

Detecting Disadvantage in the ACT

Report on the comparative analysis of the SEIFI and SEIFA indexes of relative socio-economic disadvantage in the Australian Capital Territory

2012

Statement of Interest

This analysis and the accompanying report were prepared by the Data and Research Unit of ACT Community Services Directorate. This project was lead by the CSD Data and Research Unit due its technical expertise and historical involvement in the development of SEIFI. Funding for this project was provided by ACT Chief Ministers and Cabinet Directorate, ACT Community Services Directorate, ACT Education and Training Directorate, ACT Health Directorate, and ACT Justice and Community Safety Directorate.

The data used in this analysis was obtained from the Australian Bureau of Statistics (ABS) and was developed using funding from the Annual Statistics Consultancy Fund (ASCF), which is provided by the ABS ACT Regional Office for projects initiated by the ACT Government that assist the latter to participate in the National Statistical Service. ACT Chief Minister and Cabinet lead the submission for this funding and the pursuant partnership.

EXECUTIVE SUMMARY

Knowing where vulnerable and disadvantaged persons in our population can assist in targeting policies and programs efficiently and effectively. To measure a person's socio-economic status is one way commonly used in doing this.

The Socio-Economic Indexes for Individuals (SEIFI) is a new, multi-dimensional measure of relative socio-economic disadvantage specifically designed to measure an individual's relative access to material and social resources based on personal attributes such as income, educational background, or housing status using information from the 2006 Census and produced by the Australian Bureau of Statistics (ABS). The ACT Government, lead by CMCD used funding from the Annual Statistical Consultancy Fund toward the development of these indexes.

SEIFA (Socio-Economic Indexes for Areas) is an existing Census-based measure that captures population-based characteristics of disadvantage as well as the social or structural characteristics of an area that may limit or promote the ability of its residents to participate fully in society. Currently, SEIFA is also commonly used by the Commonwealth Grants Commission and other government and community service organisations in funding agreements such as the GST distribution and National Partnership payments as a proxy measure for the prevalence and extent of disadvantage.

The SEIFI data has shown that the ACT has one of the highest proportions of 'diverse' suburbs/collection districts (CDs), where diverse suburbs/CDs have high numbers of both the most and the least disadvantaged individuals living side by side. This is highly unique to the ACT and, as a result, the averaging effects of SEIFA chronically under-reports disadvantage.

The SEIFI analysis has revealed that the ACT has a much higher level of relative disadvantage than has previously been reported by SEIFA, and that the SEIFA indexes are a poor predictor of individual-level disadvantage in the ACT. While the statistical evidence of this is new, it has long since been known at the service level that ACT experiences much greater disadvantage than is reported nationally.

While the SEIFA index has identified 712 ACT residents who fall into the most disadvantaged 20% of all Australians, ACT Government SEIFI-based calculations estimate that approximately 40,400 ACT residents may fall into this category. Of the ACT population aged 15-64, 28,639 individuals fall into the most disadvantaged quintile and 26,001 individuals fall into the second most disadvantaged quintile. Over 90% of these disadvantaged individuals reside in areas with SEIFA scores that mask their disadvantage.

SEIFI has the potential to strengthen the ability of ACT Government and community organisations to more effectively and efficiently provide targeted, integrated services that best address the needs of the vulnerable and disadvantaged individuals and families in the ACT. Due to certain methodological limitations, such as the exclusion of children and the aged and the introduction of the new Census geography, SEIFI requires ongoing development. The ACT Government should work closely with the ABS to support the construction of SEIFI using data from the 2011 Census and to consult on its design to

ensure it is fit-for-purpose. The ACT Government should also encourage further research with the SEIFI indexes and champion their use as a more appropriate alternative wherever SEIFA is applied as a proxy to inform policy making and funding decisions in the ACT.

TABLE OF CONTENTS

EXECUTIVE SUMMARY 3

TABLES AND FIGURES 7

ABBREVIATIONS 8

SUMMARY 9

Background **9**

Understanding the SEIFI and SEIFA Scores **9**

Analysis and Key Findings **10**

Hidden disadvantaged in the ACT: 10
Select Community Profiles: 11

Challenges and Next Steps for Action **12**

SECTION 1: BACKGROUND AND RATIONALE 13

SEIFA and SEIFI **13**

The ACT SEIFI Analysis Project **14**

Understanding the SEIFI and SEIFA Scores **16**

SECTION 2: ANALYSIS AND KEY FINDINGS 18

Distribution of Disadvantage in the ACT **18**

Community Profiles: Hidden Disadvantage in the ACT **19**

Overview 19
Comparing Neighbours: Measuring Disadvantage at the Suburb vs. Collection District Level 21
Ainslie vs. Braddon 21
Rivett vs. Chapman 23
The Odd One Masked: Pockets of High Disadvantage within Suburbs 24

Kingston 25
Torrens 25
The Hidden Gradient: Socio-Economic Diversity within Areas 26
Red Hill 27
Florey 28
Reid 29
The Hidden Majority: Hidden Disadvantaged in Large Populations 30
Kaleen 30
Narrabundah 30
Ngunnawal 31
Low Visibility, High Risk: Small Numbers of Hidden Disadvantaged 32
City 32
The Group 2 Phenomenon: Tuggeranong 32
Isabella Plains 33
Kambah 34

SECTION 3: DISCUSSION 35

Key Findings 35

Limitations 36

Next Steps 37

REFERENCES 38

APPENDIX A – SEIFA AND SEIFI METHODOLOGY 39

Principal Components Analysis and Index Construction 39

APPENDIX B – SUPPLEMENTARY DATA TABLES 42

List of Supplementary Data Tables 42

TABLES AND FIGURES

Table 1: Percentage distributions of SEIFI IRSD Group by state or territory (15-62 year old population) 15

Table 2: Frequency table of SEIFI IRSD Groups by SEIFA IRSD decile score of collection district of residence (15-64 year old population) 18

Table 3: Number and percentage of 'diverse' collection districts, by state and territory (>19.37% in SEIFI IRSD Group 1 and >30.04% in SEIFI IRSD Group 4) 19

Table 4: Suburb-level SEIFA IRSD and SEIFI IRSD data, Ainslie and Braddon 20

Table 5: Suburb-level SEIFA IRSD and SEIFI IRSD data, Rivett and Chapman 23

Table 6: SEIFA IRSD and SEIFI IRSD data, Suburb of Kingston and Kingston CD 8014302 25

Table 7: SEIFA IRSD and SEIFI IRSD data, Suburb of Torrens and Torrens CD 8020701 26

Table 8: SEIFA IRSD and SEIFI IRSD data, Suburb of Red Hill and Red Hill CD 8014903 28

Table 9: SEIFA IRSD and SEIFI IRSD data, Suburb of Florey and Florey CD 8011704 29

Table 10: SEIFA IRSD and SEIFI IRSD data, Suburb of Reid 29

Table 11: SEIFA IRSD and SEIFI IRSD data, Suburb of Kaleen 30

Table 12: SEIFA IRSD and SEIFI IRSD data, Suburb of Narrabundah 31

Table 13: SEIFA IRSD and SEIFI IRSD data, Suburb of Ngunnawal 31

Table 14: SEIFA IRSD and SEIFI IRSD data, Suburb of City 32

Table 15: SEIFA IRSD and SEIFI IRSD data, Suburb of Isabella Plains 33

Table 16: SEIFA IRSD and SEIFI IRSD data, Suburb of Kambah 34

Figure 1: Percentage of individuals in SEIFI IRSD Group 1, by SEIFA IRSD decile score of CD of resident, by state and territory 18

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ASCF	Annual Statistics Consultancy Fund
CD	Collection District (Census geographic division)
CSD	ACT Community Services Directorate
ETD	ACT Department of Education and Training
IRSAD	Index of Socio-economic Advantage and Disadvantage
IRSD	Index of Socio-economic Disadvantage
MAUP	Modifiable Areal Unit Problem
PCA	Principal Components Analysis
SARIA	State-based Accessibility/Remoteness Index of Australia
SEIFA	Socio-Economic Indexes For Areas
SEIFI	Socio-Economic Indexes for Individuals
SES	Socio-Economic Status
SPP	Specific Purpose Payment
TAS	Targeted Assistance Strategy

SUMMARY

Background

The Socio-Economic Indexes for Individuals (SEIFI) is a new set of multi-dimensional measures of relative socio-economic disadvantage that captures and scores an individual's relative access to material and social resources being produced by the ABS. Like its predecessor, the Socio-Economic Indexes for Areas (SEIFA), SEIFI is a location-based measure using variables on income, employment, occupation, education, and housing from the 2006 Census.

The SEIFA indexes measure the characteristics of a geographic area that may limit or promote the ability of its residents to participate fully in society by combining the personal attributes of the local population with indicators of the accessibility of social and public resources in the area. By contrast, SEIFI is specifically designed to measure individual relative disadvantage based solely personal attributes, such as household income, educational background, or housing status. In the absence of SEIFI, however, SEIFA is regularly used as a proxy measure for individual-level disadvantage by applying the characteristics of an area to the people who live there.

Unfortunately, due to the diversity of individual socio-economic circumstances with the Australian population, the averaging effects of the SEIFA methodology often mask relative disadvantage when applied at the individual level. The SEIFA IRSD (Index of Relative Socio-economic Disadvantage) suggests that as little as 712 ACT residents experience high relative socio-economic disadvantage. By contrast, SEIFI-based calculations estimate that approximately 40,400 ACT residents experience high disadvantage. However, the SEIFA indexes are widely available, include most of the Australian population, and are known to correlate to service use rates, SEIFA is commonly used by the Australian Commonwealth and State or Territory governments to inform funding and service delivery models as a proxy measure for the relative disadvantage of individuals in an area.

Despite enjoying one of the lowest levels of overall relative disadvantage in Australia, the ACT has one of the greatest proportions of highly socio-economically diverse neighbourhoods, and, as an aggregate measure, SEIFA only captures a fraction of the true level of disadvantage being experienced in this jurisdiction.

The purpose of the ACT SEIFI Analysis Project is therefore to compare the SEIFA IRSD and SEIFI IRSD data for the Australian Capital Territory and quantify the relative socio-economic disadvantage that is being hidden wherever SEIFA is applied as a proxy. If adopted in place of the SEIFA index, SEIFI can more comprehensively and accurately describe the ACT population and identify vulnerable populations more efficiently.

