. $Q(\cdot)$ is a function that converts the continuous numeric value into its quantile position. The lowest value for the index is therefore 1 (bottom 20%) and the highest value is converted to 5 (upper 20%). For SA2s not included in the estimation sample, the indexes can still be computed as long as all variables included in X_i, Z_i are present. As most of the excluded SA2s were due to missing NAPLAN

results rather than missing Census information, an index can be assigned to the majority of the SA2s. In total, 1979 SA2s received a valid overall index of educational advantage. The quantile threshold is determined by all the SA2s, including the imputed SA2s.

Table 7 displays the distribution of the indexes at the SA2 level and Figure 12 visualises the distribution of the overall Index of Educational Advantage (IdEA) by state. The graphs show substantial differences across states and territories. In the Australian Capital Territory (ACT), nearly three quarters of the suburbs are rated with an index of 4 or 5. The Northern Territory (NT) seems to be the least advantaged in the ranking, with the majority of SA2s scoring 1, the lowest possible value in the index. Overall, ACT, NSW and Victoria have more SA2s in top performing tiers than the other states.

Table 7 Distribution of the indexes at SA2 level

Index	1 (Lowest)	2	3	4	5 (Highest)
Overall Index of Educational Advantage (I_i^{overall})	396	396	396	396	395
- Index of Educational Socio-economic Factors (I_i^{social})	398	397	397	397	397
- Index of Educational Resources (I_i^{resource})	397	397	396	397	396
- Index of Educational Efficiency and Other Factors (I_i^{other})	397	398	393	401	390

* Cell values indicate the number of SA2s with the specified index value in Australia.

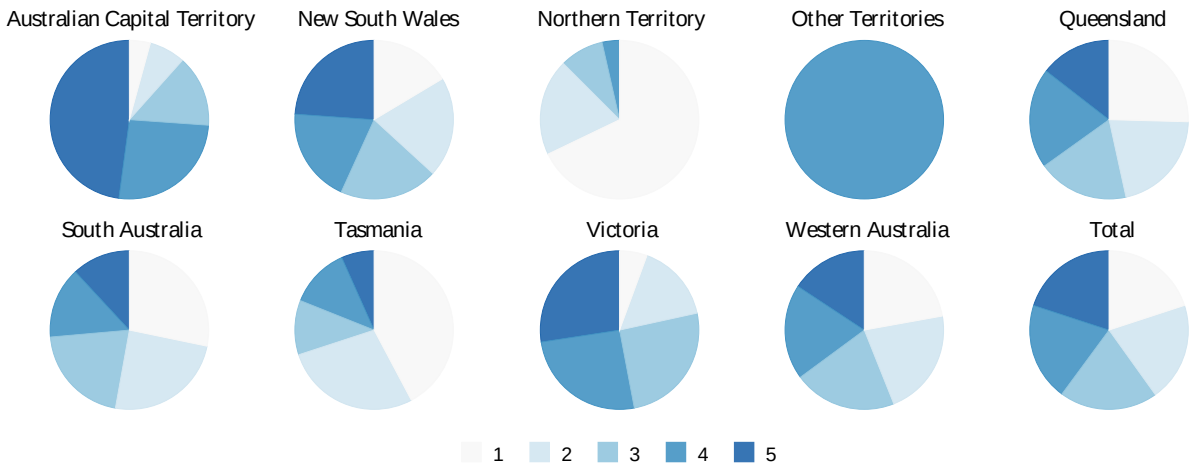

Figure 12 Distribution of the overall Index of Educational Advantage (1=lowest, 5=highest)[12]

[12] Note: other territories include Jervis Bay Territory, the Territories of Christmas Island, Cocos (Keeling) Islands and Norfolk Island, as per the ASGS guideline.

INDEX OF EDUCATIONAL ADVANTAGE

INTERPRETATION OF THE INDEX

Our statistical analyses suggest that there are multiple factors driving the divergence of educational outcomes in Australia. The index, as a result, should also reflect these gaps in multiple dimensions. In addition to the (Overall) Index of Education Advantage (IdEA), as has been discussed earlier, we also developed a series of indexes including:

- Index of Educational Socio-Economic Factors (IdEA-ESE)
- Index of Educational Resources (IdEA-ER)
- Index of Educational Efficiency and Other Factors (IdEA-EEO)

The Index of Educational Socio-Economic Factors (IdEA-ESE) is based on the coefficients of nine variables linked to socio-economic conditions. Of these the proportion of people speaking an Asian language at home and the proportion of people with bachelor degrees and above living in the SA2 contribute positively. The proportion of Indigenous people, household overcrowding, single parents, youth disability and Regional and Remote SA2s contribute negatively to the index. Given the apparent relationship between the spatial distributions of educational outcomes and socio-economic conditions, it is unsurprising that one of the leading contributing components is the socio-economic factor. A high value in this index indicates the socio-economic environment in the SA2 is good for the educational development of school-aged children while a low value in this index indicates a poor socio-economic environment for educational development.

The Index of Educational Resources (IdEA-ER) is composed of six variables, including capital expenditure per student, proportion of teachers with postgraduate degrees, proportion of full-time students among people aged 6–17 years in the SA2, school size and student–teacher ratio. A high value in this index indicates a high level of quality and quantity of the resources supporting educational development for school-aged children, while a low value in this index indicates constrained resources and poor setup of the schools in an SA2.

The Index of Educational Efficiency and Other Factors (IdEA-EEO) captures factors such as the efficiency of the schools in the SA2 and the general ability of students. It reflects how the SA2 utilises the available educational and economic resources, or how each of the SA2s performs given its socio-economic background and the available school resources. A high value in this index indicates educational performance is high given the area's resources and socio-economic background. A lower value indicates the SA2 could have performed better given its resources. Note that this index is produced at the SA3 level, assuming all SA2s in the same SA3 share a similar efficiency.

Encompassing all three dimensions above is the Index of Educational Advantage (IdEA) which summarises all three sub-indexes. It shows the overall educational advantage in the region. A high

value in this index indicates an overall high performance in school-aged children's educational development while a low value in this index indicates an overall poor performance in the SA2.

USE OF THE INDEX

The index aims to increase understanding about what contributes to the variations in secondary education outcomes in Australia and help policymakers and universities better allocate resources to help the less advantaged regions.

As each sub-index of IdEA summarises a different set of variables capturing different concepts, researchers and policymakers should choose the most suitable one for their own purposes. The overall index can be useful for identifying advantaged and disadvantaged regions in terms of education, to inform the allocation of particular services to boost educational outcomes. It can also help universities to better understand the educational background of prospective students and target scholarships to students from less than ideal regions. The IdEA can complement the use of the ICSEA produced by ACARA, which is calculated at the school level.

The index reveals substantial variations in secondary educational outcomes in Australia both at the aggregate level (IdEA) and each sub-dimension. The index breaks down overall educational performance into three factors that are closely linked to socio-economic development, school resource availability, and the other, unobserved factor which may be a combination of efficiency and specificities of the students in the local SA2s. Multiple outcome measures are used to ensure the robustness of the estimations. It should be noted that while the overall Index of Educational Advantage (IdEA) and educational performance as reflected by the six outcome measures are often in agreement, they do not necessarily match precisely, as the IdEA explores a wider range of measures and aims to look at the fundamental drivers behind educational outcomes.

The index can be used to identify SA2s that are advantaged relative to others. It shows the disadvantages of an SA2 are usually compounded by multiple factors. While funding is undoubtedly important, the study points to many other factors fostering ideal conditions for educational development among school-aged children. Generally, wealthier SA2s tend to provide better resources, although it is not necessarily true that they utilise the resources in the most efficient way. The IdEA-ESE is often correlated with the IdEA-ER while IdEA-EEO suggests a high degree of independence from the other two factors.

The relative performance along different dimensions of the indicators may reveal a bottleneck for local educational development. A low IdEA-ESE indicates the SA2 is generally poor for children's educational development, suggesting the need to improve the socio-economic conditions in the SA2, such as housing conditions and the completion of tertiary qualifications. On the other hand, a low IdEA-ER value may indicate the need for better funding while a low IdEA-EEO may indicate teaching practices or the system setup in the region could be improved.

All IdEA indexes are ordinal and should be interpreted as ordered values. An index value of 1 roughly corresponds to the bottom (least well-performing) 20 per cent of SA2s in Australia, while an index

value of 5 corresponds to the top (best performing) 20 per cent of SA2s in Australia. In the future, the index can be updated with new data from ABS and ACARA should these become available, and become a useful tool to track the progression of educational conditions in SA2s over time.

Researchers and policymakers should also be aware of the limitations of the index. Firstly, school catchment areas may not match SA2 boundaries. This analysis assumes that majority of students attend schools in the SA2s where they live. This assumption is necessary in order to map educational outcomes. While this assumption may be true in most cases, it may not fit every single suburb or regional area in Australia, especially in regions with very high private school concentrations. This may result in an over- or under-estimation of educational advantage in the specific SA2s, and primarily affects the educational resources index given its sensitivities to the school profiles, and to a lesser extent, the other two indexes. One possible way to mitigate this would be to take an average index of multiple neighbouring SA2s. Secondly, the robustness of the indexes relies on accurate data. ACARA data is generally reliable but may contain missing values, undetected reporting errors and exclude some of the very small schools. While this may not affect the results in a significant way under normal circumstances, it may have an impact if a strong reporting bias is present. The current analysis assumes the data is accurate and representative and does not model the potential reporting bias.

SPATIAL DISTRIBUTION OF THE INDEX

To visualise the variations across the country, we plot the distribution of each index spatially on the map of Australia. This allows us to link each identified factor with potential region-specific policies.

Figure 13 shows the spatial distribution of the composite measure of the overall Index of Educational Advantage at the SA2 level for the whole of Australia. Using quintile classifications, with a darker colour showing a better quintile, the figure extends the claim that there is a strong inequality of education achievement between rural and urban SA2s. However, we also observe substantial inequalities even within capital cities. There are disparities between the inner city and outer SA2s as can be seen in Sydney, Brisbane, Adelaide, Perth, Canberra, Hobart and, to some extent, Melbourne. Darwin is the only capital city where there is no strong concentration of SA2s. The inadequacy of data in this city may contribute to this occurrence.

There are other specific patterns within each of the capital cities. In Melbourne, the SA2s north-east of inner Melbourne from Darebin North to Whittlesea achieve relatively low educational outcomes, especially compared to the city's north-west SA2s. The concentration of SA2s outside of the inner city does not only take place in Melbourne. North of inner Sydney and west of Adelaide there are also SA2s where educational outcomes can be considered strong outside the inner city, while the other SA2s on the city outskirts have typically achieved lower educational outcomes. Nevertheless, these outer SA2s are generally still performing better than the regional and remote SA2s, although regional Victoria and the south-east of NSW have relatively better outcomes than most other regional SA2s. The concentration of SA2s with low overall index values is obvious for

the rural SA2s particularly in Western Australia, South Australia, the Northern Territory and Queensland.

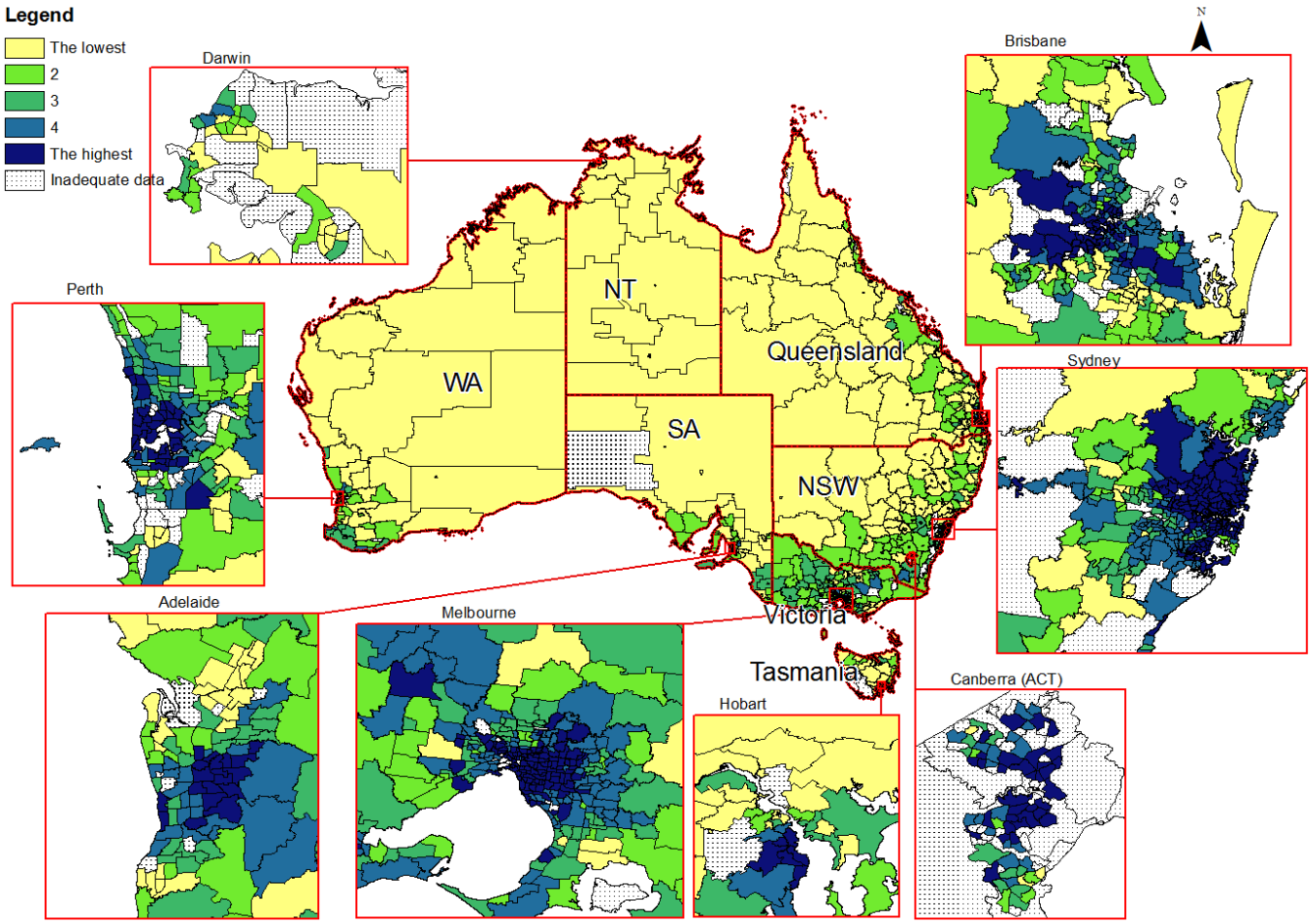

Figure 13 Distribution of the overall Index of Educational Advantage (1=lowest, 5=highest)

Figure 14 visualises the spatial distribution of the Index of Educational Socio-Economic Factors (IdEA-ESE). The figure indicates a strong concentration of high performing regions in the capital cities. This pattern excludes Penrith and Blacktown in the west of Sydney and some areas to the south (including parts of Fairfield and Campbelltown) and some SA2s north of Melbourne especially Whittlesea and other western SA2s such as Melton where SA2s that belong to the third and second quintiles can be found. This pattern matches with the concentration of jobless families in these two cities found by Vidyattama et al. (2010). It is also important to note that the concentration of high values on the socio-economic index (IdEA-ESE) in Brisbane does not include the Ipswich hinterland and Redland Islands.

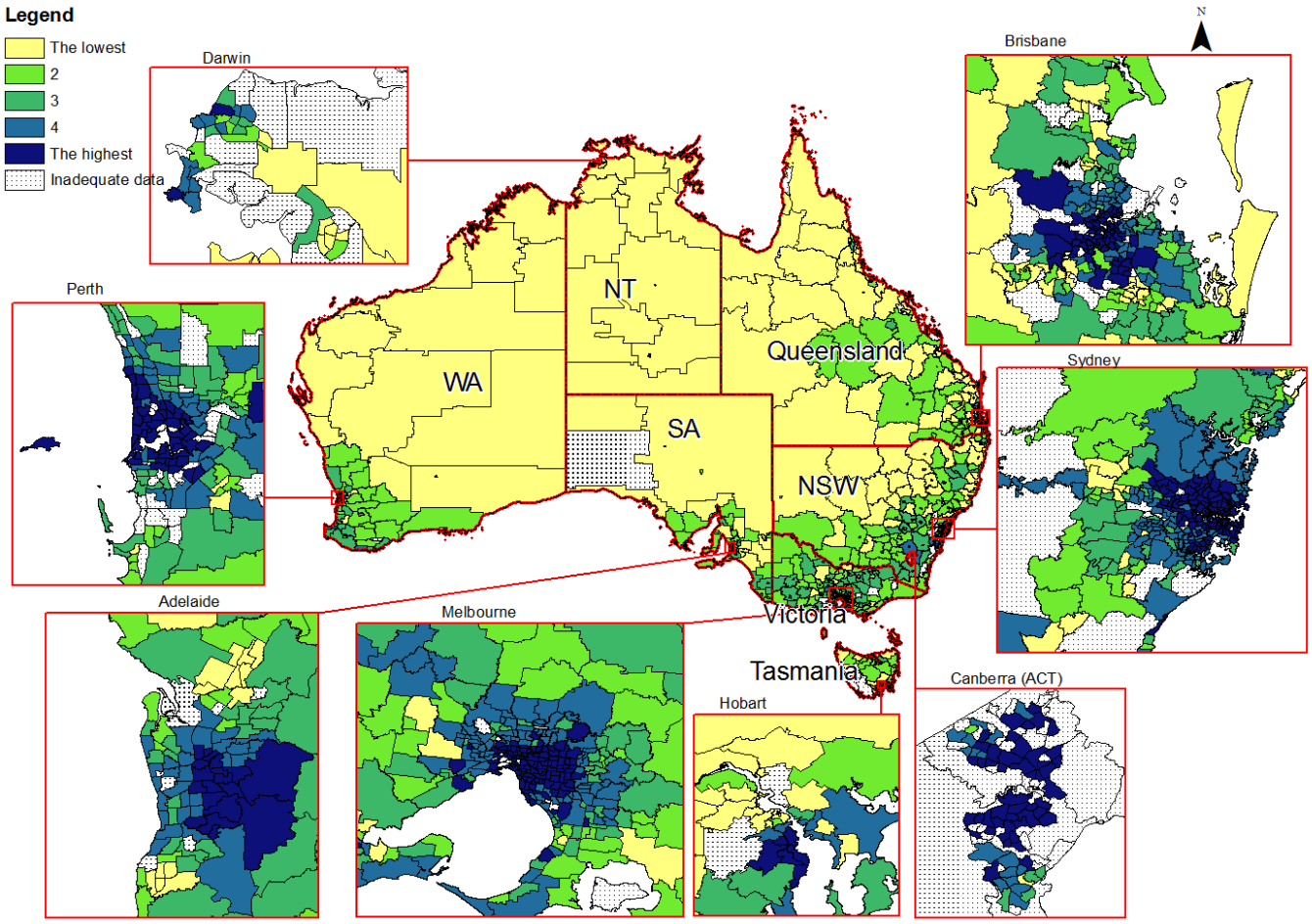

Figure 14 Spatial distribution of the Index of Educational Socio-Economic Factors (IdEA-ESE)

Figure 15 maps the Index of Educational Resources (IdEA-ER). It shows many of the SA2s in the top two quintiles of this index can be found in Sydney. The west and south-west SA2s of Sydney that have relatively low values on the Index of Educational Socio-Economic Factors (IdEA-ESE) show a relatively better position in the IdEA-ER. The concentrations in other capital cities such as Perth and Adelaide are less prominent. Most of the rural and regional SA2s are classified in the lowest quintile. This indicates that the regional SA2s still need to catch up with the capital cities in terms of resources and school setup. Another important note is that the two highest quintiles of the IdEA-ER are identified in Darwin suburbs.