Understanding the SEIFI and SEIFA Scores

Using Census data, a SEIFI score is calculated for every Australian individual aged 15-64, or, in the case of SEIFA, for each Australian collection district (CD), the smallest Census geographic division. Lower scores

correspond to higher relative socio-economic disadvantage, and higher scores correspond to lower relative socio-economic disadvantage.

These scores are subsequently ranked against each other and individuals or areas are grouped into categories based on where they fall in the ranking. Areas are given a SEIFA decile score from 1-10, and SEIFI results are described as the proportion of local residents who fall into each of four groups, where:

- **Group 1** includes anyone in the most disadvantaged 20% of all 15-64 year old Australians (first and second deciles).
- **Group 2** includes anyone in the second most disadvantaged 20% of all 15-64 year old Australians (third and fourth deciles),
- **Group 3** includes anyone in the second least disadvantaged 30% of all 15-64 year old Australians (fifth, sixth, and seventh deciles), and
- **Group 4** includes anyone in the least disadvantaged 30% of all 15-64 year old Australians (eighth, ninth, and tenth deciles).

Because the SEIFI scores cannot be broken down into smaller groupings, the SEIFA decile scores will also be referred to in the corresponding SEIFI groups to simplify the comparison of data for the purposes of this report. The term 'Group 1' will be used to refer to individuals or areas with SEIFI or SEIFA scores that fall within deciles 1 and 2, 'Group 2' with deciles 3 and 4, 'Group 3' with deciles 5-7, and 'Group 4' with deciles 8-10.

Analysis and Key Findings

Hidden disadvantaged in the ACT:

For the purposes of this analysis, an individual is considered 'masked' or 'hidden' if the SEIFA score of the CD or suburb they reside in is higher than their personal SEIFI grouping. In the ACT:

- 28,639 individuals aged 15-64 have been identified by SEIFI as falling into Group 1.
- 26,001 individuals aged 15-64 have been identified by SEIFI as falling into Group 2.
- 12,726 or 44.4% of the ACT Group 1 population aged 15-64 reside in CDs with SEIFA scores of 8 to higher.
- 15,868 or 61.0% of the ACT Group 2 population aged 15-64 reside in CDs with SEIFI scores of 8 or higher.
- 93.4% of individuals aged 15-64 who fall into Group 1 or Group 2 live in a CD with a SEIFA score that is higher than the level of disadvantage they experience, over 51,000 people.
- 59 ACT CDs are 'diverse' with above average proportions of both Group 1 individuals aged 15-64 and Group 4 individuals aged 15-64.Over 8000 ACT residents living in a diverse collection district are hidden.

Select Community Profiles:

The analysis using SEIFI highlights that SEIFA IRSD does not predict individual-level disadvantage in the ACT and is therefore not appropriate as a proxy measure for individual socio-economic status.

- **Ainslie and Braddon**: Ainslie and Braddon have very different SEIFA IRSD scores but very similar distributions of individual-level disadvantage, according to SEIFI. In Braddon, 534 Group 2 individuals aged 15-64 are hidden by the suburb's SEIFA IRSD score of 4. Comparatively, Ainslie has a higher SEIFA score but also a higher number of hidden disadvantaged, where a total of 750 Group 1 and Group 2 individuals aged 15-64 are masked.
- **Rivett and Chapman**: Rivett and Chapman exhibit the reverse trend. These neighbouring suburbs have similarly high SEIFA IRSD scores (8 and 10, respectively) but very different distributions of individual disadvantage. With low proportions of Group 1 and 2 residents aged 15-64 but high SEIFA IRSD scores, 818 relatively disadvantaged individuals are hidden at the suburb level in Chapman. With a lower SEIFA IRSD score but higher proportions of Group 1 and 2 residents, 1359 individuals are hidden at the suburb level in Rivett.
- **Kingston**: In keeping with the Public Housing Asset Management Strategy principles, public housing in the ACT is 'salt and peppered' throughout most suburbs. While this strategy mitigates many of the factors that perpetuate disadvantage, many suburbs with high SEIFA scores have small pockets with high proportions of Group 1 residents, while the remaining suburb residents experience little to no disadvantage. In Kingston, 27.8% of the suburb's Group 1 population aged 15 -64 lives in one CD, and a total of 320 Group 1 and Group 2 Kingston residents aged 15-64 are masked at the suburb level. A similar phenomenon is happening in Torrens, Turner, Braddon, Lyons, and Red Hill. This small-scale clustering may increase the risk that these individuals become isolated within their communities and experience added dimensions of vulnerability.
- **Red Hill**: 59 CDs in the ACT have been identified as diverse, where these CDs have above average proportions of both Group 1 and Group 4 individuals aged 15-64 living together. These CDs have SEIFA scores that range from 1 to 9, underscoring the inability of SEIFA to capture the unique features of the distribution of socio-economic disadvantage in the ACT. 153 of the 320 residents in the CD Red Hill 8014903 fall into Group 1, but a further 105 fall into Group 4. At the suburb level, 945 relatively disadvantage individuals are not represented by its SEIFA score of 9.
- **Kaleen:** Many of the ACT's more populous suburbs have high SEIFA IRSD scores and low proportions of highly disadvantaged individuals aged 15-64, but due to their size, they support large numbers of highly disadvantaged individuals. With a SEIFA IRSD score of 9, a staggering 3288 relatively disadvantaged individuals aged 15-64 are hidden in Kaleen, including 604 Group 1 residents and 728 Group 2 residents.
- **City:** Other suburbs with high SEIFA IRSD scores have small proportions of disadvantaged but also small populations. In City, only 111 individuals aged 15-64 fall into Groups 1 and 2, though they are hidden by the suburb's SEIFA IRSD score of 10. The risk for highly disadvantaged

individuals residing in these areas is that, due to their reduced visibility, it may be more challenging to identify them and provided targeted services accordingly.

- **Isabella Plains**: The subdivision of Tuggeranong is home to the largest proportion of the ACT residents (27.4%), and also to the majority of the ACT's Group 2 population aged 15-64. Although the overall proportion of Group 2 individuals in the ACT is small, they are geographically clustered in the Tuggeranong area. 577 Group 2 and 453 Group 1 individuals aged 15-64 live in Isabella Plains and all are masked by the suburb's SEIFA IRSD score of 8.

Challenges and Next Steps for Action

In order for the SEIFI indexes to become a valuable systemic measure of relative socio-economic disadvantage, the construction of SEIFI needs to be repeated on a regular basis using the most up-to-date methodology and data available. In their 2011 paper, Wise and Mathews identified several methodological issues with SEIFI that have yet to be resolved, including:

- the need for a consensus on the definition of individual disadvantage, the best set of variables to measure it, and means for validating individual level indexes,
- reassessing the issue of individual level diversity once the new ASGS geography standard is introduced and the 2011 Census data is available, and
- the need to determine how SEIFI could be integrated with the existing SEIFA product to optimise the use of available information in evidence-based policy while minimising confusion.

Individuals under 15 or over 64 years of age were excluded in the construction of SEIFI because their Census responses did not inform the variable used to calculate the SEIFI scores, thereby excluding approximately one-third of the population. In response, the need for further research into age-specific indexes of individual disadvantage has been proposed, which may be extremely valuable for providing targeted services to children and the aged, as well as to be fit-for-purpose for modeling.

SEIFI has the potential to strengthen the ability of ACT Government and community organisations to more effectively and efficiently provide targeted, integrated services that best address the needs of the vulnerable and disadvantaged individuals and families in the ACT. Due to certain methodological limitations, such as the exclusion of children and the aged and the introduction of the new Census geography, SEIFI requires ongoing development. The ACT Government should work closely with the Australian Bureau of Statistics to support the construction of SEIFI using data from the 2011 Census and to consult on its design to ensure it is fit-for-purpose. The ACT Government will also encourage further research with the SEIFI indexes and champion their use as a more appropriate alternative wherever SEIFA is applied as a proxy to inform policy making and funding decisions in the ACT.

SECTION 1: BACKGROUND AND RATIONALE

SEIFA and SEIFI

The Socio-Economic Indexes for Individuals (SEIFI) consist of two indexes that were created as an experimental alternative to the widely established and long-standing Socio-Economic Indexes for Areas (SEIFA), which are broadly used as measures of relative socio-economic disadvantage across Australia. These indexes were developed by the Australian Bureau of Statistics (ABS) using data on variables such as income, employment, occupation, education, and housing from the Australian Census of Population and Housing. The indexes reduce relevant data for each individual or geographic area into a score that represents the level of relative access to material and social resources, where the lack of such access creates relative socio-economic disadvantage. In contrast to using single indicators such as income or employment status, multi-dimensional indicators of socio-economic status such as SEIFA and SEIFI more accurately capture the complex personal and environmental circumstances that interact to determine relative advantage or disadvantage[1].

Area-level and individual-level socio-economic disadvantage are interrelated but distinct concepts, and thus are measured differently. The features of an area impact the socio-economic status (SES) of the individuals living there, but the reverse is also true, and many individual-level factors are strongly associated with disadvantage at both levels, including household income, educational background, or housing status. In addition to reflecting the personal attributes of the people living in an area, however, area-level measures of relative disadvantage also consider the accessibility of social and public resources and the characteristics of an area that limit the ability of its residents to participate fully in society. This might include the availability of employment opportunities, educational facilities, affordable housing, or transport infrastructure, as well as a consideration of crime rates, level of social cohesion, and the level of environmental pollution in the area, among many other factors[2].

In Australia, the SEIFA indexes are used by Federal and State and Territory governments, government agencies, and non-governmental organisations to inform funding and service delivery decisions by providing contextual information about the average level of socio-economic disadvantage or advantage in a geographical area. Socio-economic status is a key driver of cost for providing health, justice and safety, education, and other support services to a given area. SEIFA is also used extensively in economic and social research where the socio-economic status of an area is an environmental factor that has been strongly associated with health and healthy behaviour, as well as with safety, social capital and capacity, and many other such outcomes.