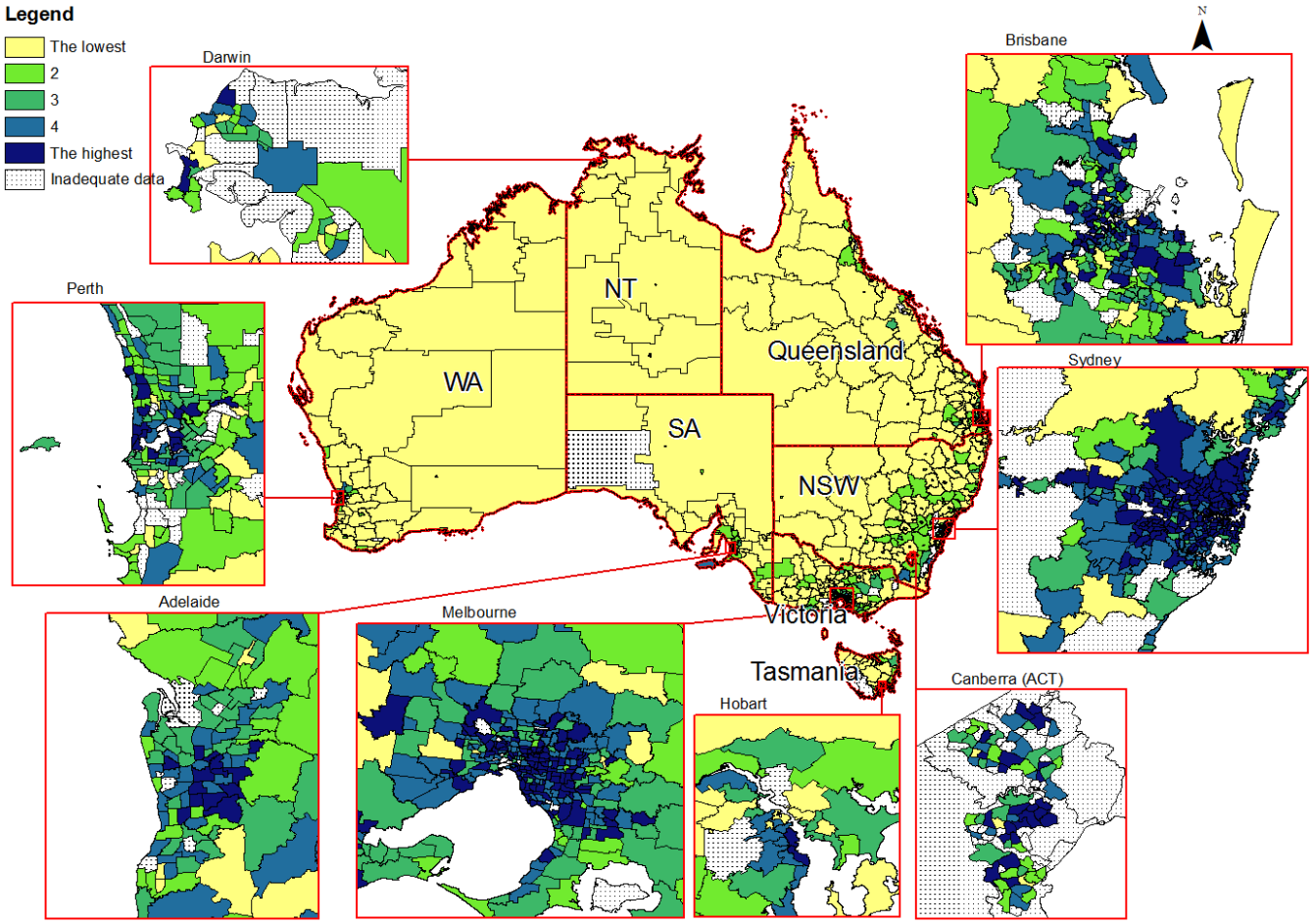

Figure 15 Spatial distribution of the Index of Educational Resources (IdEA-ER)

Another dimension of the IdEA is captured by the Index of Educational Efficiency and Other Factors (IdEA-EEO). This sub-index indicates how well schools in an SA2 perform compared to SA2s with similar socio-economic background and resources. Given the relationship among variables, the SA2s with strong outcomes but which are low in the two previous factors would be expected to have high values for the unobserved factor. Nevertheless, the outcome variables and the two domains are all showing concentrations in the capital cities. Therefore, the SA2s with high outcomes do not necessarily have the highest scores in this dimension. Figure 16 visualises the spatial distribution of this unobserved factor in quintiles. It shows that capital cities are no longer dominating in this dimension. Nevertheless, the wealthy SA2s on the Upper North Shore of Sydney especially in Hornsby and Ku-ring-gai are still identified as SA2s with high efficiency and other unobserved factors, on top of their already high values on the other two sub-indexes. Other city SA2s such as in Canberra, Brisbane and most of Melbourne's inner city suburbs are estimated to have a low

ranking for the IdEA-EEO. However, the outer SA2s in Melbourne and the surrounding SA2s of Brisbane (Ipswich hinterland and Redland Islands) are areas where this unobserved factor is estimated to be high. The unobserved factor is unsurprisingly high in the agricultural SA2s especially in the lower part of the Murray-Darling Basin including the north and north-west of Victoria, as well as southern New South Wales around Griffith-Murrumbidgee as well as in the Maranoa (or Roma) SA2 in Queensland. A more surprising result is the high scores in mid-west Western Australia. However, this is likely to be influenced by the outcomes of the coastal SA2s of this SA3, such as Exmouth, or the north part of Wheatbelt SA2s, such as Morawa.[13]

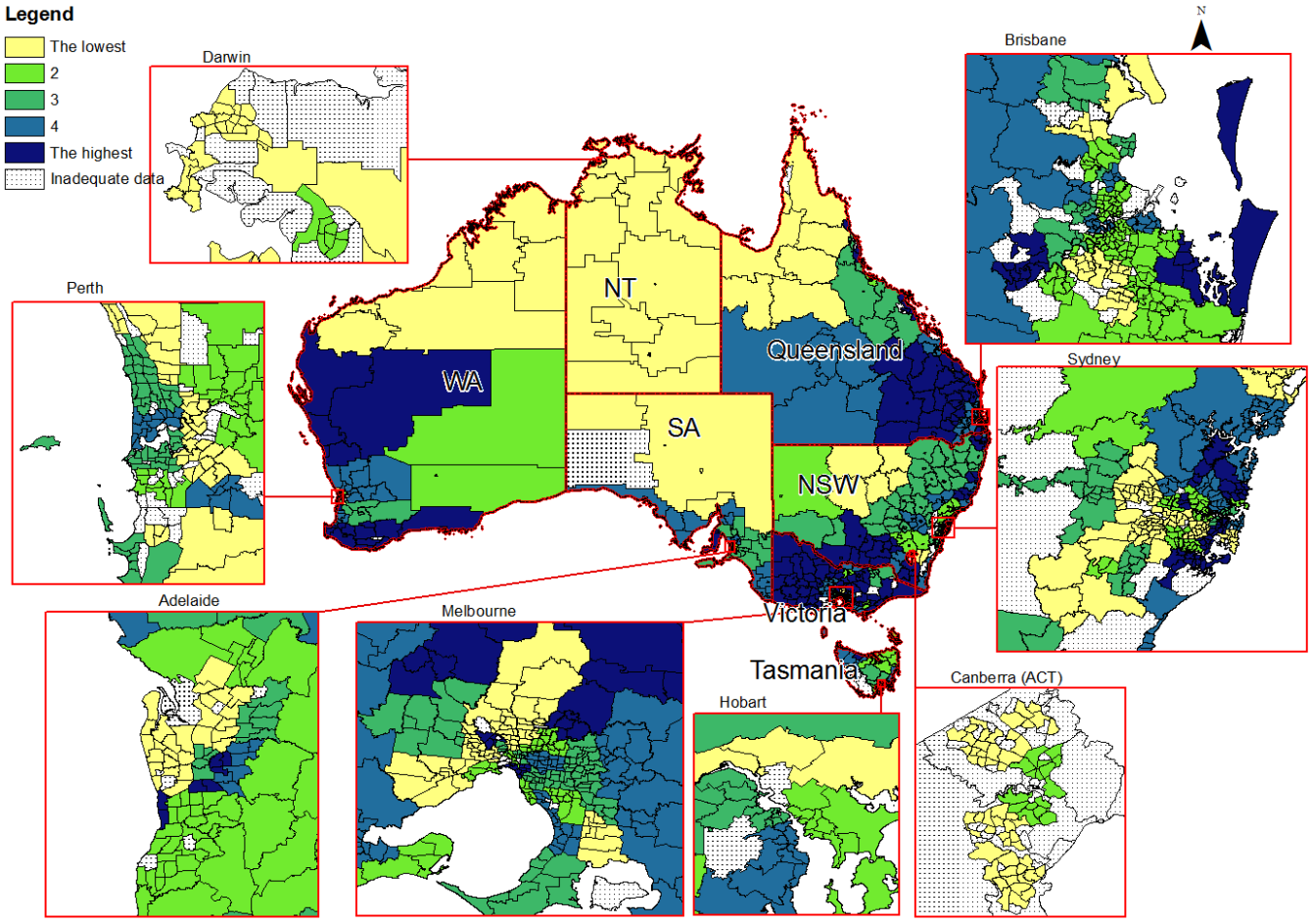

Figure 16 Spatial distribution of the Index of Educational Efficiency and Other Factors (IdEA-EEO)

[13] These maps can also be accessed via our online interactive map for further examination.

SA2S IDENTIFIED BY THE INDEX OF EDUCATIONAL ADVANTAGE

The top 10 SA2s according to the IdEA are reported in Table 8. All of these received an index ranking of 5 for the IdEA including the sub-indexes on resources (IdEA-ER) and socio-economic factors (IdEA-ESE), and above average in the educational efficiency and other factors index (IdEA-EEO). Given the socio-economic factor contributes to almost 50 per cent of the IdEA, it is expected that SA2s with a very high socio-economic status would be included in this list.

Table 8 Top 10 SA2s by IdEA

Suburb Name	State
Sydney - Haymarket - The Rocks	New South Wales
Neutral Bay - Kirribilli	New South Wales
Double Bay - Bellevue Hill	New South Wales
Gordon - Killara	New South Wales
Toorak	Victoria
North Sydney - Lavender Bay	New South Wales
Darlinghurst	New South Wales
Pymble	New South Wales
Pyrmont - Ultimo	New South Wales
Hawthorn	Victoria

According to the 2011 ABS National Regional Profile, six of the ten SA2s listed are among the top 30 of the 2200 SA2s in Australia in terms of average wage and salary income (Neutral Bay – Kirribilli; Double Bay - Bellevue Hill; Gordon – Killara; Toorak; North Sydney - Lavender Bay; Pymble). Most NSW SA2s in the list are directly adjacent to the Sydney CBD. Among the SA2s in Victoria, Hawthorn is also relatively close (around 5–10 km) from the Melbourne CBD. It is also the location of Swinburne University of Technology and several private schools, for which most NAPLAN scores are higher than the national average.

The bottom 10 SA2s according to the IdEA are shown in Table 9. All of these SA2s are in the north part of Australia and most have a large proportion of Indigenous people. Except for the efficiency factor in Palm Island and Yarrabah, where this is at average or higher than the national average, the value of IdEA, including all of its sub-indexes, is at the lowest value of 1. This suggests these SA2s tend to have limited educational resources, poor socio-economic conditions and unfavourable local specific conditions or efficiencies. This finding also highlights the challenges of raising educational performance in poor SA2s, as they are often disadvantaged in multiple dimensions. Failure to address the education issue may incur substantial long-term social and economic costs in these regions.

Table 9 Bottom 10 SA2s by IdEA

Suburb Name	State
West Arnhem	Northern Territory
Daly	Northern Territory
Elsey	Northern Territory
East Arnhem	Northern Territory
Tiwi Islands	Northern Territory
Palm Island	Queensland
Gulf	Northern Territory
Sandover - Plenty	Northern Territory
Halls Creek	Western Australia
Yarrabah	Queensland

Besides the top and bottom 10, we also identified some potential resource-constrained SA2s where school resource and socio-economic factors are poor but the educational efficiency or other unobserved factors are relatively high. While their overall performance is below average, these SA2s are doing a good job given their resource and economic constraints. Extra funding may be helpful in these SA2s. As shown in Table 10, there are six SA2s (excluding SA2s where not all outcome measures are available) that are in the bottom 20 per cent of both the socio-economic factors and educational resources indexes, but in the top 20 per cent for efficiency and with an overall IdEA greater than or equal to 2.

Bundaberg, Tully and Innisfail in Queensland are known agricultural SA2s with sugarcane as one of their main products. Tully and Innisfail are also known as important suppliers of bananas in Australia, while Bundaberg has brewing and tourism industries in addition to sugarcane. Loddon and Beaufort are regions that were known for gold mining, as they are located near Ballarat–Bendigo SA2s. These SA2s are generally not too far away from cities and may have benefited from good city connections. Many of these types of regional towns are facing net outmigration where mainly younger generations move to the bigger urban SA2s. The outflow however, may play a positive role by encouraging young people to further their education in more developed SA2s.

Table 10 SA2s with socio-economic and resource constraints

Suburb Name	State
Loddon	Victoria
Beaufort	Victoria
Bundaberg Region - South	Queensland
Tully	Queensland
Innisfail	Queensland
Bundaberg North - Gooburrum	Queensland

COMPARISON WITH OTHER INDEXES

COMPARISON WITH THE SOCIO-ECONOMIC INDEXES FOR AREAS (SEIFA)

The Socio-economic Indexes for Areas (SEIFA) is a set of indexes developed by the ABS that ranks SA2s in Australia according to relative socio-economic advantage and disadvantage (ABS, 2011, 2013). The latest version of SEIFA is based on the 2011 Census. It contains four indexes, namely the Index of Relative Socio-Economic Disadvantage (IRSD), the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD), the Index of Economic Resources (IER) and the Index of Education and Occupation (IEO).[14]

Although measuring different concepts, IdEA and SEIFA should generally point in the same direction given the high importance of socio-economic background in educational outcomes. In comparing SEIFA and IdEA, we noted a strong correlation between the two indexes. Table 11 shows that the correlation of the composite IdEA with the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) is approximately 0.75. Furthermore, the correlation between the socio-economic factors of education (IdEA-ESE) is even closer at 0.8. The very close relation between the two indexes can be seen as validation of this socio-economic factor as it contributes around 50 per cent to the overall Index of Educational Advantage.

Table 11 Correlation matrix between SEIFA and IdEA

	IdEA-ESE	IdEA-ER	IdEA-EEO	IdEA	IRSAD	IRSD	IER	IEO
IdEA-ESE	1.00							
IdEA-ER	0.69	1.00						
IdEA-EEO	0.00	-0.06	1.00					
IdEA	0.91	0.83	0.28	1.00				
IRSAD	0.80	0.54	0.08	0.75	1.00			
IRSD	0.74	0.49	0.15	0.71	0.98	1.00		
IER	0.51	0.32	0.13	0.49	0.84	0.88	1.00	
IEO	0.86	0.56	0.02	0.77	0.84	0.75	0.45	1.00

Another way to compare the SEIFA index and the IdEA-ESE is by examining the differences between area classifications. If the IdEA-ESE shows a similar distribution to the SEIFA index, we would find quintiles of the two measures would exactly match each other, with 20 per cent of the SA2s falling into each of the five diagonal cells. The comparison matrix between IdEA-ESE and SEIFA-IRSAD (Table 12) shows that around 49 per cent of the SA2s are matched in the same quintile and another 40 per cent are only off by one quintile classification. This indicates that around 89 per cent of SA2s

[14] Further information about SEIFA can be found at http://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa

fall into similar socio-economic classifications in both SEIFA and IdEA-ESE. Importantly, however, there are also noticeable differences between the two indexes. SEIFA includes more variables and some of the variables in the IdEA-ESE are age-specific, such as 15 years and above. Additionally, the calculation of IdEA-ESE is based on a theoretical guided statistical model compared with the PCA method used for SEIFA.

Table 12 Distribution of IdEA-ESE vs SEIFA-IRSAD

% of SA2	SEIFA- IRSAD				
IdEA-ESE	Q1	Q2	Q3	Q4	Q5
Q1	8.3	7.7	5.2	1.8	0.5
Q2	5.9	5.8	4.2	3.6	2.6
Q3	3.9	4.7	4.7	4.0	2.8
Q4	1.3	1.9	4.1	6.1	5.2
Q5	1.0	0.8	2.2	3.9	7.7

Although the overall Index of Educational Advantage (IdEA) and its socio-economic sub-index (IdEA-ESE) are the most appropriate for validating against SEIFA, a comparison with the two other factors of educational advantage may also cast further light on socio-economic advantage and disadvantage in SA2s. As shown in Table 13, there is still a noticeable overlap between the educational resources index (IdEA-ER) and the general SEIFA, with 32.5 per cent in the diagonal and almost 40 per cent having only a one quintile difference from the SEIFA-IRSAD index. This indicates that, to a certain extent, locations with socio-economic advantage also have better school resources.

Table 13 Distribution of IdEA-ER vs SEIFA-IRSAD

% of SA2	SEIFA-IRSAD				
IdEA-ER	Q1	Q2	Q3	Q4	Q5
Q1	5.6	3.3	4.5	4.1	3.9
Q2	3.4	3.5	3.9	5.5	5.0
Q3	3.8	4.1	4.1	3.5	3.8
Q4	2.9	4.8	4.4	3.5	4.0
Q5	4.7	5.1	3.4	2.8	2.1

Geographically, the high correlation between the educational resources factor and socio-economic conditions can be attributed to the fact that most schools with relatively high resources are located in capital cities. In contrast, regional SA2s tend to have lower educational resources even in regions with relatively good socio-economic conditions, such as Maranoa in Queensland, the WA Wheatbelt and the regions around the NSW Riverina. In addition, within the capital cities themselves, the connection between school resources and socio-economic conditions is not straightforward, as not

all the well-off regions of north Sydney excel in the resources dimension, while some relatively disadvantaged SA2s, such as those in the west and south-west parts of Sydney, seem to have better educational resources. Similarly, inner Melbourne and Adelaide have better resourced schools, although some of these SA2s are not well off in terms of socio-economic conditions. On the other hand, while the ACT (Canberra) region is above average in many economic measures as a whole, some of its suburbs are classified into lower quintiles in terms of educational resources.

Finally, we compare the efficiency and other factors index (IdEA-EEO) with the SEIFA. It appears that this factor has a low correlation with the socio-economic conditions identified by the SEIFA. Although the rank correlation coefficient gives a negative value (-0.06), the magnitude is low and it is statistically insignificant. This suggests this factor or domain of the index could contribute to identifying locations where schools and students perform beyond expectations. However, it is important to note that the contribution of this factor to the overall index is relatively small when compared with the other two (around 20%). For example, we notice that many agricultural SA2s and regional towns exhibit a high 'efficiency and other factors' value. On the other hand, some very well off SA2s in north Sydney and around Melbourne also have a high value in the IdEA-EEO. This is an interesting point, as it indicates that their expected educational outcome is higher than other places in Australia, compared with SA2s with similar resources.

Table 14 Distribution of IdEA-EEO vs SEIFA-IRSAD

% of SA2	SEIFA-IRSAD				
IdEA-EEO	Q1	Q2	Q3	Q4	Q5
Q1	5.3	3.0	4.3	3.9	3.5
Q2	3.0	3.1	3.7	5.3	5.0
Q3	4.0	4.3	4.0	3.7	3.7
Q4	3.3	4.8	4.3	3.5	4.3
Q5	4.9	5.6	3.9	2.9	2.4

COMPARISON WITH THE YOUTH SOCIAL EXCLUSION (YSE) INDEX

In this section, we compare the IdEA with the Youth Social Exclusion Index (YSE index), as this index is a youth-oriented measure of disadvantage which is more closely linked to the scope of the IdEA, which also covers school-aged children and young people.

The YSE index identifies and combines different aspects of youth disadvantage using the SA2 geographical unit. It is a published national level index that summarises social exclusion among the youth population aged 15–19 years based on several indicators under the six domains of socio-economic status, youth participation, education, caring responsibilities, health service access and housing (Abello et al., 2015).

Overall, the IdEA is correlated with the YSE index with a pairwise correlation coefficient of 0.66. This correlation means it is likely SA2s that are educationally disadvantaged based on IdEA are also likely to be SA2s with a high risk of youth social exclusion. We also noted a strong correlation between the socio-economic factor (IdEA-ESE) with the YSE index at 0.65, which may relate to our findings that IdEA-ESE contributes almost half to the overall Index of Educational Advantage. The comparison also shows a moderate correlation at 0.48 between the Index of Educational Resources (IdEA-ER) and the YSE, but a low correlation between the Index of Educational Efficiency and Other Factors (IdEA-EEO) and the YSE Index at 0.18).

Table 15 presents a matrix showing the distribution of SA2s according to the quintiles of the IdEA and the YSE indexes. The lowest quintile of IdEA covers SA2s with the most educational disadvantage while the lowest quintile of YSE index covers the SA2s with the highest risk of youth social exclusion.

If the IdEA shows a similar distribution to the YSE index, quintiles of the two measures would overlap with each other, with 20 per cent of the SA2s in each of the five diagonal cells. The shaded blocks (diagonal) in Table 15 refer to the proportion of SA2s falling into the same quintile in both the IdEA and YSE index. These results show that 41.8 per cent of SA2s fall into the same quintiles, capturing 827 SA2s.

Table 15 Distribution of IdEA vs YSE

%of SA2	YSE				
IdEA	Q1	Q2	Q3	Q4	Q5
Q1	11.4	5.4	2.1	1.1	0.0
Q2	4.1	6.7	5.8	2.8	0.6
Q3	2.1	4.9	6.2	5.1	1.7
Q4	1.8	2.0	3.6	6.3	6.3
Q5	1.2	1.5	2.0	3.9	11.3

Note: As the YSE index measures disadvantage, higher numbers in this index actually represents more disadvantage. To be comparable to the Index of Educational Advantage (IdEA), we flipped the YSE index, so the higher the index value, the more advantaged the SA2.

This comparison gives us an assurance that the Index of Educational Advantage points in expected directions. On the other hand, we can also see, given that the overlap in quantiles is only 41.8 per cent, the IdEA and YSE are not the same; that is, the YSE index may capture other aspects of disadvantage while IdEA focuses exclusively on educational outcomes.

We further investigated the off-diagonal SA2s identified in Table 15, particularly among the 24 small SA2s that fall into the top quintile of the IdEA but are at high risk of social exclusion according to the YSE index. These SA2s are all located in urban SA2s of mostly the two largest states of New South Wales and Victoria (with the exception of South Brisbane and Adelaide). This may reflect

multiple disadvantages experienced by young people living in urban SA2s. These suburbs include affluent SA2s such as Pyrmont – Ultimo, Potts Point – Woolloomooloo and Surry Hills in NSW; Richmond, Southbank and South Melbourne in Victoria; South Brisbane in Queensland; and SA2s that are close to educational institutions such as Clayton in Victoria where Monash University is located and Kensington-Kingsford in NSW where the University of New South Wales is located.

Abello et al. (2015) noted that some discrepancies between the top and the bottom YSE quintiles can be explained by differences in the included variables, such as the number of teenage births and the proportion of young people neither learning nor earning. Nevertheless, further examination of the components that contribute to discrepancies between IdEA and YSE is warranted for future research.

Conclusion

CONCLUSION

This report examines educational outcomes for school students at the small area level in Australia using a range of measures for outcomes: NAPLAN scores, Year 12 completion and university/TAFE attendance rates. The study reveals large discrepancies in educational performance across areas, echoing a number of earlier reports and academic studies. Such educational inequality may contribute to lifetime earning inequalities, health outcome discrepancies and differences in pursuing new opportunities in life.

The report further decomposes the educational outcome variations into three key driving factors, namely the educational socio-economic factor, the school resource factor and other (unobserved) factors, via an education production function. This statistical model allows us to extract both the observed and the unobserved but stable components in the data with a strong theoretical backing. The results suggest each of the three major factors identified plays a significant role in shaping educational outcomes, with the school resource factor being the most important in NAPLAN score measurements, and the educational socio-economic factor being the most important in non-score measures, such as Year 12 completion. This report converts the findings into a series of indexes measuring how well an area supports educational development for students.

We present a new set of indexes based on the results of the empirical estimations. The Index of Educational Advantage (IdEA) covers three key dimensions of the education process – socio-economic, resource and other factors (which may include efficiency) – and presents an overall summary index ranging from 1 to 5, where a low score indicates relatively greater educational disadvantage in an SA2 and a high score indicates relatively greater educational advantage in an SA2.

The IdEA highlights a number of patterns across, and challenges for, the Australian education system. We see a high concentration of quality educational resources and a good educational socio-economic environment in the capital city SA2s, especially in Sydney, a city with a high density of very advantaged suburbs, as measured by household income level. The results also show inequality within the capital cities particularly between the inner SA2s and those on the outskirts. North Sydney especially has many suburbs falling into the top quintiles in all sub-indexes. The close link between socio-economic conditions and educational outcomes calls for policies beyond schooling if we want to address one of the most important causes of educational inequality. Furthermore, we also find that the relatively poor performance in some rural areas cannot always be explained by poor resources or socio-economic factors alone: other factors such as efficiencies also appear to play an important role in determining educational outcomes in many of the remote SA2s. It is often the case that poor educational performance is the result of multiple factors. Similarly, we also note that some urban SA2s, such as some suburbs in the ACT, could further advance their performance if educational efficiencies were improved.

CONCLUSION

It should be noted that the index is derived from the reported data in 2011 which may not necessarily reflect the current situation due to changes in policies and the socio-economic environment.

By releasing the index, we hope to raise awareness of the substantial educational inequality in Australia, and contribute to the search for solutions and policy interventions that lift educational outcomes for everyone. This series of indexes is also published as an interactive online tool that could help policy analysts, researchers and the public to better understand the communities they are interested in.

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Appendix A: IdEA Index Listing

APPENDIX A: IDEA INDEX LISTING

IdEA: Overall Index of Educational Advantage. A low score indicates relatively greater educational disadvantage in the area in general. A high score indicates relatively greater educational advantage in the area in general.

IdEA-ESE: Index of Educational Socio-Economic Factors. A low score indicates relatively lower socio-economic conditions for education in the SA2. A high score indicates relatively higher socio-economic conditions for education in the SA2.

IdEA-ER: Index of Educational Resources. A low score indicates a relative lack of resources available to schools in the SA2. A high score indicates a relative availability of resources in the SA2.

IdEA-EEO: Index of Educational Efficiency and Other Factors.[15] A low score indicates relatively poorer efficiency and other educational performance factors in the SA2. A high score indicates relatively higher efficiency and other educational performance factors in the SA2. Please note that this index is estimated at the SA3 level.

A (*) suffix indicates that the area does not have all the observed outcome measures but the index can be still be estimated based on the input variables. Some SA2s are excluded due to the lack of schools in that area and missing data.

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Abbotsford	Victoria	5	3	3	5
Aberfoyle Park	South Australia	3	3	2	3
Adamstown - Kotara	New South Wales	4	4	5	4
Adelaide	South Australia	5	5	3	5
Adelaide Hills	South Australia	3	2	2	2
Agnes Water - Miriam Vale	Queensland	1	1	5	1
Ainslie	Australian Capital Territory	5*	3*	2*	5*
Airlie - Whitsundays	Queensland	3	2	5	3
Airport West	Victoria	3*	4*	5*	4*
Aitkenvale	Queensland	2*	1*	2*	1*
Alawa	Northern Territory	2*	1*	1*	1*
Albany	Western Australia	3	2	5	3
Albany Creek	Queensland	4	4	4	4
Albany Region	Western Australia	3	1	5	3

[15] 'Efficiency and other factors' captures the specificities of the local SA2, including student ability, institutional setup and other factors that are not included in the other two sub-indexes but could affect educational outcomes.

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Albert Park	Victoria	5	5	5	5
Albion	Queensland	5	5	2	5
Albion Park - Macquarie Pass	New South Wales	2	3	3	3
Albury - East	New South Wales	3	4	5	4
Albury - North	New South Wales	1	3	5	3
Albury - South	New South Wales	3	4	5	4
Albury Region	New South Wales	2	1	5	2
Aldgate - Stirling	South Australia	5	3	2	4
Aldinga	South Australia	2*	3*	2*	2*
Alexander Heights - Koondoola	Western Australia	3	4	1	3
Alexandra	Victoria	3	2	5	3
Alexandra Hills	Queensland	2	3	2	2
Alfredton	Victoria	3	4	4	4
Algester	Queensland	4*	4*	1*	1*
Alligator	Northern Territory	1	1	1	1
Alphington - Fairfield	Victoria	5*	5*	2*	5*
Altona	Victoria	4	4	2	4
Altona Meadows	Victoria	3*	4*	2*	3*
Altona North	Victoria	4	5	2	4
Amaroo	Australian Capital Territory	5	5	1	4
Andergrove - Beaconsfield	Queensland	1	2	5	2
Anindilyakwa	Northern Territory	1	1	1	1
Anna Bay	New South Wales	2*	3*	3*	2*
Annandale	Queensland	4	4	2	4
Annerley	Queensland	5	4	2	5
Anula	Northern Territory	3*	2*	1*	1*
Applecross - Ardross	Western Australia	5	4	3	5
APY Lands	South Australia	1	1	1	1
Aranda	Australian Capital Territory	5*	5*	1*	5*
Ararat	Victoria	2	2	5	3
Ararat Region	Victoria	3*	1*	5*	2*
Ardeer - Albion	Victoria	4*	1*	1*	2*
Armadale	Victoria	5	5	5	5
Armadale - Wungong - Brookdale	Western Australia	1	1	4	1
Armidale	New South Wales	3	3	3	4
Armidale Region - North	New South Wales	3	1	3	2
Armidale Region - South	New South Wales	3	1	3	2
Arncliffe - Bardwell Valley	New South Wales	5*	4*	5*	5*
Aroona - Currimundi	Queensland	2*	4*	4*	3*
Arundel	Queensland	3	5	5	5
Ascot	Queensland	5*	4*	2*	5*

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Ascot Vale	Victoria	5*	4*	3*	5*
Ashburton (Vic.)	Victoria	5*	4*	4*	5*
Ashburton (WA)	Western Australia	1	1	1	1
Ashcroft - Busby - Miller	New South Wales	1	4	1	1
Ashfield	New South Wales	5	5	1	5
Ashfield - Kepnock	Queensland	1	2	5	2
Ashgrove	Queensland	5	5	4	5
Ashmore	Queensland	3*	4*	4*	4*
Ashwood - Chadstone	Victoria	5	5	3	5
Aspendale Gardens - Waterways	Victoria	5*	5*	4*	5*
Aspley	Queensland	4	5	2	4
Asquith - Mount Colah	New South Wales	4	4	5	5
Athelstone	South Australia	4	5	4	5
Atherton	Queensland	2	2	3	2
Auburn	New South Wales	5	5	1	4
Auchenflower	Queensland	5*	4*	4*	5*
Augusta	Western Australia	3*	1*	5*	3*
Austins Ferry - Granton	Tasmania	2	4	3	3
Australind - Leschenault	Western Australia	3	2	4	3
Avalon - Palm Beach	New South Wales	4	4	4	5
Avoca	Victoria	2*	1*	5*	2*
Avoca Beach - Copacabana	New South Wales	4*	4*	4*	4*
Ayr	Queensland	1	2	3	1
Babinda	Queensland	2	1	5	2
Bacchus Marsh	Victoria	2	5	3	4
Bacchus Marsh Region	Victoria	2*	1*	4*	2*
Badgerys Creek - Greendale	New South Wales	3	4	1	3
Bairnsdale	Victoria	1	3	5	2
Bakewell	Northern Territory	1*	2*	2*	1*
Balcatta - Hamersley	Western Australia	4	2	3	3
Bald Hills	Queensland	3	5	3	4
Baldivis	Western Australia	3	4	3	4
Balga - Mirrabooka	Western Australia	3	4	3	3
Balgowlah - Clontarf - Seaforth	New South Wales	5	5	2	5
Balgownie - Fairy Meadow	New South Wales	4	4	4	4
Ballajura	Western Australia	3	3	2	3
Ballarat	Victoria	4	5	4	5
Ballarat - North	Victoria	3	2	4	3
Ballarat - South	Victoria	1	3	4	2
Ballina	New South Wales	1	3	5	3
Ballina Region	New South Wales	3	3	5	4
Balmain	New South Wales	5*	5*	3*	5*

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Balmoral	Queensland	5*	5*	2*	5*
Balonne	Queensland	1	1	5	1
Balwyn	Victoria	5	5	4	5
Balwyn North	Victoria	5	5	4	5
Banana	Queensland	2	1	5	2
Bangalow	New South Wales	4*	2*	5*	4*
Banjup	Western Australia	4	3	2	4
Bankstown	New South Wales	4	4	2	4
Bannockburn	Victoria	3*	3*		
Barcaldine - Blackall	Queensland	2	1	4	1
Bardon	Queensland	5	5	4	5
Bargara - Burnett Heads	Queensland	2*	1*	5*	3*
Bargo	New South Wales	1*	1*	1*	1*
Barkly	Northern Territory	1*	1*	1*	1*
Barmera	South Australia	1	1	3	1
Barossa - Angaston	South Australia	3*	3*	4*	4*
Bass Hill - Georges Hall	New South Wales	3	5	2	4
Bassendean - Eden Hill - Ashfield	Western Australia	4*	2*	1*	3*
Bateau Bay - Killarney Vale	New South Wales	2*	3*	1*	2*
Bateman	Western Australia	5*	4*	3*	5*
Batemans Bay	New South Wales	2*	2*	4*	3*
Batemans Bay - South	New South Wales	3	2	4	3
Bathurst	New South Wales	2	4	4	3
Bathurst - East	New South Wales	2	2	4	2
Bathurst Region	New South Wales	3	2	4	3
Baulkham Hills (East)	New South Wales	5	5	4	5
Baulkham Hills (West) - Bella Vista	New South Wales	5	5	4	5
Bayonet Head - Lower King	Western Australia	3*	2*	5*	3*
Bayswater	Victoria	3	2	3	3
Bayswater - Embleton - Bedford	Western Australia	4	5	1	4
Bayswater North	Victoria	3*	3*	3*	3*
Bayview - Elanora Heights	New South Wales	4	5	4	5
Beachmere - Sandstone Point	Queensland	2*	1*	1*	1*
Beacon Hill - Narraweena	New South Wales	4*	4*	5*	5*
Beaconsfield - Officer	Victoria	3	4	4	4
Beaudesert	Queensland	1	2	5	2
Beaufort	Victoria	1	1	5	3
Beaumaris	Victoria	5*	5*	2*	5*
Beauty Point - Beaconsfield	Tasmania	1*	1*	2*	1*
Beckenham - Kenwick - Langford	Western Australia	4	2	1	2
Beechboro	Western Australia	3*	2*	2*	2*

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Beechworth	Victoria	4	1	3	3
Beeliar	Western Australia	4	3	2	3
Beenleigh	Queensland	1	3	2	1
Beerwah	Queensland	1	3	4	3
Bega - Tathra	New South Wales	2	3	4	3
Bega-Eden Hinterland	New South Wales	2*	1*	4*	2*
Belair	South Australia	5	5	2	5
Belconnen	Australian Capital Territory	5*	2*	1*	4*
Belgian Gardens - Pallarenda	Queensland	4*	2*	2*	3*
Belgrave - Selby	Victoria	4	4	4	4
Bellbird Park - Brookwater	Queensland	3	4	2	3
Bellbowrie - Moggill	Queensland	5*	5*	3*	5*
Bellerive - Rosny	Tasmania	4	3	2	3
Bellevue Heights	South Australia	5	4	2	5
Bellingen	New South Wales	3	3	3	3
Belmont	Victoria	3	3	4	4
Belmont - Ascot - Redcliffe	Western Australia	4	2	1	3
Belmont - Bennetts Green	New South Wales	2	3	3	3
Belmont - Gumdale	Queensland	4*	4*	2*	4*
Belmont South - Blacksmiths	New South Wales	1*	1*	3*	1*
Belmore - Belfield	New South Wales	4	4	1	3
Benalla	Victoria	1	3	5	3
Benalla Region	Victoria	3*	1*	5*	1*
Bendigo	Victoria	1	3	5	3
Bendigo Region - North	Victoria	3*	1*	5*	3*
Bendigo Region - South	Victoria	3*	1*	4*	2*
Benowa	Queensland	4	5	1	4
Bentleigh - McKinnon	Victoria	5	5	3	5
Bentleigh East	Victoria	4	5	3	5
Bentley - Wilson - St James	Western Australia	5*	3*	1*	4*
Bentley Park	Queensland	1	5	2	2
Beresfield - Hexham	New South Wales	1	2	5	2
Berkeley - Warrawong - Windang	New South Wales	1	3	3	2
Berowra - Brooklyn - Cowan	New South Wales	4*	3*	5*	5*
Berri	South Australia	1*	1*	3*	1*
Berriedale - Chigwell	Tasmania	1*	1*	3*	1*
Berrimah	Northern Territory	1	4	1	1
Berry - Kangaroo Valley	New South Wales	4*	2*	3*	3*
Berserker	Queensland	1	1	4	1
Bertram - Wellard (West)	Western Australia	3	2	1	1
Berwick - North	Victoria	4	5	3	4

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Berwick - South	Victoria	4	5	3	4
Bethania - Waterford	Queensland	2	4	2	3
Beverley	South Australia	3*	4*	1*	2*
Bexley	New South Wales	5	5	5	5
Bicton - Palmyra	Western Australia	4*	2*	3*	4*
Bidwill - Hebersham - Emerton	New South Wales	1	4	1	1
Biloela	Queensland	2	1	5	2
Bilpin - Colo - St Albans	New South Wales	2*	1*	2*	1*
Birkdale	Queensland	3*	4*	2*	3*
Blackburn	Victoria	5	5	4	5
Blackburn South	Victoria	5*	4*	4*	5*
Blackheath - Megalong Valley	New South Wales	4	2	3	3
Blacktown (East) - Kings Park	New South Wales	4	5	1	4
Blacktown (North) - Marayong	New South Wales	3	5	1	3
Blacktown (South)	New South Wales	4	5	1	3
Blackwood	South Australia	5*	2*	2*	4*
Blaxland - Warrimoo - Lapstone	New South Wales	4	4	3	4
Blayney	New South Wales	2	2	4	2
Bli Bli	Queensland	3*	2*	4*	3*
Blue Haven - San Remo	New South Wales	1	3	1	1
Bolton Point - Teralba	New South Wales	1	2	3	1
Bombala	New South Wales	2	1	5	2
Bondi - Tamarama - Bronte	New South Wales	5	3	4	5
Bondi Beach - North Bondi	New South Wales	5	5	4	5
Bondi Junction - Waverly	New South Wales	5	5	4	5
Bonnells Bay - Silverwater	New South Wales	3*	1*	3*	2*
Bonnyrigg Heights - Bonnyrigg	New South Wales	4	5	1	4
Bonython	Australian Capital Territory	4*	2*	1*	3*
Boonah	Queensland	2	1	4	2
Boondall	Queensland	4	5	2	4
Booragoon	Western Australia	5*	3*	3*	5*
Boronia - The Basin	Victoria	3*	2*	3*	3*
Boronia Heights - Park Ridge	Queensland	2	2	1	1
Bossley Park - Abbotsbury	New South Wales	4	5	1	4
Botany	New South Wales	4*	4*	1*	2*
Boulder	Western Australia	1*	1*	2*	1*
Bouldercombe	Queensland	1*	1*	4*	1*
Bourke - Brewarrina	New South Wales	1	1	1	1
Bowen	Queensland	1	2	3	1
Bowral	New South Wales	4	5	3	5
Box Head - MacMasters Beach	New South Wales	4*	3*	4*	4*
Box Hill	Victoria	5	5	4	5

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Box Hill North	Victoria	5	5	4	5
Boyne Island - Tannum Sands	Queensland	2	2	5	3
Bracken Ridge	Queensland	3	3	4	3
Bradbury - Wedderburn	New South Wales	1	3	3	1
Braddon	Australian Capital Territory	5	5	2	5
Braidwood	New South Wales	3	3	1	2
Branxton - Greta - Pokolbin	New South Wales	2*	2*	2*	1*
Branyan - Kensington	Queensland	2*	1*	5*	2*
Brassall	Queensland	2	3	5	3
Bray Park	Queensland	1	3	2	2
Braybrook	Victoria	4	5	1	4
Bribie Island	Queensland	2	4	1	2
Bridgetown - Boyup Brook	Western Australia	3	1	5	3
Bridgewater - Gagebrook	Tasmania	1	2	1	1
Bright - Mount Beauty	Victoria	3	3	3	4
Brighton - Pontville	Tasmania	1*	3*	1*	1*
Brighton (Qld)	Queensland	3*	3*	4*	3*
Brighton (SA)	South Australia	4	4	5	5
Brighton (Vic.)	Victoria	5	5	2	5
Brighton East	Victoria	5	5	2	5
Brinkin - Nakara	Northern Territory	5*	4*	1*	4*
Brinsmead	Queensland	3	3	2	3
Broadmeadows	Victoria	3	5	1	3
Broadsound - Nebo	Queensland	2	1	3	2
Broken Hill	New South Wales	1	2	2	1
Brookfield - Kenmore Hills	Queensland	5*	2*	3*	5*
Brookton	Western Australia	2*	1*	3*	1*
Broome	Western Australia	1	2	1	1
Broulee - Tomakin	New South Wales	3	3	4	3
Browns Plains	Queensland	2	2	1	1
Bruce	Australian Capital Territory	5	5	1	5
Brunswick	Victoria	5	4	1	5
Brunswick East	Victoria	5*	4*	1*	5*
Brunswick Heads - Ocean Shores	New South Wales	2*	4*	5*	4*
Brunswick West	Victoria	5*	4*	1*	4*
Bruny Island - Kettering	Tasmania	3	1	2	2
Bruthen - Omeo	Victoria	2	1	5	2
Buddina - Minyama	Queensland	3*	3*	4*	4*
Buderim - North	Queensland	4	5	5	5
Buderim - South	Queensland	4	5	5	5
Budgewoi - Buff Point - Halekulani	New South Wales	2*	3*	1*	1*

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Bulahdelah - Stroud	New South Wales	1	1	4	1
Bulimba	Queensland	5*			
Bull Creek	Western Australia	5	5	3	5
Bulleen	Victoria	5	5	2	5
Bullsbrook	Western Australia	2	2	2	2
Buloke	Victoria	3	1	5	3
Bunbury	Western Australia	3	2	4	2
Bundaberg	Queensland	1*	1*	5*	1*
Bundaberg East - Kalkie	Queensland	1	3	5	3
Bundaberg North - Gooburrum	Queensland	1	1	5	2
Bundaberg Region - North	Queensland	1*	2*	5*	3*
Bundaberg Region - South	Queensland	1	1	5	2
Bundamba	Queensland	1	2	5	2
Bundoora - East	Victoria	4	5	2	5
Bundoora - West	Victoria	4	5	1	4
Buninyong	Victoria	4*	3*	4*	4*
Bunyip - Garfield	Victoria	2	3	4	2
Burdekin	Queensland	1	1	3	1
Burleigh Heads	Queensland	3*	3*	2*	3*
Burleigh Waters	Queensland	3	5	2	4
Burnie - Ulverstone Region	Tasmania	1*	1*	5*	1*
Burnie - Wivenhoe	Tasmania	2*	1*	5*	1*
Burnside - Wattle Park	South Australia	5	5	4	5
Burpengary	Queensland	2	4	1	2
Burrum - Fraser	Queensland	1*	3*	5*	3*
Burwood	Victoria	5	5	4	5
Burwood - Croydon	New South Wales	5	5	1	5
Burwood East	Victoria	5	4	4	5
Busselton	Western Australia	3	2	5	4
Busselton Region	Western Australia	4*	2*	5*	4*
Butler - Merriwa - Ridgewood	Western Australia	3	3	1	2
Byford	Western Australia	3*	2*	1*	1*
Byron Bay	New South Wales	4	2	5	4
Caboolture	Queensland	1	3	3	1
Caboolture - South	Queensland	1*	2*	3*	1*
Cabramatta - Lansvale	New South Wales	4	5	1	4
Cabramatta West - Mount Pritchard	New South Wales	4*	5*	1*	3*
Cairnlea	Victoria	5*	4*	1*	4*
Cairns City	Queensland	3	4	2	3
Calamvale - Stretton	Queensland	5	5	1	4
Calga - Kulnura	New South Wales	3*	1*	4*	2*