Across Australia and in the Australian Capital Territory (ACT), the SEIFA indexes are also frequently used as a proxy measure for the level of socio-economic disadvantage or advantage experienced by an individual or population subgroup within an area. In this context, SEIFA can be a valuable tool for representing relative disadvantage as it is readily available and easily adaptable to populations within an area of interest. Unlike SEIFI, however, SEIFA is not designed to be an individual level measure, and because of the diversity of individual characteristics within a population, the inferences made about

individuals and subgroups based on the averaged characteristics of the overall population in the area may be misleading, creating the potential for a type of misclassification error known as ecological fallacy[3].

In their 2004 study, Kennedy and Firman reported that the assumption of homogenous populations at the small area level did not hold true for Indigenous populations across Australia, and that ecological fallacy would be a common problem when making assumptions about other small or marginalised subgroups of the Australian population based on SEIFA index information. This problem is compounded when SEIFA aggregates for larger geographic areas, such as Local Government Areas, are used[4].

Drawing on these findings, Baker and Adhikari (2007) constructed two new indexes to measure relative socio-economic disadvantage at the individual and family levels using data for Western Australia from the 2001 Census. From their analysis, the authors concluded that there was significant diversity of individual- and family-level relative socio-economic disadvantage within geographic areas in WA[5].

Wise and Mathews (2011) used the method developed by Baker and Adhikari (2007) to create an individual-level Index of Socio-economic Disadvantage (SEIFI IRSD) and an individual-level Index of Socio-economic Advantage and Disadvantage (SEIFI IRSAD) using 2006 Census data for the entire Australian population. Results were analysed at the state and territory levels. This project was initiated by the ACT Government who provided funding to the ABS through the Annual Statistics Consultancy Fund (ASCF). From the SEIFI IRSD and SEIFI IRSAD results, Wise and Mathews determined that, for most geographic units in Australia, the relative disadvantage of individuals is generally consistent with the SEIFA decile score for their residential area, and emphasised the advantages of SEIFA when used appropriately as an area-level measure[6].

The SEIFI IRSD and SEIFI IRSAD results also showed, however, that many Australians who live in areas with low socio-economic disadvantage overall actually experience relatively high disadvantage at the individual level, and vice versa. According to their study, 18% of persons aged 15-64 living in the least disadvantaged areas according to SEIFA IRSD actually fall into the most disadvantaged cohort of Australians according to SEIFI IRSD. At the same time, 45% of Australians aged 15-64 living in areas classed by SEIFA IRSD as highly disadvantaged actually experience little to no relative socio-economic disadvantage when assessed by the SEIFI IRSD[7].

The ACT SEIFI Analysis Project

Following the allocation of the 2009 Annual Statistical Consultancy funds to the development and production of SEIFI the ACT Government has furthered its research into SEIFI in partnership with the ABS. This further analysis has been funded by ACT Chief Minister and Cabinet, Health, Education, Justice and Community Safety Directorates and lead by the Community Services Directorate.

When comparing between Australian jurisdictions at the state or territory level, the overall trends observed in the SEIFI data are, in many respects, consistent with those observed in the SEIFA data. The Australian Capital Territory enjoys a great degree of relative advantage; among the states and

territories, the ACT has the lowest proportion of individuals experiencing high levels of relative socio-economic disadvantage and also the highest proportion of individuals experiencing little or no relative disadvantage, as described in **Table 1** below.

Table 1: Percentage distributions of SEIFI IRSD Group by state or territory (15-64 year old population)

SEIFI IRSD Group (a)(b)	NSW	VIC	QLD	SA	WA	Tas.	NT	ACT	OT
Group 1	19.2	18.1	19.8	23.1	17.6	27.4	31.2	12.6	42.8
Group 2	18.6	19.5	21.0	21.7	20.4	24.3	16.1	11.4	15.4
Group 3	30.6	31.5	31.1	30.1	31.6	27.7	25.6	32.8	20.0
Group 4	31.6	30.9	28.2	25.1	30.5	20.6	27.1	43.2	21.8

(a) For a detailed explanation of the SEIFI IRSD groups, please see the section Understanding the SEIFI and SEIFA Scores below. Briefly, individuals in Group 1 are the most disadvantaged and individuals in Group 4 are the least disadvantaged.

(b) Cells highlighted in light grey are the highest proportions for each SEIFI IRSD Group. The cells highlighted in dark grey are the lowest proportions for each SEIFI IRSD Group.

Adapted from: Wise and Mathews (2011). Socio-Economic Indexes for Areas: Getting a Handle on Individual Diversity within Areas.

Despite this, the SEIFI data demonstrates a much higher level of relative disadvantage in the ACT than has previously been reported in the SEIFA data. While the statistical evidence of greater relative disadvantage in the Territory is new, it has long since been known by government and community service providers that the ACT has much more pronounced ecological fallacy than other jurisdictions. Despite enjoying a low proportion of relative disadvantage overall, the averaging effects of the SEIFA methodology mask the relative disadvantage of those individuals living in Canberra's socio-economically diverse neighbourhoods, capturing only a fraction of the true level of disadvantage being experienced in the ACT.

When analysing disadvantage in the ACT at the suburb level, for example, the SEIFA IRSD index only identified 0.2% of the total ACT population as falling into the most disadvantaged 20% of Australians, or approximately 712 individuals. By contrast, the SEIFI IRSD data indicated that 28,639 or 12.6% of ACT residents aged 15 to 64 fall into that same cohort. Based on this information it has been estimated that approximately 40,400 individuals in the total ACT population may fall into the most disadvantaged quintile.

The purpose of the ACT SEIFI Analysis Project is therefore to compare the SEIFA and SEIFI data for the ACT and quantify the relative socio-economic disadvantage that is being hidden wherever SEIFA is applied. This work will be a major contribution towards ensuring that adequate and effective services are provided to ACT residents by supporting the use of current, accurate, and meaningful data to inform government practice, including in policy development, funding allocation, and service delivery.

This analysis will compare the SEIFI IRSD (Index of Socio-economic Disadvantage) with the SEIFA IRSD only. While the IRSAD (Index of Socio-economic Advantage and Disadvantage) indexes can be informative for exploring both advantage and disadvantage, the SEIFA IRSD is the most commonly used index in practice by governments and otherwise.

The following section of this report will explore the findings of the SEIFI analysis by profiling select ACT suburbs and collection districts (CDs) (see Section 2). Each suburb or CD will be used to highlight trends observed in the SEIFI data and to identify the numbers of residents in that area who experience greater relative socio-economic disadvantage but are masked when the SEIFA IRSD score is applied as a proxy measure for individual-level disadvantage.

The final section will provide a brief review of the findings and a discussion of their implications, including important caveats and directions for future work (see Section 3).

Understanding the SEIFI and SEIFA Scores

Briefly, the SEIFI and SEIFA indexes were created using a statistical method called Principal Components Analysis, where data is input from a variety of variables (see Appendix A) to produce a score for each individual aged 15-64, or, in the case of SEIFA, for each collection district area. A low score represents a high level of relative socio-economic disadvantage and a high score represents little or no relative disadvantage. Once the scores have been calculated for each individual or area, the scores are ranked against each other.

SEIFA scores are traditionally grouped into deciles based on where they fall within the ranking. Once again, a SEIFA decile score of 1 or 2 indicates that the CD has a high level of relative disadvantage, whereas a decile score of 8 or higher represents relatively little or no disadvantage. Collection district scores are commonly aggregated to larger geographic classifications before they are used, including to State Suburb, Statistical Local Area, or Local Government Area levels.

Individual SEIFI scores are ranked across all residents aged 15-64 at the national level. Due to the pattern in the distribution of the individual scores, it was determined that division into deciles would not be appropriate for SEIFI. Instead, individuals aged 15-64 are classified into one of four groups based on where their score lies within natural breaks in the data. Rather than a single number or decile score, each CD then is described by four percentages that represent the proportion local residents whose SEIFI scores fall into each of the groups, where:

- **Group 1** roughly corresponds with the first and second deciles, and includes individuals aged 15-64 with the lowest SEIFI scores, placing them among the most disadvantaged 20% of Australians
- **Group 2** roughly corresponds with the third and fourth deciles, and includes individuals aged 15-64 with low SEIFI scores, placing them among the second most disadvantaged 20% of Australians

- **Group 3** roughly corresponds with the 5th, 6th, and 7th deciles, and includes individuals aged 15-64 with SEIFI scores in the middle range, placing them in second least disadvantaged 30% of Australians
- **Group 4** roughly corresponds with the 8th, 9th, and 10th deciles, and includes individuals aged 15-64 with the highest SEIFI scores, placing them in the least disadvantaged 30% Australians

Because the SEIFI scores cannot be broken down into smaller groupings, the SEIFA decile scores will also be referred to in the corresponding SEIFI groups to simplify the comparison of data for the purposes of this report. The term 'Group 1' will be used to refer to individuals or areas with SEIFI or SEIFA scores that fall within deciles 1 and 2, 'Group 2' with deciles 3 and 4, 'Group 3' with deciles 5-7, and 'Group 4' with deciles 8-10.

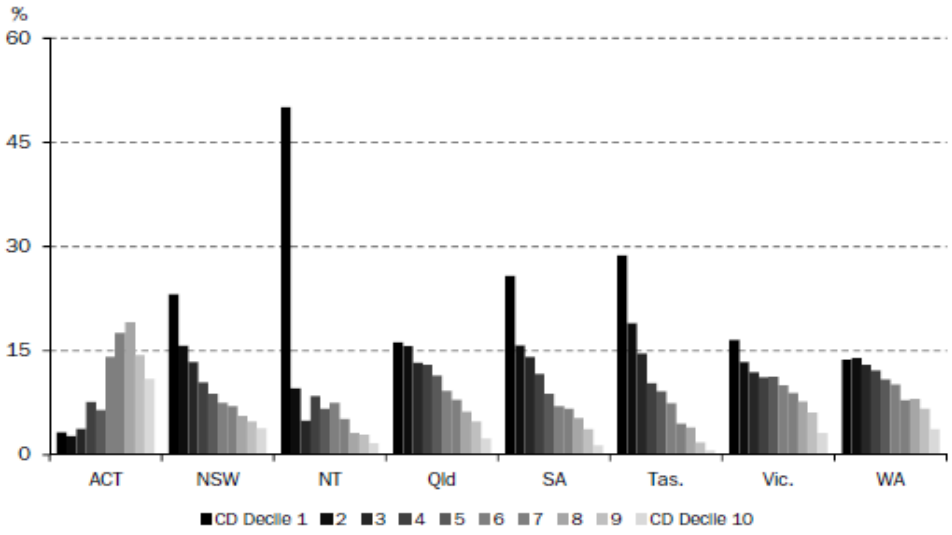
The SEIFI IRSD data for the ACT was procured by the ACT Government from the Consultancy Service of the ABS.

SECTION 2: ANALYSIS AND KEY FINDINGS

Distribution of Disadvantage in the ACT

From their analysis of the SEIFI data, Wise and Mathews (2011) demonstrated that more than half of the most disadvantaged ACT residents aged 15 to 64 live in areas with a SEIFA IRSD decile score of 6 or higher. When classifying the ACT's Group 1 population by the SEIFA score of the area they reside in, the percentage of Group 1 residents increases as the SEIFA decile score becomes greater. In other words, while the SEIFA score is indicating that relative socio-economic disadvantage is decreasing, the number of disadvantaged residents is increasing (**Table 2**). As demonstrated in **Figure 1**, this conflicting trend is unique to the ACT; in the remaining Australian jurisdictions, the proportion of the Group 1 residents aged 15-64 decreases as relative area-level disadvantage decreases.

Figure 1: Percentage of individuals from SEIFI IRSD Group 1 residing in areas classified by SEIFA IRSD CD decile, by state and territory



Adapted from: Commonwealth Grants Commission (2010). Report on GST Revenue Sharing Relativities – 2010 Review, Volume 2: Assessments of State Fiscal Capacities.

Table 2: Frequency table of SEIFI IRSD Groups by SEIFA IRSD decile score of collection district of residence (15-64 year old population)

SEIFI Group	SEIFA Decile										
	1	2	3	4	5	6	7	8	9	10	Total
1	944	783	1,074	2,183	1,851	4,052	5,026	5,479	4,115	3,132	28,639
2	175	197	423	1,108	1,092	2,953	4,184	5,318	5,273	5,277	26,001
3	483	496	1,052	2,572	2,666	6,640	10,491	14,410	15,196	20,462	74,467
4	632	835	1,414	3,237	3,259	7,661	12,798	17,764	19,484	31,178	98,262
Total	2,234	2,311	3,962	9,100	8,868	21,306	32,500	42,971	44,068	60,049	227,369

Source: Australian Bureau of Statistics.

Delving into this phenomenon further, Wise and Mathews (2011) also demonstrated that the ACT had one of the highest proportions of 'diverse' collection districts. A diverse area is one with an above average proportion of residents aged 15-64 in SEIFI IRSD Group 1 (greater than 19.37%) and also an above average proportion of residents aged 15-64 in SEIFI IRSD Group 4 (greater than 30.03%). In the ACT, 11.3% of CDs are diverse, which is significantly higher than the national average of 6.8% and second only to the National Territory (**Table 3**). These observations strongly support the position that the averaging effects of SEIFA are masking a significant share of the disadvantage experienced by individuals in the ACT.

Table 3: Number and percentage of 'diverse' collection districts by State or Territory (>19.37% in SEIFI IRSD Group 1 and >30.04% in SEIFI IRSD Group 4)

		'Diverse' CDs	
State	Total Number of CDs+	Number	Percentage
New South Wales	11,811	720	6.1
Victoria	9,095	432	4.8
Queensland	7,458	385	5.2
South Australia	3,178	128	4.0
Western Australia	3,980	234	5.9
Tasmania	1,045	24	2.3
Northern Territory	356	53	14.9
Aust. Capital Territory	522	59	11.3

Source: Wise and Matthew (2011). Socio-Economic Indexes For Areas: Getting a Handle on Individual Diversity within Areas.

As demonstrated in **Table 2**, the ACT SEIFI data reveals that a total of 28,639 individuals aged 15 to 64 have been identified as falling into Group 1, the most disadvantaged 20% of Australians. Of these individuals, 12,726 or 44.4% of the ACT Group 1 population aged 15-64 reside in collection districts with SEIFA scores of between 8 to 10 (Group 4). Similarly, 15,868 or 61.0% of ACT residents aged 15-64 in Group 2 of SEIFI, the second most disadvantaged cohort, also live in CDs with SEIFI scores of 8 or higher. In total, 93.4% of the Group 1 and Group 2 population in the ACT lives in a CD with a SEIFA score that is higher than the level of disadvantage they experience, or over 51,000 individuals aged 15-64.

Community Profiles: Hidden Disadvantage in the ACT

Overview

There are a total of 95 suburbs and 522 collection districts in the ACT for which SEIFA IRSD scores and SEIFI IRSD proportions were calculated using data from the 2006 Census.

Of these 95 suburbs, only two (2.1%) suburbs are ranked by SEIFA into the most disadvantaged decile across Australia and only four (4.2%) ACT suburbs have a SEIFA score of 4 or lower. By contrast, 72 (75.8%) suburbs in the ACT have a SEIFA decile score of 8 or higher, classifying them into the least disadvantaged group of areas across the nation.

At the small-area level, 322 (61.7%) of the 522 collection districts have SEIFA scores of 8 or higher and 52 (10.0%) CDs have a SEIFA score of 4 or lower, including a total of 10 (1.9%) CDs that have a SEIFA decile score of only 1. The difference in the proportion of relatively disadvantaged areas at the suburb level versus at the collection district level is the result of a type of bias in spatial statistics known as the modifiable areal unit problem (MAUP), whereby the aggregation of areal data into different geographic boundaries changes the resulting summary values. This is also the case when SEIFI is aggregated from the CD to the suburb level. As a result of this bias, it is preferable to conduct any geographical analysis at the smallest possible areal unit, or it is important to at least be aware of how the choice of geographical area may affect the measure. This issue and its impact on the appropriateness of SEIFA as a measure of socio-economic disadvantage will be explored below[8].

The remaining subsections in Section 2 will profile a selection of ACT suburbs that embody a number of trends observed in the SEIFI IRSD data for the Territory. In 'Comparing Neighbours', the breakdown of CD-level SEIFA IRSD and SEIFI IRSD data for several neighbouring suburbs also demonstrates that SEIFA is a poor predictor of the proportional distribution of individual disadvantage within areas. Ainslie and Braddon are two neighbouring suburbs with dissimilar SEIFA scores but similar SEIFI distributions, while neighbours Rivett and Chapman have similar SEIFA scores but very different distributions of disadvantage at the individual-level.

In 'The Odd CD Masked', Kingston and Torrens exemplify a number of ACT suburbs with high SEIFA scores that contain a single CD that is the only constituent CD in that area to have an above average proportion of residents aged 15-64 in Group 1, the most disadvantaged quintile. This phenomenon may be attributable in part to the ACT's Public Housing Asset Management Strategy, which prescribes that social housing is 'salt and peppered' throughout most ACT suburbs rather than concentrated in a few select areas. Residents in these isolated CDs are at greater risk of experiencing social exclusion and may be vulnerable to cost of living pressures. This is only further exacerbated when these disadvantaged individuals are masked by the suburb-level SEIFA scores.

In 'The Hidden Gradient', Red Hill, Florey, and Reid are used to demonstrate that the shortcomings in the SEIFA methodology are especially pronounced in areas of the ACT with above average proportions of both Group 1 and Group 4 individuals aged 15-64. As identified by Wise and Mathews, there is a high prevalence of socio-economic diversity within areas of the ACT, and this contributes significantly to the underrepresentation of disadvantage by SEIFA. This analysis reveals that over 8,000 ACT residents aged 15-64 living in diverse collection districts are currently being hidden by the SEIFA score of their neighbourhood.

While the SEIFI IRSD data revealed that most ACT suburbs have relatively low proportions of Group 1 individuals aged 15-64, suburb population sizes vary widely, which can have a significant impact on the interpretation of SEIFI and the overall burden of disadvantage. In 'The Hidden Majority', Kaleen, Narrabundah, and Ngunnawal are used to illustrate that areas with high SEIFI scores and low Group 1 proportions support most of the ACT's highly disadvantaged individuals in the 15-64 age group. In 'Low

Visibility, High Risk', City is used to demonstrate that disadvantaged individuals in suburbs with high SEIFA scores but small populations may experience additional risk due to poor visibility.

Finally, the SEIFI analysis revealed that the ACT has a relatively small Group 2 population and in fact there are fewer Group 2 individuals residing in the ACT than individuals in Group 1. In 'The Group 2 Phenomenon', Isabella Plains and Kambah are used to demonstrate the observed geographic clustering of the Group 2 population in the Tuggeranong area. While proportions are small, Tuggeranong is one of the most populous subdivisions in the ACT, and individuals who fall into Group 2 may experience different vulnerabilities than individuals in Group 1 which may require specific considerations.

Comparing Neighbours: Measuring Disadvantage at the Suburb vs. Collection District Level

Ainslie vs. Braddon

Table 4: Suburb-level SEIFA IRSD and SEIFI IRSD data, Ainslie and Braddon

	Ainslie	Braddon
SEIFA decile score	7	4
Usual Resident Pop.	4,814	3,575
15 to 64 Aged Pop.	3,257	3,086
SEIFI Group 1 (%)	16.7%	17.3%
SEIFI Group 2 (%)	6.4%	3.7%
SEIFI Group 3 (%)	25.3%	27.9%
SEIFI Group 4 (%)	51.6%	51.0%
No. of CDs	8	8

Source: Australian Bureau of Statistics.

Ainslie and Braddon are two neighbouring suburbs in the ACT subdivision of North Canberra. Of the Ainslie population aged 15 and over, 62.6% participates in the labour force, 3.7% are unemployed and seeking employment, and 32.9% earn less than $400 per week in income. Of the Braddon population aged 15 and over, 58.9% participates in the labour force, 5.6% are unemployed and seeking employment, and 31.8% earn less than $400 per week in income. The median weekly rent in Ainslie is $220 and total of 805 dwellings are currently being rented, including 383 public housing units being rented through the Territory housing authority, Housing and Community Services ACT. In Braddon, the median weekly rent is $290 and total of 950 dwellings are currently being rented, including 300 Territory-owned units[9].