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
California Gully - Eaglehawk	Victoria	1	2	5	1
Calista	Western Australia	2*	1*	1*	1*
Callala Bay - Currarong	New South Wales	2*	2*	3*	2*
Caloundra - Kings Beach	Queensland	2	2	4	2
Caloundra - West	Queensland	3	5	4	4
Caloundra Hinterland	Queensland	4	3	4	4
Calwell	Australian Capital Territory	4	4	1	3
Camberwell	Victoria	5	5	4	5
Cambooya - Wyreema	Queensland	3*	4*	4*	4*
Cambridge	Tasmania	4*	3*	2*	3*
Cambridge Park	New South Wales	1	4	3	2
Camden - Ellis Lane	New South Wales	3	4	2	3
Camillo - Champion Lakes	Western Australia	1	4	4	3
Camira - Gailes	Queensland	1*	3*	2*	2*
Camp Hill	Queensland	5	5	2	5
Campbell	Australian Capital Territory	5	4	2	5
Campbellfield - Coolaroo	Victoria	4	4	1	3
Campbelltown - Woodbine	New South Wales	3	4	3	3
Camperdown	Victoria	1	3	5	3
Canley Vale - Canley Heights	New South Wales	4	5	1	4
Canning Vale - East	Western Australia	5	4	1	4
Canning Vale - West	Western Australia	5*	4*	1*	4*
Cannington - Queens Park	Western Australia	5	3	1	4
Cannon Hill	Queensland	4	5	2	5
Canterbury (North) - Ashbury	New South Wales	4	5	1	4
Canterbury (South) - Campsie	New South Wales	5*	4*	1*	4*
Capalaba	Queensland	2	3	2	2
Cape York	Queensland	1	1	1	1
Capel	Western Australia	3*	1*	4*	1*
Carina	Queensland	4	4	2	4
Carindale	Queensland	5*	5*	2*	5*
Caringbah - Lilli Pilli	New South Wales	4	4	5	5
Carlingford	New South Wales	5	5	5	5
Carlton	Victoria	5*	3*	2*	5*
Carlton North - Princes Hill	Victoria	5	5	3	5
Carnarvon	Western Australia	1	1	5	1
Carnegie	Victoria	5*	4*	3*	5*
Caroline Springs	Victoria	4	5	3	5
Carpentaria	Queensland	1	1	1	1
Carramar	Western Australia	3*	3*	1*	2*
Carrara	Queensland	3	5	3	4
Carrum - Patterson Lakes	Victoria	4*	4*	4*	4*

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Carrum Downs	Victoria	2	3	4	3
Casino	New South Wales	1	3	5	2
Casino Region	New South Wales	1	1	5	1
Castle Hill	New South Wales	5	5	4	5
Castlemaine	Victoria	3	2	4	3
Castlemaine Region	Victoria	3*	1*	4*	3*
Castlereagh - Cranebrook	New South Wales	1	5	3	3
Casula	New South Wales	4	5	1	4
Caulfield - North	Victoria	5	5	3	5
Caulfield - South	Victoria	5	3	3	5
Ceduna	South Australia	1	1	4	1
Central Highlands	Tasmania	2	1	3	1
Central Highlands - East	Queensland	1	1	5	1
Central Highlands - West	Queensland	1	1	5	1
Cessnock	New South Wales	1	2	2	1
Cessnock Region	New South Wales	1*	1*	2*	1*
Chambers Flat - Logan Reserve	Queensland	3*	1*	1*	1*
Chapel Hill	Queensland	5*	5*	3*	5*
Chapman	Australian Capital Territory	5*	4*	1*	5*
Charles	Northern Territory	1	2	1	1
Charlestown - Dudley	New South Wales	3	3	3	3
Charleville	Queensland	1	1	4	1
Charnwood	Australian Capital Territory	2*	2*	1*	1*
Charters Towers	Queensland	1	1	3	1
Chatswood (East) - Artarmon	New South Wales	5	5	4	5
Chatswood (West) - Lane Cove North	New South Wales	5	5	4	5
Chelmer - Graceville	Queensland	5*	4*	2*	5*
Chelsea - Bonbeach	Victoria	3*	3*	4*	4*
Chelsea Heights	Victoria	3*	2*	4*	3*
Cheltenham - Highett (East)	Victoria	4	4	4	4
Cheltenham - Highett (West)	Victoria	4*	4*	2*	4*
Chermside	Queensland	4*	1*	2*	2*
Chermside West	Queensland	4	4	2	4
Cherrybrook	New South Wales	5	5	4	5
Chester Hill - Sefton	New South Wales	4	5	1	3
Chidlow	Western Australia	2*	1*	2*	1*
Chiltern - Indigo Valley	Victoria	3*	2*	3*	3*
Chinchilla	Queensland	2	1	5	2
Chipping Norton - Moorebank	New South Wales	4	5	1	4
Chirnside Park	Victoria	3	4	4	4
Chisholm	Australian Capital Territory	3	2	1	2

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Chittaway Bay - Tumbi Umbi	New South Wales	2	4	1	2
Chittering	Western Australia	2	4	4	4
Christie Downs	South Australia	1	2	2	1
Christies Beach	South Australia	2*	2*	2*	1*
Christmas Island	Other Territories	5	1	5	4
Churchill	Victoria	2	2	2	1
Churchill - Yamanto	Queensland	1*	3*	5*	2*
City Beach	Western Australia	5	4	4	5
Clare	South Australia	2	2	3	2
Claremont (Tas.)	Tasmania	1	3	3	1
Claremont (WA)	Western Australia	5	5	4	5
Clarendon	South Australia	4*	1*	2*	2*
Clarinda - Oakleigh South	Victoria	4*	4*	2*	4*
Clarkson	Western Australia	3	2	1	2
Clayfield	Queensland	5	5	2	5
Claymore - Eagle Vale - Raby	New South Wales	1	5	3	3
Clayton	Victoria	5*	5*	3*	5*
Clayton South	Victoria	5	4	2	4
Clear Island Waters	Queensland	4*	5*	3*	5*
Clermont	Queensland	2	1	3	1
Cleveland	Queensland	3	3	5	4
Clifton - Greenmount	Queensland	2	1	4	1
Clifton Springs	Victoria	3	3	2	3
Clinton - New Auckland	Queensland	2*	2*	5*	3*
Clontarf	Queensland	2	2	3	2
Cobar	New South Wales	1	1	1	1
Cobbitty - Leppington	New South Wales	3	4	1	2
Cobram	Victoria	2	3	4	2
Coburg	Victoria	5*	4*	1*	4*
Coburg North	Victoria	4	5	1	4
Coffs Harbour - North	New South Wales	2	3	3	2
Coffs Harbour - South	New South Wales	2	4	3	3
Colac	Victoria	2	3	5	3
Colac Region	Victoria	3*	1*	5*	2*
College Grove - Carey Park	Western Australia	1*	1*	4*	1*
Collie	Western Australia	1	1	4	1
Collingwood	Victoria	5	3	3	4
Collingwood Park - Redbank	Queensland	2*	2*	2*	1*
Collinsville	Queensland	1	1	3	1
Colonel Light Gardens	South Australia	4	5	2	4
Como	Western Australia	5	5	3	5
Concord - Mortlake - Cabarita	New South Wales	5	5	2	5

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Concord West - North Strathfield	New South Wales	5	4	2	5
Condell Park	New South Wales	4	3	2	4
Conder	Australian Capital Territory	4	4	1	3
Condobolin	New South Wales	1	1	3	1
Condon - Rasmussen	Queensland	1	2	2	1
Coober Pedy	South Australia	1	1	1	1
Coogee	Western Australia	3*	4*	2*	4*
Coogee - Clovelly	New South Wales	5*	5*	1*	5*
Coolangatta	Queensland	3*	1*	3*	2*
Coolbellup	Western Australia	3*	1*	2*	2*
Cooloola	Queensland	1	2	5	1
Cooloongup	Western Australia	1*	1*	3*	1*
Coolum Beach	Queensland	3	4	2	3
Cooma	New South Wales	3	2	5	3
Cooma Region	New South Wales	3	2	5	3
Coombabah	Queensland	2	3	5	4
Coomera	Queensland	3*	3*	2*	3*
Coonabarabran	New South Wales	1	2	3	2
Coonamble	New South Wales	1	1	1	1
Coopers Plains	Queensland	4*	2*	2*	3*
Coorparoo	Queensland	5	5	2	5
Cootamundra	New South Wales	2	2	5	2
Coramba - Nana Glen - Bucca	New South Wales	3*	2*	3*	2*
Corangamite - North	Victoria	2	2	5	2
Corangamite - South	Victoria	2	3	5	3
Corinda	Queensland	5	5	2	5
Corio - Norlane	Victoria	1	5	4	3
Cornubia - Carbrook	Queensland	4	4	2	4
Coromandel Valley	South Australia	5*	3*	2*	4*
Corowa	New South Wales	2	2	5	3
Corowa Region	New South Wales	2*	1*	5*	2*
Corrimal - Tarrawanna - Bellambi	New South Wales	2	3	4	3
Cottesloe	Western Australia	5*	5*	4*	5*
Cowra	New South Wales	1	2	3	2
Cowra Region	New South Wales	3	1	3	1
Craigie - Beldon	Western Australia	3	2	3	3
Craigieburn - Mickleham	Victoria	4	3	1	2
Craigmore - Blakeview	South Australia	1	3	2	1
Cranbourne	Victoria	2	3	1	2
Cranbourne East	Victoria	3	5	1	3
Cranbourne North	Victoria	3	3	1	3

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Cranbourne South	Victoria	2	2	1	1
Cranbourne West	Victoria	2	5	1	3
Cranbrook	Queensland	3	5	2	3
Cremorne - Cammeray	New South Wales	5	5	3	5
Crestmead	Queensland	1	4	1	1
Creswick - Clunes	Victoria	2*	1*	4*	2*
Cromer	New South Wales	4	5	5	5
Cronulla - Kurnell - Bundeena	New South Wales	4	4	5	5
Crows Nest - Rosalie	Queensland	2	1	5	2
Crows Nest - Waverton	New South Wales	5	5	3	5
Croydon	Victoria	3	3	3	4
Croydon - Etheridge	Queensland	1*	1*	1*	1*
Croydon Hills - Warranwood	Victoria	4*	4*	3*	4*
Croydon Park - Enfield	New South Wales	4*	4*	1*	4*
Culburra Beach	New South Wales	1*	1*	3*	1*
Cunderdin	Western Australia	2	1	4	1
Currambine - Kinross	Western Australia	4	3	3	3
Currumbin - Tugun	Queensland	3*	4*	3*	4*
Currumbin Valley - Tallebudgera	Queensland	3	4	5	5
Currumbin Waters	Queensland	3*	5*	3*	4*
Curtin	Australian Capital Territory	5*	3*	1*	4*
Cygnet	Tasmania	2	1	2	1
Daintree	Queensland	1	2	5	2
Daisy Hill	Queensland	4	4	2	4
Dakabin - Kallangur	Queensland	1	4	2	2
Dalrymple	Queensland	1	1	3	1
Daly	Northern Territory	1	1	1	1
Dandenong	Victoria	4	5	2	4
Dandenong North	Victoria	4	4	2	4
Dapto - Avondale	New South Wales	2	3	3	2
Dardanup	Western Australia	3*	1*	4*	2*
Darling Heights	Queensland	3*	3*	4*	3*
Darlinghurst	New South Wales	5	5	5	5
Darra - Sumner	Queensland	4*	2*	1*	2*
Darwin City	Northern Territory	4*	2*	1*	2*
Davoren Park	South Australia	1	3	2	1
Dawesville - Bouvard	Western Australia	3*	2*	5*	3*
Dayboro	Queensland	3*	3*	4*	4*
Daylesford	Victoria	4	1	4	3
Deagon	Queensland	3	4	4	3
Deakin	Australian Capital Territory	5	5	2	5
Deception Bay	Queensland	1	2	1	1

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Dee Why - North Curl Curl	New South Wales	4	5	5	5
Deer Park - Derrimut	Victoria	4*	3*	1*	3*
Deeragun	Queensland	2	5	2	3
Delacombe	Victoria	1*	4*	4*	3*
Delahey	Victoria	4	4	1	4
Deloraine	Tasmania	2	1	2	1
Deniliquin	New South Wales	2	2	5	3
Deniliquin Region	New South Wales	2	1	5	2
Denmark	Western Australia	4	2	5	4
Derby - West Kimberley	Western Australia	1	1	1	1
Derwent Park - Lutana	Tasmania	1	1	3	1
Derwent Valley	Tasmania	1	1	3	1
Devonport	Tasmania	1	2	4	2
Dianella	Western Australia	4	3	3	4
Dickson	Australian Capital Territory	5	5	2	5
Dilston - Lilydale	Tasmania	3	2	2	3
Dingley Village	Victoria	4*	4*	2*	4*
Dodges Ferry - Lewisham	Tasmania	2*	2*	1*	1*
Doncaster	Victoria	5	4	2	5
Doncaster East	Victoria	5	4	2	5
Donnybrook - Balingup	Western Australia	3	1	5	3
Donvale - Park Orchards	Victoria	5	5	3	5
Doonside - Woodcroft	New South Wales	4	4	1	3
Dorrigo	New South Wales	2	2	3	2
Double Bay - Bellevue Hill	New South Wales	5	5	4	5
Douglas	Queensland	4*	2*	2*	3*
Douglas Park - Appin	New South Wales	2*	1*	1*	1*
Dover Heights	New South Wales	5	5	4	5
Doveton	Victoria	3*	2*	3*	2*
Dowerin	Western Australia	2	1	4	1
Drayton - Harristown	Queensland	1	3	4	2
Driver	Northern Territory	1	3	2	1
Dromana	Victoria	3	4	3	4
Drouin	Victoria	1	3	5	3
Drummoyne - Rodd Point	New South Wales	5*	5*	2*	5*
Dubbo - East	New South Wales	1	2	3	1
Dubbo - South	New South Wales	2	3	3	2
Dubbo - West	New South Wales	1	2	3	1
Dubbo Region	New South Wales	3*	1*	3*	1*
Duffy	Australian Capital Territory	5*	2*	1*	4*
Dulwich Hill - Lewisham	New South Wales	5	5	1	5
Duncraig	Western Australia	5	5	3	5

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Dungog	New South Wales	2	2	2	2
Durack	Queensland	4	4	1	3
Durack - Marlow Lagoon	Northern Territory	3	2	2	2
Dural - Kenthurst - Wisemans Ferry	New South Wales	4	5	4	5
Eagleby	Queensland	1*	1*	2*	1*
Earlville - Bayview Heights	Queensland	2*	4*	2*	3*
East Arnhem	Northern Territory	1	1	1	1
East Bendigo - Kennington	Victoria	3	4	5	4
East Brisbane	Queensland	5	5	2	5
East Devonport	Tasmania	1*	2*	4*	1*
East Fremantle	Western Australia	5*	3*	3*	5*
East Pilbara	Western Australia	1*	1*	1*	1*
East Side	Northern Territory	3	3	1	2
East Victoria Park - Carlisle	Western Australia	5	3	1	4
Eastwood - Denistone	New South Wales	5	5	2	5
Eaton - Pelican Point	Western Australia	2	2	4	2
Eatons Hill	Queensland	4*	5*	4*	5*
Echuca	Victoria	1	2	5	2
Eden	New South Wales	1	3	4	2
Edens Landing - Holmview	Queensland	2*	4*	2*	2*
Edensor Park	New South Wales	4*	5*	1*	4*
Edgeworth - Cameron Park	New South Wales	1*	2*	3*	2*
Edithvale - Aspendale	Victoria	4	5	4	4
Edmonton	Queensland	1*	4*	2*	1*
Edwardstown	South Australia	4	4	2	4
Eight Mile Plains	Queensland	5*	4*	2*	5*
Eimeo - Rural View	Queensland	3*	3*	5*	3*
Elanora	Queensland	3	4	3	4
Elderslie - Harrington Park	New South Wales	3	4	2	3
Elimbah	Queensland	3*	2*	3*	2*
Elizabeth	South Australia	1	2	2	1
Elizabeth East	South Australia	1*	2*	2*	1*
Ellenbrook	Western Australia	3	4	2	3
Elsey	Northern Territory	1	1	1	1
Elsternwick	Victoria	5	5	3	5
Eltham	Victoria	4	5	5	5
Elwood	Victoria	5	5	5	5
Emerald	Queensland	2	2	5	3
Emerald - Cockatoo	Victoria	3	3	4	3
Emu Park	Queensland	2*	1*	4*	1*
Emu Plains - Leonay	New South Wales	3	4	3	4

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Endeavour Hills	Victoria	4	4	3	4
Enfield - Blair Athol	South Australia	4	4	1	2
Engadine - Loftus	New South Wales	3	4	5	4
Enoggera	Queensland	4	5	3	4
Epping	Victoria	4	4	1	3
Epping - North Epping	New South Wales	5*	5*	2*	5*
Erina - Green Point	New South Wales	3	5	4	4
Ermington - Rydalmere	New South Wales	4	4	5	5
Erskine Park	New South Wales	3	5	1	2
Erskineville - Alexandria	New South Wales	5	5	5	5
Esk	Queensland	1	2	4	2
Esperance	Western Australia	1	2	5	2
Esperance Region	Western Australia	2*	1*	5*	1*
Essendon - Aberfeldie	Victoria	5	5	3	5
Eumundi - Yandina	Queensland	2	2	4	2
Euroa	Victoria	3	2	5	3
Eurobodalla Hinterland	New South Wales	2*	4*	4*	3*
Evans Head	New South Wales	1	2	5	2
Evatt	Australian Capital Territory	4*	3*	1*	3*
Everton Park	Queensland	4	4	3	4
Exmouth	Western Australia	1	1	5	1
Eyre Peninsula	South Australia	2	1	4	2
Fadden	Australian Capital Territory	5*	2*	1*	4*
Fairfield	New South Wales	4	5	1	4
Fairfield - Dutton Park	Queensland	5*	3*	2*	4*
Fairfield - East	New South Wales	4	5	1	3
Fairfield - West	New South Wales	4	5	1	4
Falcon - Wannanup	Western Australia	3*	1*	5*	3*
Fannie Bay - The Gardens	Northern Territory	4	5	1	3
Far Central West	Queensland	1	1	4	1
Far South West	Queensland	1	1	4	1
Far West	New South Wales	1	1	2	1
Farrer	Australian Capital Territory	5*	2*	1*	4*
Fawkner	Victoria	4	5	1	4
Ferntree Gully	Victoria	3	4	3	4
Fig Tree Pocket	Queensland	5*	5*	3*	5*
Figtree - Keiraville	New South Wales	4	4	4	5
Fitzroy	Victoria	5	4	3	5
Fitzroy North	Victoria	5	4	3	5
Five Dock - Abbotsford	New South Wales	4	5	2	5
Flagstaff Hill	South Australia	4*	3*	2*	4*
Flemington	Victoria	5	3	3	5

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Flinders	Victoria	4*	3*	3*	4*
Flinders Park	South Australia	4	5	1	4
Flinders Ranges	South Australia	1	1	1	1
Flora Hill - Spring Gully	Victoria	3	3	5	4
Floreat	Western Australia	5*	3*	4*	5*
Florey	Australian Capital Territory	5	4	1	4
Flynn (NT)	Northern Territory	2	2	1	1
Footscray	Victoria	5	4	1	4
Forbes	New South Wales	1	2	3	1
Forest Hill	Victoria	5*	2*	3*	4*
Forest Lake - Doolandella	Queensland	4	5	1	3
Forestier - Tasman	Tasmania	1	2	4	2
Forestville - Killarney Heights	New South Wales	5	5	5	5
Forrest	Australian Capital Territory	5*	5*	2*	5*
Forrestdale - Harrisdale - Piara Waters	Western Australia	4	3	4	5
Forrestfield - Wattle Grove	Western Australia	3	2	2	2
Forster	New South Wales	1	3	4	3
Forster-Tuncurry Region	New South Wales	2*	1*	4*	2*
Fortitude Valley	Queensland	5	5	4	5
Foster	Victoria	3	2	4	3
Frankston	Victoria	2*	3*	4*	3*
Frankston North	Victoria	1	2	4	1
Frankston South	Victoria	4	4	4	4
Fraser	Australian Capital Territory	4*	2*	1*	3*
Fremantle	Western Australia	5	3	3	4
Fremantle - South	Western Australia	4	3	3	4
French Island	Victoria	4*			
Frenchs Forest - Belrose	New South Wales	5	5	5	5
Frenchville - Mount Archer	Queensland	2*	3*	4*	3*
Freshwater - Brookvale	New South Wales	5	5	5	5
Freshwater - Stratford	Queensland	3*	3*	2*	3*
Galston - Laughtondale	New South Wales	4	4	4	4
Gannawarra	Victoria	3	1	5	3
Garbutt - West End	Queensland	2*	1*	2*	1*
Garran	Australian Capital Territory	5*	5*	1*	5*
Gatton	Queensland	2	3	4	3
Gawler - North	South Australia	3	3	3	3
Gawler - South	South Australia	2	4	3	3
Gayndah - Mundubbera	Queensland	2	1	5	2
Geebung	Queensland	4*	4*	2*	4*
Geelong	Victoria	4	3	4	4