Ainslie's SEIFA IRSD decile score is 7, placing it within Group 3, that is, the area only experiences moderate socio-economic disadvantage overall. The suburb can be further broken down into 8 collection districts, of which three have SEIFA scores of 8 or 9, four have SEIFA scores between 5 and 7, and one has a SEIFA score of 3.

Comparatively, Braddon has a SEIFA IRSD decile score of 4, placing it within Group 2 and indicating that the suburb experiences a higher level of area-level socio-economic disadvantage than does Ainslie. Braddon also contains 8 collections districts, two of which have SEIFA scores of 1, suggesting that those CDs experience significantly more overall disadvantage than the most disadvantaged CD in Ainslie. The remaining collection districts, however, have SEIFA scores of 7 or higher, including two CDs with SEIFA scores of 10, placing them among the least disadvantaged areas across Australia.

Although SEIFA scores at the suburb level are more commonly used for policy development and decision making, we can see from the breakdown above that the diversity in relative socio-economic

disadvantage is more apparent when an aggregated suburb SEIFA score is deconstructed into collection district scores. Even at the collection district level, however, the breadth of diversity in individual experiences of socio-economic disadvantage in the ACT is still not adequately captured by the SEIFA IRSD methodology.

When comparing the SEIFI IRSD proportions for these two suburbs, the patterns indicate that Ainslie and Braddon have much more similar distributions of disadvantage among their residents than their respective SEIFA IRSD scores would indicate (see **Table 4**). At the suburb level, the proportion of residents aged 15-64 in Group 1 and in Group 4 is the same for both areas at 17% and 51%, respectively, and the proportions of Group 2 and 3 individuals aged 15-64 differ by only a few percentage points. Yet because of the differences in their respective SEIFA IRSD scores, as well as in their population sizes, the number of disadvantaged individuals who are masked in each of these suburbs differs by over 200 people. Braddon is home to 649 individuals aged 15-64 who fall into the most disadvantaged 40% of Australians, including 534 Group 1 Braddon residents who are masked by SEIFA IRSD at the suburb level when the area-level index is used as a proxy for individual disadvantage. Comparatively, 750 individuals aged 15-64 living in Ainslie fall into Group 1 or 2, and with a higher SEIFA IRSD score of 7 (Group 3), the relative socio-economic disadvantage of all 750 individuals is hidden at the suburb level.

In Braddon, collection districts 8013602 and 8013604 both have a SEIFA IRSD score of 1, but both have average or above average proportions of Group 4 residents aged 15-64. raddon 8013602 has a Group 1 proportion of 13.4%, Braddon 8013604 has a Group 1 proportion of 63.8%, a jump from 61 to 203 individuals aged 15-64, respectively. Compared to the former, Braddon 8013607 has a higher SEIFA IRSD score of 7 but also a greater Group 1 proportion at 16.5%, or just over 74 individuals. Where Braddon 8013602 stands out, however, is in its large proportion of Group 3 residents; at 50.1%, Braddon 8013602 has the second largest proportion of Group 3 individuals aged 15-64 out of all ACT collection districts . None of these features are effectively portrayed by the CD-level SEIFA scores.

While none of the collection districts in Ainslie have SEIFA IRSD scores lower than 3, all but one have Group 1 proportions of more than 10 percent. Ainslie 8013504 has a SEIFA IRSD score of 3, but has above average proportions of both Group 1 and Group 4 residents aged 15-64, which is not reflected by SEIFA. Compared to Braddon 8013602, which has 13.4% or 61 residents aged 15-64 in Group 1, 29.2% of individuals in Ainslie 8013504 fall into Group 1, which translates to 127 people aged 15-64. Unlike the Group 1 population in Braddon 8013602, the 127 Group 1 individuals in Ainslie 8013504 are hidden by the CDs SEIFA score of 3.

So while the SEIFA scores of Ainslie and Braddon may be representative of significant differences in area-level disadvantage, the distribution of individual-level disadvantage between these two suburbs is much more similar than is suggested by their SEIFA scores at both the CD and suburb levels.

Rivett vs. Chapman

Table 5: Suburb-level SEIFA IRSD and SEIFI IRSD data, Rivett and Chapman

	Rivett	Chapman
SEIFA decile score	8	10
Usual Resident Pop.	3,070	2,693
15 to 64 Aged Pop.	2,228	1,802
SEIFI Group 1 (%)	16.5%	3.1%
SEIFI Group 2 (%)	13.1%	7.9%
SEIFI Group 3 (%)	31.4%	34.4%
SEIFI Group 4 (%)	39.0%	54.6%
No. of CDs	6	4

Source: Australian Bureau of Statistics.

The SEIFA scores of neighbouring suburbs Rivett and Chapman in the subdivision of Weston Creek-Stromlo both fall into Group 4, the least disadvantaged cohort. The interpretation of their respective scores of 8 and 10 would be that, while Rivett has more relative socio-economic disadvantage than Chapman on average, both suburbs maintain a low level of socio-economic disadvantage overall. But while Rivett and Chapman may have similar SEIFA scores, Rivett has a much more diverse distribution of disadvantage with higher numbers of individuals experiencing greater relative disadvantage, and the high SEIFA scores in Chapman mask its disadvantaged population completely.

Of the population aged 15 and over in Rivett, 66.5% participates in the labour force, 2.9% are unemployed and seeking employment, and 27.7% earn less than $400 per week in income. Comparatively, of the Chapman population aged 15 and over, 67.1% participates in the labour force, 2.7% are unemployed and seeking employment, and 25.5% earn less than $400 per week in income. The median weekly rent in Rivett is $240 and total of 295 dwellings are currently being rented, including 133 public housing units being rented through Housing and Community Services ACT. In Chapman, the median weekly rent is $340, only 63 dwellings are currently being rented, and there are currently no public housing units in the suburb[10].

Of the four CDs in Chapman, three have SEIFA scores of 10 and the fourth has a SEIFA score of 9. The SEIFI IRSD data for Chapman indicates that a large proportion of the population in this suburb experiences little to no relative socio-economic disadvantage. The collection districts in Chapman all have Group 1 proportions of less than 5% and Group 2 proportions of less than 11%. Rather, the CDs in Chapman have proportions of Group 3 and Group 4 residents aged 15-64 that are well above average, ranging from 30.9% to 37.3% in Group 3 and from 47.7% to 60.5% in Group 4. With such high SEIFA scores, however, the 15-64 year olds in who Chapman experience greater relative socio-economic disadvantage than the more privileged majority are masked, including 56 Group 1 individuals, 142 Group 2 individuals, and 620 Group 3 individuals, totalling 818 individuals.

By contrast, the collection districts in Rivett have a much greater spread of SEIFA scores ranging from deciles 5 to 9. Three of these CDs have high SEIFA rankings and fall into deciles 8 or 9, but also have Group 2 proportions of between 15.4% and 17.8%, among the highest CD-level proportions of this socio-economic group across the ACT. Together, 534 Rivett residents aged 15-64 are masked in these three collection districts, including 141 in Group 2 and 107 in Group 1.

Comparatively the remaining Rivett CDs have greater proportions of Group 1 residents as well as lower SEIFA IRSD scores of between 5 and 7. While the lower SEIFA scores may be a reflection of the attributes of the local population, these three Rivet CDs also have a greater percentage of Group 4 individuals, with proportions of between 38.7% and 41.0%, which complicates the interpretation of the SEIFA score at the individual level.

Of these three CDs, Rivett 8021802 is a diverse collection district, with above average proportions of both Group 1 and Group 4 residents aged 15-64 at 23.4% and 38.7%, respectively. This diversity is not captured by the collection district's SEIFA score of 5, which masks 132 of the suburbs most disadvantaged individuals aged 15-64, including 93 Group 1 residents and 39 Group 2 residents. With SEIFA scores of 7, Rivett CDs 8021804 and 8021801 both have Group 1 proportions of 17.1% and Group 4 proportions of 40.2% and 41.0% respectively, leaving hidden 278 disadvantaged Rivett residents aged 15-64. In total, 945 relatively disadvantaged individuals aged 15-64 in Rivett are hidden by SEIFA at the CD-level, and this number increases to 1359 individuals aged 15-64 when taken at the suburb level.

The breakdown of the SEIFI data for these two suburbs shows that, in contrast to neighbours Ainslie and Braddon, Rivett and Chapman have similar SEIFA scores but divergent distributions of individual level disadvantage, demonstrating again that SEIFA is not an appropriate measure for describing relative socio-economic disadvantage at the individual level.

The Odd One Masked: Pockets of High Disadvantage within Suburbs

The Housing and Community Services division of ACT Community Services Directorate (CSD) has developed a Public Housing Asset Management Strategy that determines the availability, location, and viability of public housing in the Territory. This strategy is founded on a number of principles intended to respond to the challenges of providing accessible and sustainable housing assistance to low-income Canberrans.

In accordance with the strategy, public housing in the ACT is 'salt and peppered' throughout the region to reduce high concentrations of localised disadvantage, provide better quality housing, optimise access to public transport, education, and employment opportunities, and provide housing properties with potential for value growth[11]. Rather than isolating public housing to a few select suburbs, as has been the historical practice in other jurisdictions, most ACT suburbs contain a small number of public housing units. These management principles were designed to help break the cycle of poverty by encouraging sustainable tenancies and fostering inclusive communities that allow individuals to build stable and productive links to their community.

This strategy also impacts the geographic distribution of socio-economically disadvantaged individuals across the ACT, contributing to the increased diversity of individual disadvantage within suburbs or collection districts.

Kingston

At the suburb level, Kingston has a SEIFA IRSD decile score of 10 and falls into the 96th decile across Australia, indicating that the area experiences little to no socio-economic disadvantage. According to SEIFI IRSD data, 60.1% of Kingston residents aged 15-64 fall into the least disadvantaged group of Australians, and the proportion of individuals who fall into the more disadvantaged groups are all well below average when aggregated to the suburb level.

Table 6: SEIFA IRSD and SEIFI IRSD data, Suburb of Kingston and Kingston CD 8014302

	Suburb of Kingston	Kingston CD 8014302
SEIFA decile score	10	1
Usual Resident Pop.	2,451	129
15 to 64 Aged Pop.	2,129	78
SEIFI Group 1 (%)	10.8%	81.8%
SEIFI Group 2 (%)	4.3%	7.8%
SEIFI Group 3 (%)	24.9%	1.3%
SEIFI Group 4 (%)	60.1%	9.1%
No. of CDs	6	

Source: Australian Bureau of Statistics.