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Geelong West - Hamlyn Heights	Victoria	4	3	4	4
Geeveston - Dover	Tasmania	1	1	2	1
Geilston Bay - Risdon	Tasmania	3	1	2	2
Gelorup - Dalyellup - Stratham	Western Australia	3	5	4	4
George Town	Tasmania	1	2	2	1
Geraldton	Western Australia	1	2	5	2
Geraldton - East	Western Australia	1	2	5	2
Geraldton - North	Western Australia	2*	1*	5*	2*
Geraldton - South	Western Australia	3	2	5	4
Gidgegannup	Western Australia	3*	2*	2*	2*
Gilbert Valley	South Australia	2	2	3	2
Gilgandra	New South Wales	1	2	3	1
Gilmore	Australian Capital Territory	3*	2*	1*	1*
Gin Gin	Queensland	1	1	5	1
Gingin - Dandaragan	Western Australia	3	1	4	2
Giralang	Australian Capital Territory	5*	4*	1*	4*
Girraween - Westmead	New South Wales	5	5	2	5
Girrawheen	Western Australia	3	2	1	2
Gisborne	Victoria	4	4	5	5
Gladesville - Huntleys Point	New South Wales	5	5	2	5
Gladstone	Queensland	2*	1*	5*	2*
Gladstone Hinterland	Queensland	2	1	5	1
Gladstone Park - Westmeadows	Victoria	3	4	1	3
Glass House Mountains	Queensland	2*	2*	4*	2*
Glebe - Forest Lodge	New South Wales	5	5	5	5
Glen Forrest - Darlington	Western Australia	5	2	2	4
Glen Innes	New South Wales	2	2	3	2
Glen Iris - East	Victoria	5*	5*	4*	5*
Glen Waverley - East	Victoria	5	5	3	5
Glen Waverley - West	Victoria	5	5	3	5
Glendale - Cardiff - Hillsborough	New South Wales	3	3	3	3
Glendenning Dean Park	New South Wales	4*	4*	1*	2*
Glenelg (SA)	South Australia	4*	4*	5*	5*
Glenelg (Vic.)	Victoria	2	1	5	2
Glenhaven	New South Wales	5*	4*	4*	5*
Glenlee - Rockyview	Queensland	2*	1*	4*	2*
Glenmore Park - Regentville	New South Wales	3	5	3	4
Glenorchy	Tasmania	1	4	3	2
Glenroy - Hadfield	Victoria	4	3	1	3
Glenside - Beaumont	South Australia	5	5	4	5
Glenwood	New South Wales	5	5	1	5
Gloucester	New South Wales	2	2	5	3

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Gnowangerup	Western Australia	2*	1*	5*	2*
Golden Beach - Pelican Waters	Queensland	4	3	4	4
Golden Grove	South Australia	3	4	3	4
Golden Plains - North	Victoria	2*	1*	5*	3*
Golden Plains - South	Victoria	2*	2*		
Goodna	Queensland	1	4	2	2
Goodwood - Millswood	South Australia	5	5	5	5
Goolwa - Port Elliot	South Australia	2	3	3	3
Goondiwindi	Queensland	2	2	5	2
Goonellabah	New South Wales	2	3	5	3
Gordon - Killara	New South Wales	5	5	4	5
Gordon (ACT)	Australian Capital Territory	3	2	1	2
Gordon (Vic.)	Victoria	3*	1*	4*	2*
Gordonvale - Trinity	Queensland	1	2	2	1
Gorokan - Kanwal - Charmhaven	New South Wales	1	3	1	1
Gosford - Springfield	New South Wales	3	4	4	4
Gosnells	Western Australia	2	2	1	1
Goulburn	New South Wales	1	2	2	2
Goulburn Region	New South Wales	3	2	2	2
Gowrie (ACT)	Australian Capital Territory	4*	3*	1*	3*
Gowrie (Qld)	Queensland	2*	2*	4*	2*
Goyder	South Australia	1	1	3	1
Gracemere	Queensland	1*	2*	4*	1*
Grafton	New South Wales	1	2	3	1
Grafton Region	New South Wales	1	1	3	1
Grange	Queensland	5*	5*	2*	5*
Grant	South Australia	2	1	4	2
Granville	Queensland	1*	1*	5*	1*
Granville - Clyde	New South Wales	4	4	1	4
Gray	Northern Territory	1*	1*	2*	1*
Green Valley - Cecil Hills	New South Wales	4	5	1	4
Greenacre - Mount Lewis	New South Wales	4	5	2	5
Greenbank	Queensland	3*	3*	2*	3*
Greenfield Park - Prairiewood	New South Wales	4	5	1	4
Greenfields	Western Australia	2	3	5	3
Greensborough	Victoria	4	4	2	4
Greenslopes	Queensland	5*	3*	2*	4*
Greenvale - Bulla	Victoria	4	5	1	4
Greenway	Australian Capital Territory	5*	5*	1*	5*
Greenwood - Warwick	Western Australia	4	3	3	4
Grenfell	New South Wales	3	1	3	1
Greystanes - Pemulwuy	New South Wales	4	5	1	3

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Griffith (ACT)	Australian Capital Territory	5	5	2	5
Griffith (NSW)	New South Wales	2	3	5	3
Griffith Region	New South Wales	2	1	5	2
Grindelwald - Lanena	Tasmania	3	3	2	2
Grovedale	Victoria	3	3	4	3
Guanaba - Springbrook	Queensland	3*	1*	5*	3*
Guildford - South Granville	New South Wales	4	3	1	3
Guildford West - Merrylands West	New South Wales	4	5	1	3
Gulf	Northern Territory	1	1	1	1
Gulliver - Currajong - Vincent	Queensland	1*	3*	2*	1*
Gundagai	New South Wales	2	1	5	2
Gungahlin	Australian Capital Territory	5	5	1	5
Gunnedah	New South Wales	1	2	3	1
Gunnedah Region	New South Wales	1*	1*	3*	1*
Gymea - Grays Point	New South Wales	4*	3*	5*	4*
Gympie - North	Queensland	1	2	5	2
Gympie - South	Queensland	1	3	5	3
Gympie Region	Queensland	1	1	5	1
Haberfield - Summer Hill	New South Wales	5*	4*	1*	4*
Hackett	Australian Capital Territory	5*	2*	2*	5*
Hackham - Onkaparinga Hills	South Australia	1*	2*	2*	1*
Hackham West - Huntfield Heights	South Australia	1*	1*	2*	1*
Hahndorf - Echunga	South Australia	3*	4*	2*	4*
Hallam	Victoria	4*	4*	3*	4*
Hallett Cove	South Australia	4	4	2	4
Halls Creek	Western Australia	1	1	1	1
Halls Head - Erskine	Western Australia	3	2	5	3
Hamilton - Broadmeadow	New South Wales	4	5	5	5
Hamilton (Qld)	Queensland	5*	1*	2*	4*
Hamilton (Vic.)	Victoria	3	3	5	4
Hamilton Hill	Western Australia	3	2	2	2
Hampton	Victoria	5*	5*	2*	5*
Hampton Park - Lynbrook	Victoria	3	4	1	3
Happy Valley	South Australia	3*	4*	2*	3*
Harrison	Australian Capital Territory	5*	4*	1*	5*
Harvey	Western Australia	3	1	4	2
Hassall Grove - Plumpton	New South Wales	4	5	1	3
Hastings - Somers	Victoria	2	2	3	2
Hawker	Australian Capital Territory	5	4	1	5
Hawthorn	Victoria	5	5	4	5

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Hawthorn East	Victoria	5	5	4	5
Hawthorne	Queensland	5	5	2	5
Hay	New South Wales	1	1	3	1
Healesville - Yarra Glen	Victoria	2	3	4	3
Heathcote	Victoria	1*	1*	4*	1*
Heathcote - Waterfall	New South Wales	3	3	5	4
Heathridge - Connolly	Western Australia	3*	2*	3*	3*
Heatley	Queensland	1	3	2	1
Heidelberg - Rosanna	Victoria	5	5	2	5
Heidelberg West	Victoria	3*	2*	2*	2*
Helena Valley - Koongamia	Western Australia	3*	1*	2*	2*
Helensburgh	New South Wales	4*	3*	4*	4*
Helensvale	Queensland	3	5	2	4
Hendra	Queensland	5*	5*	2*	5*
Henley Beach	South Australia	4	4	1	4
Herberton	Queensland	1	2	3	1
Higgins	Australian Capital Territory	4	3	1	3
High Wycombe	Western Australia	3*	1*	2*	1*
Highbury - Dernancourt	South Australia	4*	2*	3*	3*
Highfields	Queensland	4	4	4	4
Highland Park	Queensland	3*	3*	3*	3*
Highton	Victoria	4	4	4	5
Hill Top - Colo Vale	New South Wales	1*	4*	3*	2*
Hillarys	Western Australia	5	5	3	5
Hills District	Queensland	4*	3*	4*	4*
Hillside	Victoria	4*	4*	3*	4*
Hindmarsh - Brompton	South Australia	4	3	1	3
Hobart	Tasmania	5	5	4	5
Holder	Australian Capital Territory	5*	3*	1*	4*
Holland Park	Queensland	4	4	2	4
Holland Park West	Queensland	5	3	2	4
Holsworthy - Wattle Grove	New South Wales	4	4	1	4
Homebush	New South Wales	5	5	1	5
Homebush Bay - Silverwater	New South Wales	5*	5*	1*	5*
Hope Valley - Modbury	South Australia	3	3	3	3
Hoppers Crossing - North	Victoria	3	5	1	3
Hoppers Crossing - South	Victoria	3	4	1	2
Hornsby - Waitara	New South Wales	5	5	5	5
Horsham	Victoria	2	3	5	3
Horsham Region	Victoria	3*	1*	5*	2*
Horsley - Kembla Grange	New South Wales	3*	3*	3*	3*
Horsley Park - Kemps Creek	New South Wales	3	5	1	3

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Howard Springs	Northern Territory	1*	2*	1*	1*
Howrah - Tranmere	Tasmania	4	3	2	3
Hoxton Park - Horningsea Park	New South Wales	4	5	1	4
Hughes	Australian Capital Territory	5*	4*	1*	5*
Hughesdale	Victoria	5	5	3	5
Humpty Doo	Northern Territory	1	2	1	1
Hunters Hill - Woolwich	New South Wales	5	5	2	5
Huntingdale - Southern River	Western Australia	3	4	1	3
Huonville - Franklin	Tasmania	1	2	2	1
Hurstbridge	Victoria	4*	4*	5*	4*
Hurstville	New South Wales	5	5	2	5
Huskisson - Vincentia	New South Wales	3	4	3	4
Hyde Park - Pimlico	Queensland	3	3	2	2
Illawong - Alfords Point	New South Wales	4	4	5	5
Inala - Richlands	Queensland	2*	3*	1*	1*
Indooroopilly	Queensland	5	5	2	5
Ingham	Queensland	1	2	3	2
Ingham Region	Queensland	1	2	3	2
Ingle Farm	South Australia	2	3	1	1
Ingleburn - Denham Court	New South Wales	4	4	3	4
Inglewood - Waggamba	Queensland	2	1	5	1
Innaloo - Doubleview	Western Australia	4*	2*	3*	4*
Innisfail	Queensland	1	1	5	2
Inverell	New South Wales	1	3	3	2
Inverell Region - East	New South Wales	1	1	3	1
Inverell Region - West	New South Wales	2	1	3	1
Invermay	Tasmania	2*	2*	4*	2*
Ipswich - Central	Queensland	3	4	5	4
Ipswich - East	Queensland	2	3	5	3
Irwin	Western Australia	2	2	5	3
Irymple	Victoria	2	2	5	2
Isabella Plains	Australian Capital Territory	4	5	1	4
Ivanhoe	Victoria	5	5	2	5
Ivanhoe East - Eaglemont	Victoria	5*	5*	2*	5*
Jacobs Well - Alberton	Queensland	2*	1*	2*	1*
Jamestown	South Australia	2	1	4	2
Jamisontown - South Penrith	New South Wales	2*	4*	3*	3*
Jilliby - Yarramalong	New South Wales	4*	1*	1*	2*
Jimboomba	Queensland	1	3	2	2
Jindabyne - Berridale	New South Wales	3	4	5	4
Jindalee - Mount Ommaney	Queensland	5	4	2	5
Jingili	Northern Territory	4*	3*	1*	2*

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Johnstone	Queensland	1*	1*	5*	1*
Jondaryan	Queensland	1	2	5	2
Joondalup - Edgewater	Western Australia	4	4	3	4
Junee	New South Wales	2	1	5	2
Kadina	South Australia	1	2	5	2
Kalamunda - Maida Vale - Gooseberry Hill	Western Australia	4	2	2	3
Kaleen	Australian Capital Territory	5*	4*	1*	4*
Kalgoorlie	Western Australia	2	2	2	1
Kalgoorlie - North	Western Australia	3*	2*	2*	2*
Kambah	Australian Capital Territory	4*	3*	1*	3*
Kambalda - Coolgardie - Norseman	Western Australia	1	1	2	1
Kangaroo Flat - Golden Square	Victoria	1	2	5	2
Kangaroo Island	South Australia	2	4	3	3
Kangaroo Point	Queensland	5*	5*	4*	5*
Karabar	New South Wales	2	4	1	2
Karalee - Barellan Point	Queensland	3*	3*	5*	4*
Karama	Northern Territory	1	3	1	1
Karana Downs	Queensland	4*	4*	5*	5*
Kariong	New South Wales	2	4	4	3
Karoonda - Lameroo	South Australia	1	1	3	1
Karratha	Western Australia	2	2	1	1
Karrinyup - Gwelup - Carine	Western Australia	5	5	3	5
Katanning	Western Australia	2	1	5	2
Katherine	Northern Territory	1	1	1	1
Katoomba - Leura	New South Wales	4	4	3	4
Kedron - Gordon Park	Queensland	4	5	2	5
Keilor	Victoria	4	5	5	5
Keilor Downs	Victoria	4	4	1	3
Keilor East	Victoria	4	5	5	5
Kellyville	New South Wales	5	5	4	5
Kelmscott	Western Australia	2	2	4	2
Kelso	Queensland	1*	2*	2*	1*
Kelvin Grove - Herston	Queensland	5	5	2	5
Kempsey	New South Wales	1	2	5	1
Kempsey Region	New South Wales	1*	1*	5*	1*
Kenmore	Queensland	5	5	3	5
Kensington	Victoria	5	3	2	5
Kensington - Kingsford	New South Wales	5	5	1	5
Keperra	Queensland	3*	3*	3*	3*
Kerang	Victoria	2	1	5	2

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Kew	Victoria	5	5	4	5
Kew East	Victoria	5	5	4	5
Keysborough	Victoria	5	5	2	5
Kiama	New South Wales	4	4	3	4
Kiama Downs - Minnamurra	New South Wales	4*	5*	3*	4*
Kiama Hinterland - Gerringong	New South Wales	4*	2*	3*	4*
Kilcoy	Queensland	2	1	4	1
Kilkivan	Queensland	1	1	5	1
Kilmore - Broadford	Victoria	2	4	5	3
Kilsyth	Victoria	2*	1*	4*	2*
Kimba - Cleve - Franklin Harbour	South Australia	2	1	4	2
Kin Kora - Sun Valley	Queensland	2	1	5	2
Kincumber - Picketts Valley	New South Wales	3	4	4	4
King Island	Tasmania	3	1	4	2
Kingaroy	Queensland	1	2	5	2
Kingaroy Region - North	Queensland	1	1	5	1
Kingaroy Region - South	Queensland	2*	1*	5*	2*
Kinglake	Victoria	2*	1*	5*	2*
Kings Meadows - Punchbowl	Tasmania	1	2	4	2
Kings Park (Vic.)	Victoria	3*	3*	1*	3*
Kingsbury	Victoria	5	3	1	4
Kingscliff - Fingal Head	New South Wales	3	3	4	3
Kingsgrove (North) - Earlwood	New South Wales	4	5	1	3
Kingsgrove (South) - Bardwell Park	New South Wales	4	5	5	5
Kingsley	Western Australia	4	2	3	4
Kingston	Queensland	1	3	2	1
Kingston - Barton	Australian Capital Territory	5	5	2	5
Kingston - Huntingfield	Tasmania	3	3	4	4
Kingston - Robe	South Australia	3	2	4	3
Kingston Beach - Blackmans Bay	Tasmania	4*	4*	4*	4*
Kingswood - Werrington	New South Wales	3	4	3	3
Kirwan - East	Queensland	1	3	2	2
Kirwan - West	Queensland	2	5	2	3
Knoxfield - Scoresby	Victoria	4	3	3	4
Kogarah	New South Wales	5	5	5	5
Kogarah Bay - Carlton - Allawah	New South Wales	5	4	5	5
Kojonup	Western Australia	2	1	5	1
Koo Wee Rup	Victoria	1	3	4	2
Koombana	Western Australia	2	2	4	2
Korora - Emerald Beach	New South Wales	3*	3*	3*	3*
Korumburra	Victoria	2	2	4	2

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Kowanyama - Pormpuraaw	Queensland	1*	1*	1*	1*
Kulin	Western Australia	2*	1*	3*	1*
Kununurra	Western Australia	1	1	1	1
Kuraby	Queensland	5*	4*	1*	4*
Kuranda	Queensland	2	2	3	2
Kurrajong Heights - Ebenezer	New South Wales	2	2	2	2
Kurri Kurri - Abermain	New South Wales	1	2	2	1
Kyabram	Victoria	2	3	5	3
Kyneton	Victoria	3	4	4	4
Kyogle	New South Wales	2	1	5	2
Labrador	Queensland	3*	3*	5*	4*
Lake Munmorah - Mannering Park	New South Wales	1	2	1	1
Lakemba - Wiley Park	New South Wales	5	5	1	4
Lakes Creek	Queensland	1*	2*	4*	1*
Lakes Entrance	Victoria	2	1	5	2
Lalor	Victoria	3	4	1	3
Lalor Park - Kings Langley	New South Wales	3	4	1	2
Lambton - New Lambton	New South Wales	4	4	5	4
Landsborough	Queensland	2*	2*	4*	2*
Lane Cove - Greenwich	New South Wales	5	5	4	5
Langwarrin	Victoria	3	3	4	3
Lara	Victoria	3	3	4	3
Larapinta	Northern Territory	1*	1*	1*	1*
Largs Bay - Semaphore	South Australia	3	4	1	2
Larrakeyah	Northern Territory	5*	2*	1*	2*
Latham	Australian Capital Territory	4*	3*	1*	3*
Latrobe	Tasmania	1	1	4	1
Launceston	Tasmania	4*	4*	4*	4*
Laurieton - Bonny Hills	New South Wales	2	3	4	3
Laverton	Victoria	4	3	1	3
Lavington	New South Wales	1	2	5	2
Lawnton	Queensland	1*	2*	2*	1*
Lawson - Hazelbrook - Linden	New South Wales	4	3	3	4
Le Hunte - Elliston	South Australia	2	1	4	2
Leanyer	Northern Territory	4*	4*	1*	3*
Leeming	Western Australia	5	3	3	4
Leeton	New South Wales	2	2	5	3
Leichhardt - Annandale	New South Wales	5	5	3	5
Leichhardt - One Mile	Queensland	1	3	5	2
Leinster - Leonora	Western Australia	1	1	2	1

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Lemon Tree Passage - Tanilba Bay	New South Wales	1*	3*	3*	2*
Lenah Valley - Mount Stuart	Tasmania	4*	4*	4*	4*
Lennox Head - Skennars Head	New South Wales	4	4	5	4
Leongatha	Victoria	2	3	4	3
Leopold	Victoria	2*	3*	4*	3*
Lesmurdie - Bickley - Carmel	Western Australia	4	4	2	4
Lethbridge Park - Tregear	New South Wales	1	3	1	1
Leumeah - Minto Heights	New South Wales	2	4	3	3
Lewiston - Two Wells	South Australia	1*	2*	3*	1*
Lidcombe - Regents Park	New South Wales	5	5	1	4
Light	South Australia	2	2	4	2
Lilydale - Coldstream	Victoria	3	4	4	4
Lilyfield - Rozelle	New South Wales	5	5	3	5
Lindfield - Roseville	New South Wales	5	5	4	5
Lindisfarne - Rose Bay	Tasmania	4	3	2	3
Lismore	New South Wales	1	3	5	3
Lismore Region	New South Wales	3	1	5	2
Lithgow	New South Wales	1	2	3	1
Lithgow Region	New South Wales	2	2	3	2
Little Grove - Elleker	Western Australia	3*	2*	5*	3*
Liverpool - Warwick Farm	New South Wales	4	5	1	3
Lobethal - Woodside	South Australia	3	3	2	3
Lockington - Gunbower	Victoria	2*	1*	5*	1*
Lockleys	South Australia	4	4	1	4
Lockridge - Kiara	Western Australia	3	3	2	2
Lockyer Valley - East	Queensland	1	2	4	1
Lockyer Valley - West	Queensland	2*	1*	4*	1*
Loddon	Victoria	1	1	5	3
Logan Central	Queensland	1	2	2	1
Logan Village	Queensland	3*	2*	2*	2*
Loganholme - Tanah Merah	Queensland	2*	2*	2*	1*
Loganlea	Queensland	1	3	2	1
Longford	Tasmania	2*	1*	2*	1*
Longford - Loch Sport	Victoria	2*	1*	5*	1*
Longreach	Queensland	2	1	4	1
Lord Howe Island	New South Wales	2*	1*		
Lorne - Anglesea	Victoria	4	2	2	4
Lowood	Queensland	1	1	4	1
Loxton	South Australia	2	2	3	2
Loxton Region	South Australia	1*	1*	3*	1*
Ludmilla - The Narrows	Northern Territory	2*	1*	1*	1*

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Lynbrook - Lyndhurst	Victoria	5*	4*	1*	4*
Lyndoch	South Australia	2*	2*	4*	2*
Lyneham	Australian Capital Territory	5	3	2	5
Lyons (ACT)	Australian Capital Territory	5*	1*	1*	2*
Lysterfield	Victoria	4*	3*	3*	4*
Macedon	Victoria	4	2	5	4
Macgregor (ACT)	Australian Capital Territory	4*	3*	1*	4*
Macgregor (Qld)	Queensland	5	5	2	5
Mackay	Queensland	2*	2*	5*	2*
Macksville - Scotts Head	New South Wales	1	1	5	1
Maclean - Yamba - Iluka	New South Wales	2	3	3	2
Macquarie	Australian Capital Territory	5	4	1	4
Macquarie Fields - Glenfield	New South Wales	3	4	3	4
Macquarie Park - Marsfield	New South Wales	5	5	2	5
Maddington - Orange Grove - Martin	Western Australia	3	1	1	1
Madeley - Darch - Landsdale	Western Australia	4	3	1	4
Maffra	Victoria	2	2	5	2
Magnetic Island	Queensland	3*	2*	2*	2*
Maiden Gully	Victoria	3*	2*	5*	3*
Maitland	New South Wales	2	3	3	2
Maitland - East	New South Wales	2	4	3	3
Maitland - North	New South Wales	4*	2*	3*	3*
Maitland - West	New South Wales	1	3	3	2
Malabar - La Perouse - Chifley	New South Wales	3	3	1	2
Malak - Marrara	Northern Territory	2	3	1	1
Malanda - Yungaburra	Queensland	3	1	3	2
Mallala	South Australia	2*	1*	4*	1*
Malvern - Glen Iris	Victoria	5	5	3	5
Malvern East	Victoria	5*	4*	3*	5*
Mandurah	Western Australia	2*	1*	5*	1*
Mandurah - East	Western Australia	3*	5*	5*	5*
Mandurah - North	Western Australia	3	3	5	4
Mandurah - South	Western Australia	2	2	5	2
Manjimup	Western Australia	2	2	5	3
Manly - Fairlight	New South Wales	5	5	2	5
Manly - Lota	Queensland	4	4	4	4
Manly Vale - Allambie Heights	New South Wales	4*	4*	5*	5*
Manly West	Queensland	3	5	4	4
Manning - Waterford	Western Australia	5	5	3	5
Mannum	South Australia	1	1	3	1
Mansfield (Qld)	Queensland	4	5	2	4

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Mansfield (Vic.)	Victoria	3	3	5	4
Manunda	Queensland	1	2	2	1
Marangaroo	Western Australia	3*	2*	1*	2*
Marcoola - Mudjimba	Queensland	3*	2*	2*	3*
Mareeba	Queensland	1	2	3	1
Margaret River	Western Australia	3	2	5	4
Margate - Snug	Tasmania	3*	2*	4*	3*
Margate - Woody Point	Queensland	3*	2*	3*	2*
Maribyrnong	Victoria	5	5	1	5
Marino - Seaview Downs	South Australia	4	2	2	4
Maroochy Hinterland	Queensland	3*	1*	4*	2*
Maroochydore - Kuluin	Queensland	3	3	2	3
Maroubra	New South Wales	5	5	1	4
Marrickville	New South Wales	4	5	5	5
Marsden	Queensland	1*	3*	1*	1*
Maryborough (Qld)	Queensland	1	2	5	2
Maryborough (Vic.)	Victoria	1	2	5	3
Maryborough Region	Victoria	2*	1*	5*	3*
Maryborough Region - South	Queensland	1*	1*	5*	1*
Maryland - Fletcher - Minmi	New South Wales	2	3	5	3
Mascot - Eastlakes	New South Wales	4	3	1	2
Mawson	Australian Capital Territory	5*	5*	1*	5*
Mayfield - Warabrook	New South Wales	3	2	5	3
Maylands	Western Australia	5*	2*	1*	4*
McDowall	Queensland	4	5	3	5
McKail - Willyung	Western Australia	1	1	5	1
McLaren Vale	South Australia	3	4	2	3
Meadow Heights	Victoria	4*	3*	1*	3*
Meekatharra	Western Australia	1	1	5	1
Melba	Australian Capital Territory	5	5	1	5
Melbourne	Victoria	5*	3*	2*	5*
Melton	Victoria	1	3	3	2
Melton South	Victoria	2	3	3	2
Melton West	Victoria	2	4	3	3
Melville	Western Australia	5	5	3	5
Menai - Lucas Heights - Woronora	New South Wales	4	5	5	4
Mentone	Victoria	4	5	4	5
Merbein	Victoria	1	2	5	2
Merewether - The Junction	New South Wales	4*	4*	5*	5*
Merimbula - Tura Beach	New South Wales	3	4	4	4
Mermaid Beach - Broadbeach	Queensland	4*	4*	2*	4*

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Mermaid Waters	Queensland	4	4	2	4
Merredin	Western Australia	2	1	4	2
Merrimac	Queensland	3	5	3	4
Merrylands - Holroyd	New South Wales	4*	5*	1*	4*
Miami	Queensland	3	4	2	3
Miandetta - Don	Tasmania	2*	1*	4*	2*
Middle Park - Jamboree Heights	Queensland	5*	5*	2*	5*
Middle Ridge	Queensland	4	4	4	4
Middle Swan - Herne Hill	Western Australia	2	2	2	2
Midland - Guildford	Western Australia	3	5	2	4
Mildura	Victoria	1	2	5	2
Mildura Region	Victoria	2	1	5	2
Miles - Wandoan	Queensland	2	1	5	1
Mill Park - North	Victoria	4	5	1	3
Mill Park - South	Victoria	4*	4*	1*	3*
Millbank - Avoca	Queensland	1*	3*	5*	3*
Millicent	South Australia	2	3	4	2
Millmerran	Queensland	2	1	5	2
Millner	Northern Territory	3*	1*	1*	1*
Mindarie - Quinns Rocks - Jindalee	Western Australia	3	4	1	3
Minto - St Andrews	New South Wales	3	5	3	4
Miranda - Yowie Bay	New South Wales	3	4	5	4
Mitcham (SA)	South Australia	5	5	2	5
Mitcham (Vic.)	Victoria	5	4	3	5
Mitchell Park	South Australia	4	5	2	4
Mitchelton	Queensland	4	4	3	4
Mittagong	New South Wales	3	5	3	4
Moama	New South Wales	3	2	5	3
Modbury Heights	South Australia	3	4	3	4
Moe - Newborough	Victoria	1	2	2	1
Moffat Beach - Battery Hill	Queensland	3*	4*	4*	4*
Moil	Northern Territory	2*	3*	1*	2*
Moira	Victoria	2*	1*	4*	1*
Molendinar	Queensland	3	5	4	4
Monash	Australian Capital Territory	4*	2*	1*	3*
Monbulk - Silvan	Victoria	3	3	4	3
Monterey - Brighton-le-Sands - Kyeemagh	New South Wales	4*	4*	5*	5*
Montmorency - Briar Hill	Victoria	4	4	2	4
Monto - Eidsvold	Queensland	1	1	5	1
Montrose	Victoria	3	5	4	4

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Montrose - Rosetta	Tasmania	1*	3*	3*	2*
Mooloolaba - Alexandra Headland	Queensland	3*	4*	2*	4*
Moonah	Tasmania	2*	4*	3*	3*
Moonee Ponds	Victoria	5*	5*	3*	5*
Moonta	South Australia	2	2	5	2
Moora	Western Australia	2	1	4	1
Moorabbin - Heatherton	Victoria	5	5	4	5
Moorooka	Queensland	5*	3*	2*	4*
Mooroolbark	Victoria	3	3	4	3
Mooroopna	Victoria	1	3	2	1
Moranbah	Queensland	3	3	3	3
Morawa	Western Australia	2	1	5	1
Morayfield - East	Queensland	1	4	3	2
Mordialloc - Parkdale	Victoria	4	4	4	4
Moree	New South Wales	1	1	3	1
Moree Region	New South Wales	1*	1*	3*	1*
Morisset - Cooranbong	New South Wales	3	2	3	3
Morley	Western Australia	4	3	1	3
Morningside - Seven Hills	Queensland	4	4	2	4
Mornington	Victoria	3	4	3	3
Mornington - Warrane	Tasmania	1	1	2	1
Morphett Vale - East	South Australia	1	4	2	2
Morphett Vale - West	South Australia	1*	1*	2*	1*
Morphettville	South Australia	3*	3*	2*	3*
Mortdale - Penshurst	New South Wales	5	5	2	5
Moruya - Tuross Head	New South Wales	2	3	4	3
Morwell	Victoria	1*	1*	2*	1*
Mosman	New South Wales	5	5	3	5
Mosman Park - Peppermint Grove	Western Australia	5	5	4	5
Moss Vale - Berrima	New South Wales	3	4	3	3
Moulden	Northern Territory	1*	1*	2*	1*
Mount Annan - Currans Hill	New South Wales	3	4	2	3
Mount Barker	South Australia	3	4	2	3
Mount Barker Region	South Australia	3*	1*	2*	1*
Mount Baw Baw Region	Victoria	3	1	5	2
Mount Dandenong - Olinda	Victoria	4	2	4	4
Mount Druitt - Whalan	New South Wales	3	5	1	3
Mount Eliza	Victoria	5	5	3	5
Mount Evelyn	Victoria	2*	4*	4*	3*
Mount Gambier	South Australia	1	3	4	3

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Mount Gravatt	Queensland	4	3	2	4
Mount Hawthorn - Leederville	Western Australia	5	4	4	5
Mount Hutton - Windale	New South Wales	1*	1*	3*	1*
Mount Isa	Queensland	1	2	1	1
Mount Isa Region	Queensland	1	1	1	1
Mount Lawley - Inglewood	Western Australia	5	5	4	5
Mount Louisa	Queensland	3	3	2	2
Mount Martha	Victoria	4	4	3	4
Mount Morgan	Queensland	1	1	4	1
Mount Nasura - Mount Richon - Bedfordale	Western Australia	4	1	4	3
Mount Nelson - Dynnyrne	Tasmania	5*	4*	4*	5*
Mount Pleasant - Glenella	Queensland	3	3	5	3
Mount Warren Park	Queensland	3*	3*	2*	2*
Mount Waverley - North	Victoria	5	5	3	5
Mount Waverley - South	Victoria	5	5	3	5
Mountain Creek	Queensland	3	4	5	4
Mowbray	Tasmania	2	5	4	4
Moyne - East	Victoria	2	1	5	2
Moyne - West	Victoria	3	1	5	3
Mudgee	New South Wales	2	3	3	3
Mudgee Region - East	New South Wales	1	1	3	1
Mudgee Region - West	New South Wales	2	1	3	1
Mudgeeraba - Bonogin	Queensland	3	5	5	5
Mukinbudin	Western Australia	1	1	4	1
Mulgoa - Luddenham - Orchard Hills	New South Wales	3	4	3	4
Mulgrave	Victoria	5	5	3	5
Mullaloo - Kallaroo	Western Australia	4*	2*	3*	4*
Mullumbimby	New South Wales	3	2	5	3
Mundaring	Western Australia	4	2	2	3
Mundijong	Western Australia	3	2	1	2
Mundingburra	Queensland	4	4	2	4
Munno Para West - Angle Vale	South Australia	2	3	2	2
Murarrie	Queensland	4*	1*	4*	3*
Murdoch - Kardinya	Western Australia	5	3	3	5
Murray	Western Australia	3	1	3	2
Murray Bridge	South Australia	1	2	3	1
Murray Bridge Region	South Australia	1*	1*	3*	1*
Murrumba Downs - Griffin	Queensland	3*	4*	2*	3*
Murrumbeena	Victoria	5*	4*	3*	5*
Murwillumbah	New South Wales	1	3	4	2

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Murwillumbah Region	New South Wales	2*	1*	4*	1*
Muswellbrook	New South Wales	1	2	4	2
Muswellbrook Region	New South Wales	2*	1*	4*	1*
Myrtleford	Victoria	2	3	3	3
Nagambie	Victoria	3*	2*	5*	3*
Nailsworth - Broadview	South Australia	5*	3*	3*	4*
Nairne	South Australia	3*	3*	2*	2*
Nambour	Queensland	2	3	4	3
Nambucca Heads	New South Wales	1	2	5	2
Nambucca Heads Region	New South Wales	1	1	5	1
Nanango	Queensland	1	1	5	1
Naracoorte	South Australia	2	2	4	3
Naracoorte Region	South Australia	3	1	4	3
Narangba	Queensland	3	4	1	3
Narara	New South Wales	3	3	4	3
Narooma - Bermagui	New South Wales	2	1	4	2
Narrabeen - Collaroy	New South Wales	4	4	5	5
Narrabri	New South Wales	2	2	3	2
Narrabri Region	New South Wales	1	1	3	1
Narrabundah	Australian Capital Territory	5*	5*	2*	5*
Narrandera	New South Wales	1	1	5	1
Narre Warren	Victoria	3	4	3	4
Narre Warren North	Victoria	4*	3*	3*	4*
Narre Warren South	Victoria	4	4	1	3
Narrogin	Western Australia	3	2	3	2
Narromine	New South Wales	1	2	3	1
Narwee - Beverly Hills	New South Wales	5	4	2	4
Nedlands - Dalkeith - Crawley	Western Australia	5*	4*	4*	5*
Nelson Bay Peninsula	New South Wales	3	4	3	4
Nerang - Mount Nathan	Queensland	2	3	3	2
Neutral Bay - Kirribilli	New South Wales	5	5	3	5
New Farm	Queensland	5*	2*	4*	5*
New Norfolk	Tasmania	1	1	3	1
New Town	Tasmania	4	4	4	4
Newcastle - Cooks Hill	New South Wales	5	5	5	5
Newcomb - Moolap	Victoria	1	3	4	2
Newman	Western Australia	2	1	1	1
Newmarket	Queensland	5*	2*	2*	4*
Newnham - Mayfield	Tasmania	1	2	4	1
Newport	Victoria	5*	3*	2*	4*
Newport - Bilgola	New South Wales	4*	4*	4*	5*
Newstead	Tasmania	4	5	4	4

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Newtown - Camperdown - Darlington	New South Wales	5	4	5	5
Newtown (Qld)	Queensland	1	3	4	2
Newtown (Vic.)	Victoria	5	5	4	5
Ngunnawal	Australian Capital Territory	4*	5*	1*	4*
Nhill Region	Victoria	2	2	5	2
Nhulunbuy	Northern Territory	2	3	1	1
Niagara Park - Lisarow	New South Wales	3	3	4	3
Nicholls	Australian Capital Territory	5	4	1	5
Niddrie - Essendon West	Victoria	4	5	5	5
Nightcliff	Northern Territory	4*	2*	1*	3*
Noble Park	Victoria	4	4	2	4
Noble Park North	Victoria	4	5	2	4
Nollamara - Westminster	Western Australia	4*	2*	3*	3*
Noosa Hinterland	Queensland	3	3	4	3
Noosaville	Queensland	4	4	3	4
Noranda	Western Australia	4	3	1	4
Norman Gardens	Queensland	3	3	4	3
Norman Park	Queensland	5*	3*	2*	4*
Normanhurst - Thornleigh - Westleigh	New South Wales	5	5	5	5
North Adelaide	South Australia	5	4	3	5
North Geelong - Bell Park	Victoria	2	4	4	4
North Haven	South Australia	2	3	1	1
North Ipswich - Tivoli	Queensland	1*	1*	5*	2*
North Lakes - Mango Hill	Queensland	4	5	2	4
North Mackay	Queensland	1	2	5	2
North Melbourne	Victoria	5	5	2	5
North Nowra - Bomaderry	New South Wales	2	4	3	3
North Parramatta	New South Wales	5	5	2	5
North Perth	Western Australia	5*	2*	4*	5*
North Rocks	New South Wales	5	5	2	5
North Ryde - East Ryde	New South Wales	5*	4*	2*	5*
North Sydney - Lavender Bay	New South Wales	5	5	3	5
North Toowoomba - Harlaxton	Queensland	1	3	4	2
North West	Tasmania	1*	1*	4*	1*
Northam	Western Australia	1	2	4	2
Northampton - Mullewa - Greenough	Western Australia	1	1	5	1
Northcote	Victoria	5	5	2	5
Northern Beaches	Queensland	1*	2*	2*	1*
Northern Highlands	Queensland	1	1	1	1

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Northern Midlands	Tasmania	2	1	2	1
Northern Peninsula	Queensland	1	2	1	1
Northgate - Oakden - Gilles Plains	South Australia	4	4	1	3
Northgate - Virginia	Queensland	4*	2*	2*	3*
Northmead	New South Wales	5	5	2	5
Norwood (SA)	South Australia	5	5	5	5
Norwood (Tas.)	Tasmania	3	3	4	3
Nowra	New South Wales	1	3	3	1
Nudgee - Banyo	Queensland	4	3	2	3
Numurkah	Victoria	1	2	4	2
Nunawading	Victoria	5	4	3	5
Nundah	Queensland	4	4	2	4
Nuriootpa	South Australia	2	3	4	3
Nyngan - Warren	New South Wales	1	1	1	1
Oakleigh - Huntingdale	Victoria	5	4	3	5
Oatlands - Dundas Valley	New South Wales	5*	3*	5*	5*
Oatley - Hurstville Grove	New South Wales	5*	5*	2*	5*
Oberon	New South Wales	2	2	4	3
Ocean Grove - Barwon Heads	Victoria	4*	3*	2*	4*
Ocean Reef	Western Australia	4	4	3	4
O'Connor (ACT)	Australian Capital Territory	5*	2*	2*	5*
Old Bar - Manning Point - Red Head	New South Wales	2*	2*	5*	3*
One Tree Hill	South Australia	3*	2*	2*	2*
Oonoonba	Queensland	3*	3*	2*	3*
Orange	New South Wales	2	4	4	3
Orange - North	New South Wales	3*	3*	4*	3*
Orange Region	New South Wales	3	1	4	2
Orbost	Victoria	2	1	5	2
Ormeau - Yatala	Queensland	3	4	2	3
Ormiston	Queensland	4	5	5	5
Ormond - Glen Huntly	Victoria	5	5	3	5
Otway	Victoria	4	2	5	3
Ourimbah - Fountaindale	New South Wales	3*	2*	1*	1*
Outback	South Australia	1	1	1	1
Oxenford - Maudsland	Queensland	3*	2*	2*	2*
Oxley (Qld)	Queensland	5*	3*	1*	3*
Oyster Bay - Como - Jannali	New South Wales	4	4	5	5
Pacific Pines - Gaven	Queensland	3	4	3	3
Padbury	Western Australia	4*	2*	3*	3*
Paddington - Milton	Queensland	5*	2*	4*	5*

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Paddington - Moore Park	New South Wales	5	5	4	5
Padstow	New South Wales	4*	4*	2*	4*
Page	Australian Capital Territory	4*	5*	1*	5*
Pagewood - Hillsdale - Daceyville	New South Wales	4*	4*	1*	2*
Pakenham - North	Victoria	2	5	4	4
Pakenham - South	Victoria	2	3	4	3
Pallara - Willawong	Queensland	5*	2*	1*	1*
Palm Beach	Queensland	2	4	3	3
Palm Island	Queensland	1	1	3	1
Palmerston	Australian Capital Territory	5*	3*	1*	4*
Palmwoods	Queensland	3*	2*	4*	3*
Panania - Milperra - Picnic Point	New South Wales	3	4	2	4
Panorama	South Australia	4	2	2	4
Panton Hill - St Andrews	Victoria	4	4	5	4
Para Hills	South Australia	3	3	1	1
Paradise - Newton	South Australia	4	3	4	4
Parafield Gardens	South Australia	2	3	1	1
Paralowie	South Australia	1	4	1	1
Parap	Northern Territory	4*	3*	1*	2*
Park Avenue	Queensland	1	2	4	1
Parkes (NSW)	New South Wales	1	2	3	1
Parkes Region	New South Wales	2	1	3	1
Parkhurst - Kawana	Queensland	1	3	4	2
Parklands - Camdale	Tasmania	1	2	5	2
Parklea - Kellyville Ridge	New South Wales	5	5	1	5
Parkville	Victoria	5	5	2	5
Parkwood - Ferndale - Lynwood	Western Australia	4	3	1	3
Parmelia - Orelia	Western Australia	2	2	1	1
Parramatta - Rosehill	New South Wales	5	5	2	5
Parrearra - Warana	Queensland	3	3	4	4
Pascoe Vale	Victoria	4	4	1	3
Pascoe Vale South	Victoria	4	5	1	4
Payneham - Felixstow	South Australia	4*	4*	5*	5*
Paynesville	Victoria	2*	1*	5*	2*
Peakhurst - Lugarno	New South Wales	4	4	2	4
Pearce	Australian Capital Territory	5	5	1	5
Pearcedale - Tooradin	Victoria	2*	2*	1*	1*
Pemberton	Western Australia	3	1	5	3
Penguin - Sulphur Creek	Tasmania	2	3	5	3
Pennant Hills - Cheltenham	New South Wales	5	5	2	5
Penola	South Australia	3	1	4	2
Penrith	New South Wales	2	3	3	2