Of the Kingston population aged 15 and over, 74.0% participate in the labour force, 2.9% are unemployed and seeking employment, and only 10.2% earn less than $400 per week in income. The median weekly rent in Kingston is $325 and total of 833 dwellings are currently being rented, of which 75 public housing units being rented through the Territory housing authority[12].

At the collection district level, five out of six Kingston collection districts also have SEIFA IRSD scores of 10 and Group 4 proportions of between 56.9% and 70.6%. Although the proportion of Kingston residents aged 15-64 who fall into the remaining Groups is small, a total of 779 residents aged 15-64 from these five collection districts experience a degree of socio-economic disadvantage that is greater than the CD- or suburb-level SEIFA IRSD scores used to describe them.

In stark contrast, 81.8% of the residents aged 15-64 in the remaining collection district, Kingston 8014302, fall into Group 1, the most disadvantaged cohort. Kingston 8014302 has a usual resident population of 129 people, 64 of whom are 15-64 year olds experiencing the highest levels of relative socio-economic disadvantage. This number is more than 20% greater than the number of Group 1 individuals found in any of the neighbouring Kingston collection districts. Although the SEIFA IRSD score of Kingston 8014302 is 1, this divergence from the distribution of disadvantage observed in the other Kingston CDs is completely masked when SEIFA is analysed at the suburb level.

Torrens

In the suburb of Torrens in Woden, 64.5% of the population aged 15 and over participates in the labour force, while 3.5% are unemployed, and 27.7% earn less than $400 per week in income. A total of 236 dwellings in Torrens are currently rented at a median weekly rent of $260, including 62 public housing units being rented through Housing and Community Services ACT[13].

Torrens 8020701 is also the only collection district in its suburb to have an above average proportion of residents aged 15-64 in Group 1, in addition to having an above average proportion of individuals in Group 4. The remaining CDs in Torrens have SEIFA IRSD scores of between 8 and 10, and when the

suburb level SEIFA IRSD score of 9 is applied as a proxy to this collection district, 190 individuals aged 15-64 experiencing greater relative socio-economic disadvantage are hidden, including 93 individuals in the most disadvantaged quintile across Australia.

Table 7: SEIFA and SEIFI data, Suburb of Torrens and Torrens CD 8020701

	Suburb of Torrens	Torrens CD 8020701
SEIFA decile score	9	4
Usual Resident Pop.	2,266	458
15 to 64 Aged Pop.	1,493	309
SEIFI Group 1 (%)	13.0%	30.0%
SEIFI Group 2 (%)	8.2%	10.3%
SEIFI Group 3 (%)	31.2%	21.3%
SEIFI Group 4 (%)	47.6%	38.4%
No. of CDs	4	

Source: Australian Bureau of Statistics.

In contrast to Kingston 8014302, however, the CD-level SEIFA score for Torrens 8020701 is 4, which, while still reflecting greater overall disadvantage in the area, masks 93 residents aged 15-64 who fall into the bottom 20% of Australians. In fact, with a SEIFA IRSD score that falls into Group 2, the SEIFA score of this collection district only represents the smallest segment of the local resident population.

In additions to being geographically isolated and masked by SEIFA, the Group 1 individuals in this CD may experience greater relative vulnerability associated with living in an otherwise affluent suburb, such as managing higher food or childcare costs.

According to the SEIFI data, a similar phenomenon is also occurring in Turner, where Turner 8012805 has a Group 1 proportion of 68.6%, in Braddon, where Braddon 8013604 has a Group 1 proportion of 63.8%, and in Lyons, where Lyons 8021205 has a Group 1 proportion of 41.0%. Like Torrens, the only constituent CD in the suburb of Red Hill to have an above average proportion of Group 1 residents (48.1%) also has an above average proportion of Group 4 individuals (see Red Hill for further discussion). This pattern in the distribution of SEIFI IRSD scores is also occurring to a lesser extent in Theodore, Hawker, Macquarie, Mawson, O'Connor, and Watson. Because the remaining CDs in these suburbs experience very little relative disadvantage, approximately 1682 Group 1 and Group 2 residents aged 15-64 residing in these CDs are masked by their respective suburb level SEIFA scores.

The Hidden Gradient: Socio-Economic Diversity within Areas

As has been discussed throughout this report, many of ACT's the most disadvantaged individuals live in the same geographic areas as its least disadvantaged individuals. This pattern is much more common in the ACT than in most other Australian jurisdictions, and this high level of heterogeneity within areas significantly reduces the visibility of disadvantaged populations and increases the risk of vulnerabilities associated with social exclusion when only the SEIFA score of an area is considered.

Based on the distribution and grouping patterns of the SEIFI IRSD scores, an area is considered to have a diverse distribution of relative socio-economic disadvantage if it has above average proportions of both Group 1 and Group 4 individuals aged 15-64, where the average proportion of each group is 19.37% and 30.03%, respectively.

Of the 95 suburbs in the ACT, 88 suburbs (92.6%) have above average proportions of individuals in Group 4, while only 8 suburbs (8.4%) have above average proportions of individuals in Group 1. While this is generally consistent with the low overall prevalence of socio-economic disadvantage in the ACT, this prevalence is greater than previously described by SEIFA IRSD. The SEIFI IRSD data reveals five suburbs to be socio-economically diverse, including Reid, Page, Scullin, Lyons, and Oaks Estate, one of the only two ACT suburbs to have a SEIFA score of 1 along with Symonston.

At the collection district level, 475 of the 522 CDs in the ACT (90.9%) have above average proportions of Group 4 residents, while 84 collection districts (16.1%) have above average proportions of Group 1 residents, despite only 18 CDs (3.4%) having a SEIFA ranking that falls into the bottom quintile of disadvantage.

A total of 59 ACT collection districts (11.3%) exhibit diversity. These diverse collection districts exist in every Canberra subdivision and in many of the suburbs discussed in this report, including three diverse CDs in both Reid and Narrabundah, five in Kambah, and one in each of Isabella Plains, Ainslie, and Rivett. Of these 59 diverse CDs,

- 8 CDs have a SEIFA score of 1 or 2,
- 20 CDs have a SEIFA score of 3 or 4,
- 28 CDs have a SEIFA score of 5 to 7, and
- 3 CDs have a SEIFA score of 8 to 9.

The largest proportion of diverse CDs falls into the SEIFA decile range from 5 to 7, indicating that SEIFA has made some correction for the greater relative socio-economic disadvantage that is experienced by individuals in these areas. When SEIFA is applied as a proxy, however, these SEIFA scores fail to represent those residents with extreme disadvantage. Altogether, 8,036 individuals aged 15-64 living in these diverse CDs are hidden when only SEIFA is considered.

Red Hill

The 2006 Census data for the suburb of Red Hill in South Canberra reveals that 57.2% of the population aged 15 and over participates in the labour force, but 3.7% are unemployed, and 30.2% earn less than $400 per week in income. 329 dwellings in Red Hill are rented with a median weekly rent of $200, where 118 of these dwellings are rented through the Housing and Community Services ACT public housing program[14]. Red Hill is also well known anecdotally to be home to both highly advantaged and highly disadvantaged individuals, and this observation is supported by the SEIFI IRSD data.

While all five collection districts in the suburb of Red Hill have above average proportions of individuals in Group 4, Red Hill 8014903 also has a Group 1 population proportion that is well above average. Of all ACT CDs that have diverse

Table 8: SEIFA IRSD and SEIFI IRSD data, Suburb of Red Hill and Red Hill CD 8014903

	Suburb of Red Hill	Red Hill CD 8014903
SEIFA decile score	9	1
Usual Resident Pop.	3,144	422
15 to 64 Aged Pop.	2,051	320
SEIFI Group 1 (%)	11.7%	48.1%
SEIFI Group 2 (%)	5.3%	4.1%
SEIFI Group 3 (%)	29.0%	14.9%
SEIFI Group 4 (%)	54.0%	32.9%
No. of CDs	5	

populations, Red Hill 8014903 has the greatest proportion of residents aged 15-64 in Group 1 and the second greatest number of Group 1 individuals, with 154 people aged 15-64 falling into the most disadvantaged 20% of Australians. This means that 64.0% of all the Group 1 individuals aged 15-64 living in Red Hill reside in this one collection district.

When the suburb level SEIFA decile score of 9 is applied to Red Hill 8014903, a total of 215 individuals aged 15-64 who experience greater relative socio-economic disadvantage are masked. In the suburb as a whole, 945 individuals aged 15-64 living in Red Hill are not represented by the aggregate SEIFA IRSD score of the area, including 110 Group 2 individuals and 240 Group 1 individuals.

At the collection district level, the SEIFA IRSD decile score for Red Hill 8014903 is 1, while the SEIFA scores for the remaining four Red Hill CDs range between 8 and 9. This range of CD-level SEIFA scores more explicitly indicates that residents in Red Hill 8014903 do experience a significantly greater degree of socio-economic disadvantage than the residents of its neighbouring areas. At the same time, however, 105 of the 320 residents in Red Hill 8014903 experience little to no socio-economic disadvantage. For these individuals, applying a SEIFA score of 1 is not appropriate, highlighting the need for caution when using the SEIFA scores at either the suburb or CD levels to draw conclusions about the population of an area.

Florey

In the suburb of Florey in Belconnen, 67.9% of residents aged 15 and over participate in the labour force, where 4.2% are unemployed and seeking employment. One third (32.4%) of this population earns less than $400 in income per week. The median weekly rent in Florey is $255, where 636 dwellings are being rented, including 240 units that are rented as public housing units through Housing and Community Services ACT[15].

All seven collection districts in Florey have above average Group 4 proportions of between 34.0% and 47.7%, but four of these collection districts are also diverse, with Group 1 proportions of between 20.4% and 27.7%. This includes Florey 8011704; both the suburb level and CD level SEIFA decile scores place Florey 8011704 in Group 3, indicating that the area experiences moderate socio-economic disadvantage overall. This is not the case, however for the 69 residents aged 15-64 in Group 2 or the 155 residents aged 15-64 in Group 1 who also live in this CD, nor does it describe the 234 residents aged 15-64 in Group 4 who experience little or no socio-economic disadvantage. In fact, Florey 8011704 has the highest number of Group 1 individuals among the diverse CDs in the ACT, accounting for 23.2% of the Group 1 individuals aged 15-64 in the suburb overall.