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Peregian	Queensland	4	4	3	4
Perth - Evandale	Tasmania	2*	2*	2*	1*
Perth City	Western Australia	5	4	4	5
Peterborough - Mount Remarkable	South Australia	2	1	4	1
Petermann - Simpson	Northern Territory	1	1	1	1
Petersham - Stanmore	New South Wales	5	5	5	5
Petrie	Queensland	2	3	2	2
Phillip	Australian Capital Territory	5*	5*	1*	5*
Phillip Island	Victoria	3	4	4	4
Pialba - Eli Waters	Queensland	1	3	4	2
Picton - Tahmoor - Buxton	New South Wales	2	4	1	2
Pimpama	Queensland	2*	2*	2*	2*
Pinjarra	Western Australia	2	2	5	2
Pinjarra Hills - Pullenvale	Queensland	5*	4*	3*	5*
Pioneer Valley	Queensland	1	1	5	1
Pitt Town - McGraths Hill	New South Wales	3	3	1	2
Pittsworth	Queensland	2	3	5	3
Plantagenet	Western Australia	2	1	5	2
Plenty - Yarrambat	Victoria	4	5	5	5
Plympton	South Australia	4	4	1	4
Point Clare - Koolewong	New South Wales	3*	4*	4*	4*
Point Cook	Victoria	5	5	1	5
Point Nepean	Victoria	4*	2*	3*	3*
Pooraka	South Australia	4	3	1	3
Port Adelaide	South Australia	2	3	1	1
Port Augusta	South Australia	1	2	1	1
Port Douglas	Queensland	3*	1*	5*	3*
Port Hedland	Western Australia	3*	2*	1*	2*
Port Kennedy	Western Australia	2*	2*	3*	2*
Port Lincoln	South Australia	1	3	4	2
Port Macquarie - East	New South Wales	3	4	4	4
Port Macquarie - West	New South Wales	1	3	4	3
Port Macquarie Region	New South Wales	1*	2*	4*	2*
Port Melbourne	Victoria	5*	4*	5*	5*
Port Pirie	South Australia	1	2	4	2
Port Pirie Region	South Australia	3*	1*	4*	2*
Portarlington	Victoria	2*	3*	2*	2*
Portland	Victoria	1	2	5	2
Potts Point - Woolloomooloo	New South Wales	5	4	5	5
Pottsville	New South Wales	3*	2*	4*	3*
Prahran - Windsor	Victoria	5	5	5	5

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Preston	Victoria	4	4	1	3
Prestons - Lurnea	New South Wales	4	5	1	4
Proserpine	Queensland	1	2	5	3
Prospect	South Australia	5	5	3	5
Prospect Vale - Blackstone	Tasmania	2	5	4	4
Punchbowl	New South Wales	4	5	1	3
Pymble	New South Wales	5	5	4	5
Pyrmont - Ultimo	New South Wales	5	5	5	5
Quakers Hill - Acacia Gardens	New South Wales	4	5	1	4
Queanbeyan	New South Wales	3	4	1	3
Queanbeyan - East	New South Wales	4*	1*	1*	2*
Queanbeyan Region	New South Wales	4*	2*	1*	2*
Queanbeyan West - Jerrabomberra	New South Wales	4*	5*	1*	4*
Queenscliff	Victoria	4*	2*	2*	4*
Quirindi	New South Wales	1	1	3	1
Quoiba - Spreyton	Tasmania	2*	2*	4*	2*
Raceview	Queensland	1*	3*	5*	3*
Randwick	New South Wales	5	5	1	5
Rangeville	Queensland	4	3	4	4
Rapid Creek	Northern Territory	4	4	1	4
Ravenswood	Tasmania	1*	1*	4*	1*
Raymond Terrace	New South Wales	1	3	3	1
Red Cliffs	Victoria	1	1	5	1
Red Hill (ACT)	Australian Capital Territory	5	5	2	5
Red Hill (Qld)	Queensland	5*	4*	4*	5*
Redbank Plains	Queensland	1	3	2	2
Redcliffe	Queensland	2	3	3	3
Redfern - Chippendale	New South Wales	5	4	5	5
Redhead	New South Wales	4*	3*	3*	4*
Redland Bay	Queensland	3*	3*	5*	4*
Redland Islands	Queensland	1	1	5	1
Redlynch	Queensland	3	4	2	4
Redwood Park	South Australia	3	3	3	3
Reedy Creek - Andrews	Queensland	3	4	5	5
Regents Park - Heritage Park	Queensland	2*	3*	1*	2*
Renmark	South Australia	2	3	3	3
Renmark Region	South Australia	2*	1*	3*	2*
Research - North Warrandyte	Victoria	5	5	5	5
Reservoir - East	Victoria	4	3	1	2
Reservoir - West	Victoria	4	3	1	2
Revesby	New South Wales	4	5	2	4

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Reynella	South Australia	2	4	2	3
Richardson	Australian Capital Territory	1*	1*	1*	1*
Richmond - Clarendon	New South Wales	2	4	3	3
Richmond (SA)	South Australia	4	4	1	4
Richmond (Vic.)	Victoria	5	4	3	5
Riddells Creek	Victoria	4*	2*	5*	4*
Ringwood	Victoria	4	5	3	5
Ringwood East	Victoria	4	4	3	4
Ringwood North	Victoria	4	5	3	5
Risdon Vale	Tasmania	1*	1*	2*	1*
Riverhills	Queensland	4*			
Riverside	Tasmania	4	4	4	4
Riverstone - Marsden Park	New South Wales	2	4	1	2
Riverton - Shelley - Rossmoyne	Western Australia	5*	4*	1*	4*
Rivervale - Kewdale - Cloverdale	Western Australia	4	3	1	3
Riverview	Queensland	1	2	5	1
Riverwood	New South Wales	4*	3*	2*	4*
Robertson	Queensland	5*	5*	2*	5*
Robertson - Fitzroy Falls	New South Wales	4*	1*	3*	3*
Robina	Queensland	4	4	3	4
Robinvale	Victoria	2	2	5	3
Rochedale - Burbank	Queensland	5	5	2	5
Rochedale South - Priestdale	Queensland	3*	2*	2*	3*
Rochester	Victoria	2	2	5	2
Rockbank - Mount Cottrell	Victoria	1*	1*	3*	1*
Rockdale - Banksia	New South Wales	5*	4*	5*	5*
Rockhampton - West	Queensland	1*	2*	4*	2*
Rockhampton City	Queensland	1	1	4	1
Rockhampton Region - East	Queensland	1*	1*	4*	1*
Rockhampton Region - North	Queensland	2*	1*	4*	2*
Rockhampton Region - West	Queensland	1*	1*	4*	1*
Rockingham	Western Australia	3	2	3	3
Rocklea - Acacia Ridge	Queensland	2	1	1	1
Roebourne	Western Australia	1	1	1	1
Roebuck	Western Australia	1	1	1	1
Rokeby	Tasmania	1	2	2	1
Roma	Queensland	2	2	5	2
Roma Region	Queensland	2	1	5	1
Romaine - Havenview	Tasmania	1	2	5	2
Romsey	Victoria	3	2	5	4
Rooty Hill - Minchinbury	New South Wales	4	5	1	3

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Rose Bay - Vaucluse - Watsons Bay	New South Wales	5	5	4	5
Rosebery - Bellamack	Northern Territory	2*	4*	2*	3*
Rosebud - McCrae	Victoria	2	3	3	2
Rosedale	Victoria	1*	1*	5*	1*
Roselands	New South Wales	4*	4*	1*	2*
Rosemeadow - Glen Alpine	New South Wales	2	4	3	3
Rosewood	Queensland	1	1	4	1
Ross	Northern Territory	1	1	1	1
Rostrevor - Magill	South Australia	4	4	4	5
Rothwell - Kippa-Ring	Queensland	2	4	3	3
Rouse Hill - Beaumont Hills	New South Wales	5	5	1	4
Rowville - Central	Victoria	4	5	3	4
Rowville - North	Victoria	4*	4*	3*	4*
Rowville - South	Victoria	4*	5*	3*	5*
Roxburgh Park - Somerton	Victoria	4	4	1	4
Roxby Downs	South Australia	2	2	1	1
Royal Park - Hendon - Albert Park	South Australia	2*	3*	1*	1*
Runaway Bay	Queensland	4*	5*	5*	5*
Runcorn	Queensland	5	4	1	4
Rushworth	Victoria	2	1	5	2
Rutherglen	Victoria	3	2	5	3
Ryde - Putney	New South Wales	5	4	2	5
Safety Bay - Shoalwater	Western Australia	3	2	3	3
Sale	Victoria	2	3	5	3
Salisbury	South Australia	2	3	1	1
Salisbury - Nathan	Queensland	4	2	2	3
Salisbury East	South Australia	1	3	1	1
Salisbury North	South Australia	1	2	1	1
Samford Valley	Queensland	5	4	4	5
Sandgate - Shorncliffe	Queensland	4	4	4	4
Sandover - Plenty	Northern Territory	1	1	1	1
Sandringham - Black Rock	Victoria	5	5	2	5
Sandy Bay	Tasmania	5	5	4	5
Sans Souci - Ramsgate	New South Wales	4*	4*	5*	5*
Saratoga - Davistown	New South Wales	3*	3*	4*	3*
Sarina	Queensland	1	1	5	1
Sawtell - Boambee	New South Wales	1	3	3	2
Scarborough	Western Australia	5*	2*	3*	4*
Scarborough - Newport	Queensland	3	5	3	4
Scone	New South Wales	2	4	4	3

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Scone Region	New South Wales	2	2	4	2
Scottsdale - Bridport	Tasmania	1	1	2	1
Scullin	Australian Capital Territory	4*	1*	1*	2*
Seabrook	Victoria	4*	4*	2*	4*
Seaford (SA)	South Australia	2	3	2	2
Seaford (Vic.)	Victoria	2	2	4	3
Seaforth - Calen	Queensland	1	1	5	1
Seaham - Woodville	New South Wales	3*	1*	3*	2*
Seaton - Grange	South Australia	3	3	1	2
Serpentine - Jarrahdale	Western Australia	2*	1*	1*	1*
Seven Hills - Toongabbie	New South Wales	4	5	1	4
Seville Grove	Western Australia	2	2	4	2
Seymour	Victoria	1	3	5	2
Seymour Region	Victoria	3*	1*	5*	2*
Shailer Park	Queensland	3	3	2	3
Sheffield - Railton	Tasmania	2	1	4	2
Sheidow Park - Trott Park	South Australia	3*	3*	2*	3*
Sheldon - Mount Cotton	Queensland	4	5	5	5
Shellharbour - Flinders	New South Wales	3	4	3	4
Shellharbour - Oak Flats	New South Wales	2	4	3	3
Shepparton - North	Victoria	3	4	2	3
Shepparton - South	Victoria	2	2	2	1
Shepparton Region - East	Victoria	3*	1*	2*	1*
Shepparton Region - West	Victoria	2*	1*	2*	1*
Sherwood	Queensland	5*	3*	2*	5*
Shoal Point - Bucasia	Queensland	2*	2*	5*	2*
Shortland - Jesmond	New South Wales	3*	1*	5*	2*
Singleton	New South Wales	2	3	2	2
Singleton - Golden Bay - Secret Harbour	Western Australia	3	3	3	4
Singleton Region	New South Wales	2*	1*	2*	1*
Sippy Downs	Queensland	3	4	5	4
Skye - Sandhurst	Victoria	3*	3*	4*	3*
Slacks Creek	Queensland	1	2	2	1
Slade Point	Queensland	1*	1*	5*	1*
Smithfield - Elizabeth North	South Australia	1*	1*	2*	1*
Smithfield - Wetherill Park	New South Wales	3	5	1	3
Smithton	Tasmania	1	2	4	1
Smythes Creek	Victoria	2*	2*	4*	2*
Somerset	Tasmania	1	1	5	1
Somerville	Victoria	2	3	3	3
Sorell - Richmond	Tasmania	2	2	1	1

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Sorrento - Marmion	Western Australia	5	4	3	5
South Arm	Tasmania	3*	1*	2*	2*
South Brisbane	Queensland	5	5	4	5
South Hedland	Western Australia	1	2	1	1
South Hobart - Fern Tree	Tasmania	5*	4*	4*	5*
South Hurstville - Blakehurst	New South Wales	5	4	2	5
South Lake - Cockburn Central	Western Australia	3	1	2	2
South Launceston	Tasmania	3*	1*	4*	2*
South Mackay	Queensland	2	2	5	2
South Melbourne	Victoria	5*	4*	5*	5*
South Morang	Victoria	4	4	1	3
South Perth - Kensington	Western Australia	5	5	3	5
South Townsville - Railway Estate	Queensland	3	1	2	1
South West Rocks	New South Wales	2*	2*	5*	3*
South Yarra - East	Victoria	5	5	5	5
South Yarra - West	Victoria	5	5	2	5
Southbank	Victoria	5	5	2	5
Southern Downs - East	Queensland	2	1	4	1
Southern Downs - West	Queensland	2	1	4	1
Southern Grampians	Victoria	3	1	5	3
Southern Highlands	New South Wales	4*	1*	3*	3*
Southern Midlands	Tasmania	1	1	3	1
Southport	Queensland	3	5	4	4
Spearwood	Western Australia	3*	1*	2*	1*
Spring Hill	Queensland	5	5	4	5
Springfield	Queensland	2	5	2	3
Springfield Lakes	Queensland	4	4	2	4
Springvale	Victoria	5	5	2	5
Springvale South	Victoria	4	4	2	4
Springwood	Queensland	4	3	2	3
Springwood - Winmalee	New South Wales	4	5	3	4
St Agnes - Ridgehaven	South Australia	3*	2*	3*	3*
St Albans - North	Victoria	4	3	1	3
St Albans - South	Victoria	4	4	1	4
St Arnaud	Victoria	2	2	5	3
St Clair	New South Wales	3	4	1	2
St Georges Basin - Erowal Bay	New South Wales	1*	3*	3*	1*
St Helens - Scamander	Tasmania	2	3	2	2
St Ives	New South Wales	5	5	4	5
St Johns Park - Wakeley	New South Wales	4	5	1	4
St Kilda	Victoria	5	5	5	5

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
St Kilda East	Victoria	5	4	5	5
St Leonards - Naremburn	New South Wales	5	4	4	5
St Lucia	Queensland	5*	5*	2*	5*
St Marys - Colyton	New South Wales	1	3	1	1
St Peters - Marden	South Australia	5	5	5	5
Stafford	Queensland	3*	3*	2*	2*
Stafford Heights	Queensland	4*	1*	2*	2*
Stanthorpe	Queensland	2	2	4	3
Stanthorpe Region	Queensland	2*	1*	4*	1*
Stawell	Victoria	2	2	5	3
Stirling - Osborne Park	Western Australia	5*	1*	3*	4*
Stockton - Fullerton Cove	New South Wales	2*	3*	5*	3*
Strathalbyn	South Australia	2	4	3	3
Strathalbyn Region	South Australia	3	2	3	2
Strathfield	New South Wales	5	5	1	5
Strathfieldsaye	Victoria	4*	4*	5*	4*
Strathmore	Victoria	4	5	5	5
Strathpine - Brendale	Queensland	3	2	2	2
Stratton - Jane Brook	Western Australia	2*	1*	2*	1*
Stuart Park	Northern Territory	4*	2*	1*	2*
Subiaco - Shenton Park	Western Australia	5	4	4	5
Success - Hammond Park	Western Australia	4*	2*	2*	4*
Summerhill - Prospect	Tasmania	1	3	4	2
Summerland Point - Gwandalan	New South Wales	2*	2*	1*	1*
Sunbury	Victoria	3	4	3	4
Sunbury - South	Victoria	2	3	3	3
Sunnybank	Queensland	5	4	1	4
Sunnybank Hills	Queensland	5*	4*	1*	4*
Sunshine	Victoria	4	4	1	4
Sunshine Beach	Queensland	4	5	3	4
Sunshine North	Victoria	4*	3*	1*	3*
Sunshine West	Victoria	4	4	1	4
Surfers Paradise	Queensland	4*	4*	1*	4*
Surrey Hills (East) - Mont Albert	Victoria	5*	4*	4*	5*
Surrey Hills (West) - Canterbury	Victoria	5	5	4	5
Surry Hills	New South Wales	5	5	5	5
Sussex Inlet - Berrara	New South Wales	1*	1*	3*	1*
Sutherland - Kirrawee	New South Wales	4	5	5	4
Svensson Heights - Norville	Queensland	1	3	5	3
Swan Hill	Victoria	2	2	5	3
Swan Hill Region	Victoria	2	1	5	2

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Swan View - Greenmount - Midvale	Western Australia	2	2	2	2
Swanbourne - Mount Claremont	Western Australia	5	5	4	5
Swansea - Caves Beach	New South Wales	3	2	3	2
Sydenham	Victoria	4*	5*	1*	4*
Sydenham - Tempe - St Peters	New South Wales	4	5	5	5
Sydney - Haymarket - The Rocks	New South Wales	5	5	5	5
Sylvania - Taren Point	New South Wales	4	4	5	5
Tablelands	Queensland	1	1	1	1
Taigum - Fitzgibbon	Queensland	4*	3*	4*	4*
Tamborine - Canungra	Queensland	3	2	5	4
Tamworth - East	New South Wales	2	3	3	3
Tamworth - North	New South Wales	2	3	3	3
Tamworth - West	New South Wales	1	2	3	1
Tamworth Region	New South Wales	2	1	3	1
Tanami	Northern Territory	1*	1*	1*	1*
Tanunda	South Australia	3	4	4	4
Tapping - Ashby - Sinagra	Western Australia	4*	3*	1*	3*
Tara	Queensland	1	1	5	1
Taree	New South Wales	1	3	5	2
Taree Region	New South Wales	1*	1*	5*	1*
Tarneit	Victoria	4	4	1	4
Taroona - Bonnet Hill	Tasmania	5	4	4	5
Tarragindi	Queensland	5*	4*	2*	5*
Tatiara	South Australia	2	2	4	3
Taylors Hill	Victoria	4	4	3	5
Taylors Lakes	Victoria	4	5	1	4
Tea Gardens - Hawks Nest	New South Wales	3*	2*	3*	3*
Telina - Toolooa	Queensland	2	1	5	2
Temora	New South Wales	2	2	5	2
Templestowe	Victoria	5*	5*	2*	5*
Templestowe Lower	Victoria	5	3	2	4
Tennant Creek	Northern Territory	1	1	1	1
Tenterfield	New South Wales	1	1	3	1
Terrey Hills - Duffys Forest	New South Wales	4	5	5	5
Terrigal - North Avoca	New South Wales	4	5	4	4
Tewantin	Queensland	2*	2*	3*	2*
Thamarrurr	Northern Territory	1*	1*	1*	1*
The Coorong	South Australia	1	1	3	1
The Entrance	New South Wales	1*	3*	1*	1*
The Gap	Queensland	5	4	3	5
The Oaks - Oakdale	New South Wales	2*	3*	1*	1*

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Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
The Parks	South Australia	4*	3*	1*	2*
The Range - Allenstown	Queensland	3	4	4	4
The Vines	Western Australia	4*	2*	2*	3*
Theodore	Australian Capital Territory	3*	2*	1*	2*
Thirroul - Austinmer - Coalcliff	New South Wales	5*	4*	4*	5*
Thomastown	Victoria	4	3	1	3
Thornbury	Victoria	5	5	2	4
Thornlands	Queensland	3	5	5	4
Thornlie	Western Australia	4	3	1	3
Thornton - Millers Forest	New South Wales	2*	2*	3*	2*
Tinana	Queensland	2*	3*	5*	4*
Tingalpa	Queensland	3*	4*	4*	4*
Tiwi	Northern Territory	3	5	1	3
Tiwi Islands	Northern Territory	1	1	1	1
Tocumwal - Finley - Jerilderie	New South Wales	2	1	5	2
Tomerong - Wandandian - Woollamia	New South Wales	2*	1*	3*	1*
Toodyay	Western Australia	3	3	4	3
Toongabbie - Constitution Hill	New South Wales	5	3	2	4
Toorak	Victoria	5	5	5	5
Toorak Gardens	South Australia	5	4	4	5
Toowong	Queensland	5	5	4	5
Toowoomba - Central	Queensland	3	3	4	3
Toowoomba - East	Queensland	4	5	4	5
Toowoomba - West	Queensland	3	2	4	3
Toronto - Awaba	New South Wales	2	3	3	3
Torquay	Victoria	4	5	2	4
Torquay - Scarness - Kawungan	Queensland	1*	3*	4*	2*
Torrens	Australian Capital Territory	5*	3*	1*	4*
Torres	Queensland	1	3	1	1
Toukley - Norah Head	New South Wales	1*	3*	1*	1*
Townsville - South	Queensland	2*	1*	2*	1*
Townsville City - North Ward	Queensland	4	5	2	5
Towong	Victoria	3	2	3	2
Trafalgar (Vic.)	Victoria	3	2	5	3
Traralgon	Victoria	2	3	2	2
Trevallyn	Tasmania	4*	2*	4*	4*
Triabunna - Bicheno	Tasmania	2	2	4	2
Trigg - North Beach - Watermans Bay	Western Australia	5*	3*	3*	4*
Trinity Beach - Smithfield	Queensland	3	3	2	3
Truganina	Victoria	5	5	1	5