Interestingly, a greater number of disadvantaged individuals are hidden at the CD level in Florey than when aggregated to the suburb level. With

Table 9: SEIFA IRSD and SEIFI IRSD data, Suburb of Florey and Florey CD 8011704

	Suburb of Florey	Florey CD 8011704
SEIFA decile score	7	6
Usual Resident Pop.	5,107	894
15 to 64 Aged Pop.	3,715	648
SEIFI Group 1 (%)	18.0%	23.9%
SEIFI Group 2 (%)	11.5%	10.6%
SEIFI Group 3 (%)	31.6%	29.4%
SEIFI Group 4 (%)	38.8%	36.0%
No. of CDs	7	

Source: Australian Bureau of Statistics.

CD SEIFA IRSD scores ranging from 3 to 9, a total of 1588 individuals aged 15-64 are masked at the collection district level, compared to 1098 individuals aged 15-64 who are masked by SEIFA at the suburb level. This phenomenon is sometimes observed among populous suburbs with Group 3 SEIFA scores, and serves to highlight again the need for caution when using SEIFA scores, aggregated or otherwise, as a proxy measure for individual-level disadvantage.

Reid

Table 10: SEIFA IRSD and SEIFI IRSD data, Suburb of Reid

SEIFA decile score	Usual Resident Population	15 to 64 Year Old Population	SEIFI Group 1 Proportion	SEIFI Group 2 Proportion	SEIFI Group 3 Proportion	SEIFI Group 4 Proportion	Number of CDs
5	1,605	1,248	22.5%	3.4%	18.5%	55.6%	4

The suburb of Reid in North Canberra is one of the few suburbs that continue to exhibit diversity when SEIFI IRSD is aggregated to the suburb level. While the majority of diverse ACT suburbs including Reid have comparable Group 3 SEIFI IRSD proportions, the Group 1 and Group 4 proportions in Reid have the greatest deviations from the average. Reid is home to 1248 residents aged 15 to 64, of which 694 individuals (55.6%) experience little to no relative disadvantage and fall into the least disadvantaged group across Australia. At the same time, 281 Reid residents (22.5%) fall into the most disadvantaged group of Australians.

When the characteristics of these large but divergent segments of the local population are averaged for SEIFA IRSD, the resulting decile score of 5 indicates that Reid experiences a moderate extent of relative disadvantage overall. This does not reflect the 324 individuals aged 15-64 (25.9%) who fall into Groups 1 and 2, nor does it reflect the fact that their direct neighbours are among the least disadvantaged individuals in Australia. With Group 1 proportions of between 27.0% and 41.4% and Group 4 proportions of between 38.3% and 56.0%, the three diverse collection districts in Reid are collectively home to 258 or 79.8% of those disadvantaged individuals aged 15-64 who are hidden at the suburb level, as well as 366 or 52.6% of the 15 to 64 year olds in Group 4 in the suburb.

The diversity of the residents of Reid is also difficult to express using other sources of population data. Information from the 2006 Census indicates that 49.9% of the population aged 15 years and over participates in the labour force but that 7.9% are unemployed and looking for work. This is the highest rate of unemployment of the suburbs highlighted in this report, and is 4.5% greater than the Territory-wide unemployment rate of 3.4%. Median rent is only $122 per week and 375 dwellings are rented, 217 of which are public housing units. While this data is indicative of some higher relative disadvantage, these values would also be skewed by the large proportions of both the most and least disadvantaged cohorts of Australians[16]. The breadth of relative individual-level socio-economic disadvantage in this geographical area can captured more meaningfully with the more descriptive SEIFI IRSD index.

The Hidden Majority: Hidden Disadvantaged in Large Populations

One of the most significant impacts of using the SEIFA IRSD index as a proxy measure for individual-level disadvantage in the ACT is the number of disadvantaged individuals who are masked in areas with large resident populations. While the highly populated ACT suburbs and collection districts may have small overall proportions of individuals in SEIFI IRSD Groups 1 or 2, these individuals make up the majority of the hidden disadvantaged across the region.

Kaleen

Table 11: SEIFA IRSD and SEIFI IRSD data, Suburb of Kaleen

SEIFA decile score	Usual Resident Population	15 to 64 Year Old Population	SEIFI Group 1 Proportion	SEIFI Group 2 Proportion	SEIFI Group 3 Proportion	SEIFI Group 4 Proportion	Number of CDs
9	7586	5581	10.8%	13.0%	35.0%	41.1%	10

With 7586 usual residents and 5581 residents aged 15 to 64, the suburb of Kaleen has the largest population of all the suburbs in Belconnen by more than 1500 people. 69.8% of Kaleen residents aged 15 and over participate in the labour force, including 3.0% who are unemployed but seeking employment. 29.3% of Kaleen residents make $400 per week or less. Median weekly rent in Kaleen is $285, where approximately 600 are available for rent and 143 are public housing units made available by Housing and Community Services ACT[17].

Kaleen has a SEIFA score of 9, which indicates that, on average, Kaleen experiences very little socio-economic disadvantage. When broken down to the individual level, however, the SEIFI IRSD data tells us that 58.8% of Kaleen's population experiences a higher level of disadvantage than that described by the suburb's SEIFA IRSD score. In a population of this size, this proportion represents a staggering 3288 individuals aged 15-64, 604 of whom fall into the most disadvantaged quintile and 728 of whom fall into the second most disadvantaged quintile. Although the diversity of disadvantage in the Kaleen population is more evident in the CD-level SEIFA, which ranges from 4 to 10, 2736 individuals are still masked at the small-area level.

Including Kaleen, 16 of the 24 suburbs in Belconnen have SEIFA scores of 8 or higher, but with 26.4% of the total ACT population residing in the Belconnen area, the number of people experiencing the highest levels of disadvantage adds to 4535 individuals aged 15-64 from these high ranking suburbs alone, according to the SEIFI IRSD data.

Narrabundah

Table 12: SEIFA IRSD and SEIFI IRSD data, Suburb of Narrabundah

SEIFA decile score	Usual Resident Population	15 to 64 Year Old Population	SEIFI Group 1 Proportion	SEIFI Group 2 Proportion	SEIFI Group 3 Proportion	SEIFI Group 4 Proportion	Number of CDs
7	7586	5581	17.2%	8.0%	25.8%	49.0%	9

The suburb of Narrabundah in South Canberra is ranked by SEIFA as falling into the 7th decile, indicating Narrabundah experiences more relative disadvantage overall than Kaleen, but that, on balance, the extent of this disadvantage is moderate. 60.4% of the Narrabundah population aged 15 and older is active in the labour force, 3.2% are unemployed but currently seeking work, and 27.5% earn less than $400 in average weekly income. Median weekly rent in the area is $255, there are 923 rental properties, and 349 public housing units[18].

Yet while 49.0% of Narrabundah residents fall into Group 4, 25.2% of the suburb's residents aged 15-64 fall into the most disadvantaged 40% of Australians in the same age group. With a 15-64 year old population of 3785 people, this proportion translates to 303 Group 2 and 651 Group 1 individuals aged 15-64, all of whom fail to be represented when applying the SEIFA decile score for the suburb.

Ngunnawal

Table 13: SEIFA IRSD and SEIFI IRSD data, Suburb of Ngunnawal

SEIFA decile score	Usual Resident Population	15 to 64 Year Old Population	SEIFI Group 1 Proportion	SEIFI Group 2 Proportion	SEIFI Group 3 Proportion	SEIFI Group 4 Proportion	Number of CDs
9	8938	6243	13.2%	13.1%	31.4%	42.3%	12

By population, Ngunnawal is the second largest suburb in the ACT, with well over 4000 more residents than the average suburb population size of 3377. According to the 2006 Census, 72.7% of the population aged 15 years and older participates in the labour force, 3.0% are unemployed or looking for work, and 24.2% earn less than $400 per week. With a total number of 922 dwellings being rented, median weekly rent in Ngunnawal is $270. 156 of these rental properties are provided as public housing from Housing and Community Service ACT[19].

While all of the collection districts in Ngunnawal have above average proportions of Group 4 individuals, several CDs have Group 2 proportions that are significantly higher than the ACT average. All together, 2917 Ngunnawal residents aged 15-64 experience a level of relative socio-economic disadvantage that is greater than that described by the SEIFA score at the CD level, including 825 Group 1 and 819 Group 2 individuals. At the suburb level, this total becomes 3602 hidden disadvantaged, including an additional 685 individuals aged 15-64 in Group 3.

Low Visibility, High Risk: Small Numbers of Hidden Disadvantaged

A total of 13 suburbs have populations with fewer than 1000 usual residents between the ages of 15 and 64. While areas with large numbers of hidden disadvantaged are confronting, disadvantaged individuals who reside in areas with smaller populations and only a small number of Group 1 or Group 2 individuals are much less visible and more difficult to identify. This is especially the case in suburbs with small populations but high SEIFA scores; in these contexts, the SEIFI index is a more reliable tool for ensuring that individuals in need are identified and provided with adequate support.

City

Table 14: SEIFA IRSD and SEIFI IRSD data, Suburb of City

SEIFA decile score	Usual Resident Population	15 to 64 Year Old Population	SEIFI Group 1 Proportion	SEIFI Group 2 Proportion	SEIFI Group 3 Proportion	SEIFI Group 4 Proportion	Number of CDs
10	722	656	11.5%	5.4%	23.4%	59.7%	1

With 656 usual residents, City or Civic, the suburb which encompasses Canberra's central business district, has a total of 219 rented dwellings, though only three are public housing units. Median weekly rent in City is one of the highest in the ACT at $341, though 21.7% of City residents earn less than $400 in weekly income. 53.1% of the population participates in the labour force but 5.6% are unemployed and currently looking for employment[20]. The City also supports many of the individuals in Canberra who experience homelessness, though data on the homeless population is difficult to capture.

City has been given a suburb-level SEIFA score of 10, which is reflected in the SEIFI IRSD data by the significant proportion (59.7%) of City residents aged 15-64 who fall into Group 4. This leaves 265 people aged 15-64 whose experience of relative socio-economic disadvantage is not accurately represented by SEIFA IRSD, including 111 people who fall into the most disadvantaged 40% of Australian 15 to 64 year olds.