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Tuart Hill - Joondanna	Western Australia	5	4	3	5
Tuggerah - Kangy Angy	New South Wales	3	4	1	3
Tullamarine	Victoria	3*	2*	1*	2*
Tully	Queensland	1	1	5	2
Tumbarumba	New South Wales	3	1	4	2
Tumut	New South Wales	2	2	4	2
Tumut Region	New South Wales	2	1	4	1
Tuncurry	New South Wales	1	2	4	2
Turner	Australian Capital Territory	5*	4*	2*	5*
Turners Beach - Forth	Tasmania	3*	1*	4*	2*
Turramurra	New South Wales	5	5	4	5
Tweed Heads	New South Wales	2*	2*	4*	2*
Tweed Heads - South	New South Wales	2	3	4	3
Ulladulla	New South Wales	2	3	3	3
Ulverstone	Tasmania	2	2	5	2
Umina - Booker Bay - Patonga	New South Wales	2	4	4	3
Unanderra - Mount Kembla	New South Wales	3	4	3	4
Unley - Parkside	South Australia	5	4	5	5
Upper Coomera - Willow Vale	Queensland	3	5	2	3
Upper Kedron - Ferny Grove	Queensland	4	5	3	5
Upper Mount Gravatt	Queensland	4	5	2	5
Upwey - Tecoma	Victoria	4	3	4	4
Uraidla - Summertown	South Australia	5*	2*	2*	4*
Urangan - Wondunna	Queensland	1	3	4	2
Urunga	New South Wales	3*	3*	3*	3*
Valentine - Eleebana	New South Wales	4*	3*	3*	4*
Varsity Lakes	Queensland	3	5	3	4
Vermont	Victoria	5	5	3	5
Vermont South	Victoria	5	5	3	5
Victor Harbor	South Australia	2	2	3	2
Victoria Park - Lathlain - Burswood	Western Australia	5	3	1	4
Victoria Point	Queensland	3	4	5	4
Victoria River	Northern Territory	1*	1*	1*	1*
Viewbank - Yallambie	Victoria	4	4	2	4
Virginia	Northern Territory	1	1	1	1
Virginia - Waterloo Corner	South Australia	3*	2*	2*	2*
Wacol	Queensland	1*	1*	1*	1*
Wagaman	Northern Territory	3*	2*	1*	2*
Wagga Wagga - East	New South Wales	3	3	5	4
Wagga Wagga - North	New South Wales	3	4	5	4
Wagga Wagga - South	New South Wales	2	3	5	3

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Wagga Wagga - West	New South Wales	2	2	5	2
Wagga Wagga Region	New South Wales	2	1	5	2
Wagin	Western Australia	2	1	3	1
Wahroonga - Warrawee	New South Wales	5	5	4	5
Waikerie	South Australia	2	1	3	1
Waikiki	Western Australia	2	2	3	2
Wakefield - Barunga West	South Australia	1	2	3	1
Wakerley	Queensland	4	3	4	4
Walcha	New South Wales	3	1	3	2
Walgett - Lightning Ridge	New South Wales	1	1	1	1
Walkerston - Eton	Queensland	2*	1*	5*	1*
Walkervale - Avenell Heights	Queensland	1	2	5	2
Walkerville	South Australia	5	5	3	5
Wallan	Victoria	2	3	1	1
Wallaroo	South Australia	1*	1*	5*	1*
Wallsend - Elermore Vale	New South Wales	2	3	5	4
Wamberal - Forresters Beach	New South Wales	4	4	4	4
Wambo	Queensland	1	2	5	2
Wamuran	Queensland	3*	2*	3*	2*
Wandin - Seville	Victoria	3*	1*	4*	2*
Wangaratta	Victoria	2	3	5	3
Wangaratta Region	Victoria	3*	1*	5*	2*
Wangi Wangi - Rathmines	New South Wales	3*	1*	3*	2*
Wanguri	Northern Territory	4*	2*	1*	2*
Wanneroo	Western Australia	3	3	1	3
Wanniassa	Australian Capital Territory	4	5	1	4
Wantirna	Victoria	4	4	3	4
Wantirna South	Victoria	5	5	3	5
Waramanga	Australian Capital Territory	5	4	1	4
Waratah	Tasmania	2	1	4	2
Waratah - North Lambton	New South Wales	2	3	5	4
Warilla	New South Wales	1	2	3	1
Warnbro	Western Australia	2	2	3	2
Warners Bay - Boolaroo	New South Wales	3	3	3	3
Warnervale - Wadalba	New South Wales	2	5	1	3
Waroona	Western Australia	2	1	4	1
Warradale	South Australia	3*	2*	2*	3*
Warragamba - Silverdale	New South Wales	2*	2*	3*	2*
Warragul	Victoria	2	3	5	4
Warrandyte - Wonga Park	Victoria	4	4	3	4
Warriewood - Mona Vale	New South Wales	4	4	4	4
Warrnambool - North	Victoria	2	4	5	3

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Warrnambool - South	Victoria	3*	3*	5*	3*
Warwick	Queensland	1	2	4	2
Waterford West	Queensland	1	3	2	1
Waterloo - Beaconsfield	New South Wales	5*	5*	5*	5*
Watson	Australian Capital Territory	5*	3*	2*	5*
Watsonia	Victoria	4	5	2	4
Wattle Glen - Diamond Creek	Victoria	3	3	5	4
Wattle Range	South Australia	2	1	4	1
Wauchope	New South Wales	1	3	4	2
Wavell Heights	Queensland	4	4	2	4
Waverley - St Leonards	Tasmania	1*	1*	4*	1*
Weddell	Northern Territory	1	1	1	1
Weetangera	Australian Capital Territory	5*	3*	1*	5*
Weipa	Queensland	1	2	1	1
Wellington	New South Wales	1	1	3	1
Wellington Point	Queensland	4	5	2	4
Wembley - West Leederville - Glendalough	Western Australia	5*	3*	4*	5*
Wembley Downs - Churchlands - Woodlands	Western Australia	5	5	3	5
Wendouree - Miners Rest	Victoria	1	5	4	3
Wentworth - Buronga	New South Wales	1	1	3	1
Wentworth Falls	New South Wales	4	5	3	5
Wentworth-Balranald Region	New South Wales	2	1	3	1
Werribee	Victoria	2	4	1	2
Werribee - South	Victoria	3	4	1	2
West Arnhem	Northern Territory	1	1	1	1
West Beach	South Australia	4*	2*	1*	3*
West Coast (SA)	South Australia	1	1	4	1
West Coast (Tas.)	Tasmania	1	1	4	1
West End	Queensland	5*	3*	4*	5*
West Footscray - Tottenham	Victoria	4*	4*	1*	4*
West Gladstone	Queensland	1	2	5	2
West Hobart	Tasmania	5*	4*	4*	5*
West Lakes	South Australia	4*	2*	1*	2*
West Launceston	Tasmania	3*	4*	4*	4*
West Mackay	Queensland	2*	2*	5*	3*
West Moonah	Tasmania	1	1	3	1
West Ryde - Meadowbank	New South Wales	5	5	2	5
West Ulverstone	Tasmania	1*	1*	5*	1*
West Wallsend - Barnsley - Killingworth	New South Wales	1	3	3	2

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
West Wimmera	Victoria	3	1	5	3
West Wodonga	Victoria	1	4	3	3
West Wyalong	New South Wales	2	1	3	1
Westbury	Tasmania	2*	1*	2*	1*
Westcourt - Bungalow	Queensland	1*	5*	2*	3*
Weston	Australian Capital Territory	5	5	1	5
Wheelers Hill	Victoria	5	5	3	5
White Hills - Ascot	Victoria	2	3	5	3
White Rock	Queensland	1	3	2	1
Whitfield - Edge Hill	Queensland	3*	4*	2*	3*
Whittlesea	Victoria	2	3	1	2
Whyalla	South Australia	1	2	4	2
Wickham - Carrington - Tighes Hill	New South Wales	3*	3*	5*	4*
Willagee	Western Australia	3*	2*	3*	2*
Willetton	Western Australia	5	4	1	5
Williamstown	Victoria	5	5	2	5
Williamtown - Medowie - Karuah	New South Wales	1	2	3	2
Willoughby - Castle Cove - Northbridge	New South Wales	5	5	4	5
Willunga	South Australia	4	3	2	3
Wilsonton	Queensland	1*	2*	4*	1*
Wilston	Queensland	5*	4*	2*	5*
Winchelsea	Victoria	3*	2*		
Windsor	Queensland	5*	2*	2*	4*
Windsor - Bligh Park	New South Wales	1	3	3	2
Windsor Gardens	South Australia	4	3	1	3
Wingham	New South Wales	1	2	5	2
Winston Hills	New South Wales	4*	4*	2*	4*
Winthrop	Western Australia	5	4	3	5
Wishart	Queensland	5	4	2	4
Wodonga	Victoria	2	3	3	2
Wolffdene - Bahrs Scrub	Queensland	3	2	2	2
Wollongong	New South Wales	4	5	4	5
Wonthaggi - Inverloch	Victoria	2	3	4	3
Woodcroft	South Australia	3*	3*	2*	3*
Woodend	Victoria	4	4	4	4
Woodford - D'Aguilar	Queensland	1	1	4	1
Woodridge	Queensland	1*	2*	2*	1*
Woodroffe	Northern Territory	1*	2*	2*	1*
Woodvale	Western Australia	4	3	3	4
Woodville - Cheltenham	South Australia	3	3	1	3

APPENDIX A: IDEA INDEX LISTING

Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Woolgoolga - Arrawarra	New South Wales	2	3	3	2
Woollahra	New South Wales	5*	5*	4*	5*
Woolloongabba	Queensland	5*	4*	2*	4*
Wooloowin - Lutwyche	Queensland	5	4	2	5
Woonona - Bulli - Russell Vale	New South Wales	3	4	4	4
Woree	Queensland	1	3	2	1
Woy Woy - Blackwall	New South Wales	2*	3*	4*	2*
Wulagi	Northern Territory	3*	4*	1*	2*
Wulguru - Roseneath	Queensland	1*	1*	2*	1*
Wyndham Vale	Victoria	3	4	1	2
Wynnum	Queensland	3*	4*	4*	4*
Wynnum West - Hemmant	Queensland	3	5	4	4
Wynyard	Tasmania	2	2	5	2
Wyoming	New South Wales	2*	4*	4*	3*
Wyong	New South Wales	1	2	1	1
Yackandandah	Victoria	3*	1*	3*	3*
Yagoona - Birrong	New South Wales	4	5	2	4
Yallourn North - Glengarry	Victoria	2*	1*	2*	1*
Yanchep	Western Australia	2	3	1	2
Yangebup	Western Australia	3	3	2	3
Yankalilla	South Australia	2	2	3	2
Yarra - North	Victoria	5	5	3	5
Yarra Valley	Victoria	2	2	4	1
Yarrabah	Queensland	1	1	5	1
Yarralumla	Australian Capital Territory	5*	3*	2*	5*
Yarram	Victoria	2	1	5	1
Yarramundi - Londonderry	New South Wales	1*	1*	3*	1*
Yarraville	Victoria	5*	4*	1*	4*
Yarrawonga	Victoria	2	3	4	3
Yarriambiack	Victoria	2	1	5	2
Yass	New South Wales	3	2	2	2
Yass Region	New South Wales	4*	1*	2*	2*
Yea	Victoria	3	2	5	3
Yeppoon	Queensland	3	3	4	3
Yeronga	Queensland	5*	4*	2*	5*
Yokine - Coolbinia - Menora	Western Australia	5	4	3	5
York - Beverley	Western Australia	2	1	4	2
Yorke Peninsula - North	South Australia	2	1	5	2
Yorke Peninsula - South	South Australia	2	1	5	2
Yorkeys Knob - Machans Beach	Queensland	2*	1*	2*	1*
Young	New South Wales	2	3	2	2
Young Region	New South Wales	2	2	2	2

APPENDIX A: IDEA INDEX LISTING

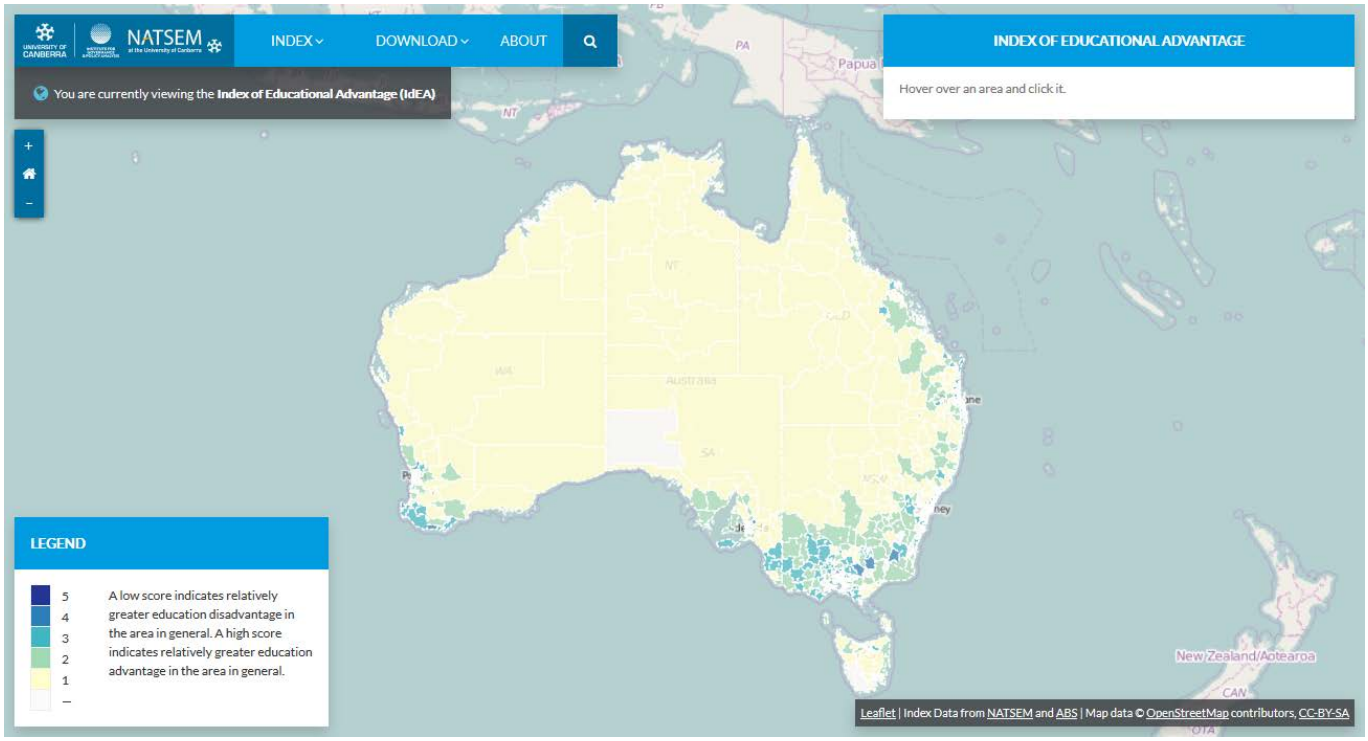
Suburb Name	State	IdEA-IESE	IdEA-IER	IdEA-IEO	IdEA
Youngtown - Relbia	Tasmania	2*	1*	4*	2*
Yuendumu - Anmatjere	Northern Territory	1*	1*	1*	1*
Zillmere	Queensland	3*	2*	4*	3*

Appendix B: Online Map

APPENDIX B: ONLINE MAP

An online interactive map has been developed to visualise the Index of Educational Advantage (IdEA) and to help users to quickly locate the index value for both IdEA and SEIFA of an area. The interactive map can be accessed from http://www.governanceinstitute.edu.au/research/idea-map/.

Once loaded, the initial screen of the map may resemble the screenshot below. By default, the overall Index of Educational Advantage is loaded together with the map. Regardless of the index selection, darker colours indicate better performance and lighter colours indicate poorer performance. Users can zoom in or zoom out of the map to have a customised view of the selected index.

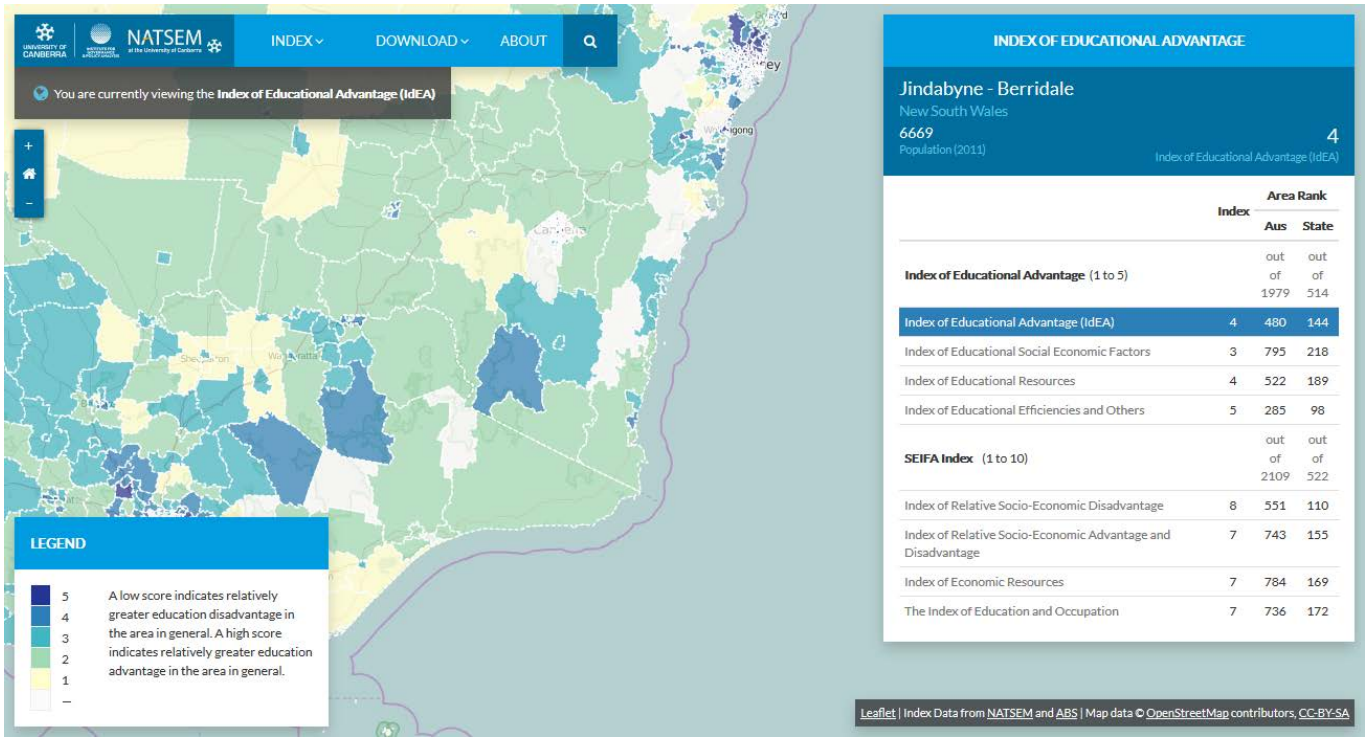


The online interactive map currently contains the data from four IdEA indexes and four SEIFA indexes from the ABS, including:

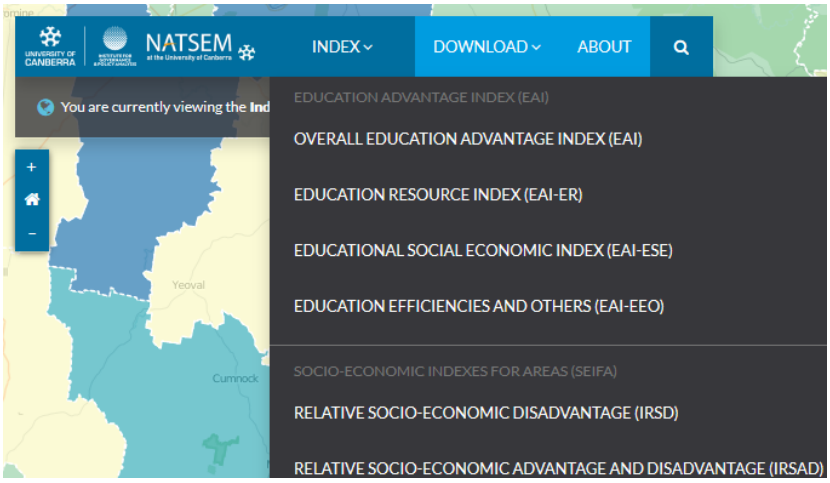
- Index of Educational Socio-Economic Factors (IdEA-ESE)
- Index of Educational Resources (IdEA-ER)
- Index of Educational Efficiency and Other Factors (IdEA-EEO)
- (Overall) Index of Educational Advantage (IdEA)
- Index of Relative Socio-economic Disadvantage (IRSD)
- Index of Relative Socio-economic Advantage and Disadvantage (IRSAD)
- Index of Economic Resources (IER)

- Index of Education and Occupation (IEO).

When a user clicks on an area, the information panel on the right will be filled with the index information. The index that is active on the map is highlighted with the colour corresponding to its value in the area.



A user may change the index overlay on the map by clicking on the index menu. This offers the possibility of visualising any of the eight indexes provided. The legend at the bottom left of the screen will automatically update to reflect the selected index. It is also possible to search for an SA2 using its suburb name or its postcode by clicking the magnifier icon. The interactive map offers a list of possible candidates as you type. Clicking on the search button again



will zoom the map into the selected area.

The download menu contains the options to download the report as a PDF file, and download the IdEA index data as an Excel file. The About menu gives a brief description of the indexes and contact information.

The interactive map can be displayed in the latest versions of major browsers including Internet Explorer, Firefox, Safari and Chrome.