The Group 2 Phenomenon: Tuggeranong

The final community profiles in this section will focus on the Group 2 population in the ACT, the second most socio-economically disadvantaged cohort of Australians. Individuals who fall into this Group may have higher rates of employment but still experience high levels of socio-economic disadvantage. While the proportion of Group 2 residents aged 15-64 in the ACT is well below average, the SEIFI IRSD data has indicated that these individuals are geographically clustered in a few distinct areas, and this phenomenon will be explored below.

The SEIFI IRSD data has revealed that only 11.4% of the ACT population aged 15-64 falls into Group 2. This proportion is smaller than the proportion of ACT residents falling into the most disadvantaged quintile (12.6%) and is also the smallest proportion of Group 2 residents across all Australian jurisdictions by several percentage points, where the next lowest proportion of Group 2 residents is 16.1% (Northern Territory), and the highest is 24.3% (Tasmania).

Only 3 of the 95 ACT suburbs have above average proportions of Group 2 residents aged 15-64, where two of these suburbs have population sizes under 100 and the third has only 343 residents. In fact, only 52 ACT suburbs have proportions of Group 2 residents aged 15-64 of more than 10%. Interestingly, however, all of the suburbs in the subdivision of Tuggeranong save one fall into this category, making up 18 suburbs of the 52. Although the proportion of Group 2 individuals in these suburbs are below average, Tuggeranong is home to 27% of the ACT population and is the most populous subdivision in the ACT. This translates to 9525 individuals aged 15-64 in the second quintile of socio-economic disadvantage which makes up 36.6% of all 26,001 Group 2 individuals in the ACT. Small-scale geographic clustering of Group 2 residents in the ACT has also been observed in Belconnen, where 7384 Group 2 individuals aged 15-64 (29%) reside.

Interestingly, one of the key findings of the Targeted Assistance Strategy (TAS) Data Report for the ACT, an analysis of the cost of living in Canberra, was that households in the second income quintile (households with low to moderate incomes) had a higher proportional expenditure on essential goods and services than did those households in the lowest income quintile. The report also found that this expenditure has increased significantly over time. Households in this quintile are at greater risk of experiencing financial stress than households in the lowest income quintile and are less likely to seek support from welfare programs or community organisations[21]. Although this group cannot be directly equated with the SEIFI Group 2 population, it stands to reason that many of the individuals in the second quintile of socio-economic disadvantage may fall into both groups or share certain characteristics which make them similarly vulnerable to financial crises.

Isabella Plains

Table 15: SEIFA IRSD and SEIFI IRSD data, Suburb of Isabella Plains

SEIFA decile score	Usual Resident Population	15 to 64 Year Old Population	SEIFI Group 1 Proportion	SEIFI Group 2 Proportion	SEIFI Group 3 Proportion	SEIFI Group 4 Proportion	Number of CDs
8	4,316	3,045	14.9%	18.9%	35.5%	30.6%	6

Of the Isabella Plains population aged 15 and over, 2451 individuals or 72.7% participate in the labour force, the rate of unemployment it 3.2%, and 27.4% earn $400 or less in weekly income. Of the 341 rented dwellings in the suburb, 49 are public housing units. Median weekly rent in Isabella Plains is $260[22].

Though not the most populous suburb in Tuggeranong, Isabella Plains has the fourth greatest proportion of residents aged 15-64 in Group 2 across the ACT and the greatest proportion of Group 2 residents in ACT suburbs with over 350 residents aged 15 to 64. Despite being home to 577 individuals aged 15-64 who fall into Group 2 and 453 individuals aged 15-64 in Group 1, Isabella Plains has been attributed a SEIFA IRSD score of 8. Because a SEIFA IRSD decile score of 8 indicates that Isabella Plains experiences very little relative disadvantage overall, this suburb's SEIFA IRSD score masks the relative disadvantage of 2122 individuals aged 15-64 at the suburb level, over one thousand of whom fall into the most disadvantaged 40% of Australians.

Kambah

Table 16: SEIFA IRSD and SEIFI IRSD data, Suburb of Kambah

SEIFA decile score	Usual Resident Population	15 to 64 Year Old Population	SEIFI Group 1 Proportion	SEIFI Group 2 Proportion	SEIFI Group 3 Proportion	SEIFI Group 4 Proportion	Number of CDs
8	15,579	11,421	14.6%	13.7%	33.2%	38.4%	25

The suburb of Kambah in Tuggeranong has the largest usual resident population in the Australian Capital Territory, surpassing the next most populous ACT suburb by more than 6,600 additional residents. 68.8% of the Kambah population aged 15 and over participate in the labour force, 3.2% are unemployed and looking for work, and 27.4% earn less $400 per week. Median weekly rent in the area is $230, and of the 1244 rented properties, 521 are rented through Housing and Community Services ACT to those in need of public housing assistance[23].

An above average proportion of Kambah residents experience little to no relative disadvantage, which is consistent with its designated SEIFA IRSD decile score of 8. Although the proportions of Kambah residents falling into Groups 1 and 2 are both below the national average (14.6% and 13.7%, respectively), their proportions remain relatively high among ACT suburbs. Because of Kambah's sizeable population, these proportions translate and sum to 3238 residents aged 15-64 who fall among the most disadvantaged 40% of Australians in that age group, including 1672 Group 1 residents and 1566 Group 2 residents. Added to that is another 3793 residents aged 15-64 who fall within 5th and 7th deciles of relative disadvantage, together totalling 7031 residents in Kambah alone whose relative socio-economic disadvantage is masked when the suburb's SEIFA decile score of 8 is used as a proxy measure for individual level disadvantage.

SECTION 3: DISCUSSION

Key Findings

As Wise and Mathews (2011) were careful to remind us, SEIFA can be an extremely valuable tool for measuring the overall attributes of a local population as well as relative access to public resources, infrastructure, and other facilities which allow residents of an area to be productive members of the community. SEIFI conflicts with SEIFA only wherever SEIFA is used a proxy measure for the relative socio-economic disadvantage of individuals, particularly in circumstances where the ACT is in competition for resources with other jurisdictions at the national level. To reiterate, area-level and individual-level socio-economic disadvantage are related but separate concepts, and while many population attributes contribute to both, SEIFA describes the characteristics of a community or neighbourhood while SEIFI describes the characteristics of the individuals within that community. Caution must be taken when drawing conclusions if SEIFA or SEIFI is applied outside of its intended context[24].

The SEIFI IRSD data for the ACT has confirmed that SEIFA IRSD is not an appropriate measure of individual relative socio-economic disadvantage for the ACT population aged 15 to 64. The analysis of SEIFI IRSD data revealed that a total of 101,077 individuals or 44.0% of the ACT population aged 15 to 64 experience a level of relative socio-economic disadvantage that is greater than the level described by the SEIFA score of the CD they reside in. While many of these individuals only experience mild socio-economic disadvantage, 22.4% of this age group falls into the most disadvantaged 40% of all Australians. As described in **Table 2**, when categorised by the SEIFA IRSD score of the CD they reside in, the number of Group 1 and 2 residents increases rather than decreases with higher SEIFA scores. SEIFI IRSD has identified over 28,000 individuals in the ACT who fall into the most disadvantaged quintile of Australians, 12,726 of whom live in areas with SEIFA scores of 8 or higher. SEIFI has also identified 26,000 individuals in the ACT who fall into Group 2, the second most disadvantaged cohort of Australians, 15,868 of whom live in areas with SEIFA scores of 8 or higher.

One of the most significant findings of the SEIFI IRSD analysis for the ACT was that the relationship between SEIFA IRSD scores and SEIFI IRSD distributions for geographic areas in the Territory is inconsistent, making it extremely challenging to accurately interpret SEIFA when is it used as a proxy for individual-level disadvantage. Neighbouring suburbs like Braddon and Ainslie can have significantly different SEIFA scores or area-level disadvantage, but relatively similar distributions of individual relative socio-economic disadvantage. Conversely, neighbours Rivett and Chapman have similar SEIFA scores but entirely different distributions of disadvantage at the individual level. Further, ACT collection districts with above average proportions of both the most and the least disadvantaged cohorts living together have SEIFA scores that range from 1 to 9, making it impossible for the SEIFA score to reliably describe the high level of socio-economic diversity within areas, a unique feature of the ACT that has a significant impact on policy and service delivery across the Territory.

Limitations

In order for the SEIFI indexes to become a valuable systemic measure of relative socio-economic disadvantage, the construction of SEIFI needs to be repeated on a regular basis using the most up-to-date methodology and data available. In their 2011 paper, Wise and Mathews identified several methodological issues with SEIFI that have yet to be resolved, including:

- the need for a consensus on the definition and conceptual framework for individual disadvantage, the best set of variables to measure it, and the means for validating individual-level indexes,
- reassessing the issue of individual level diversity once the new ASGS geography standard is introduced and the 2011 Census data is available, and
- the need to determine how SEIFI could be integrated with the existing SEIFA product to optimise the use of available information in evidence-based policy while minimising confusion.

Another key methodological limitation of the 2006 SEIFI IRSD index is that individual responses were excluded if they were not included in the 2006 SEIFA analysis or if they did not or were not able to respond to all relevant Census data items on personal, family, and dwelling characteristics that inform the variables used to calculate SEIFI. As a result, SEIFI scores were only constructed for Australians aged 15 to 64, and based on these criteria, a total of 6,699,089 individuals were excluded. This corresponds to roughly one-third of the total Australian population. The implication of these exclusions is that the SEIFA indexes, which comparatively only exclude 0.6% of the Australian population, is a significantly more robust and representative measure. Because SEIFA has been in use for many years, it has been conceptually tested and validated as an area-level measure.

In order for SEIFI to become an equally valuable and valid measure of individual-level disadvantage, the formulation of age-specific indexes has also been recommended, which may be extremely valuable for providing targeted services to children and the aged, two vulnerable population subgroups that are of particular interest to governments and community service providers[25]. The development of a similarly constructed household-level index may also be a valuable and meaningful alternative and should be scoped. Further research will also be required to document the relationship between SEIFI data and service use to ensure its validity and reliability in modeling activities.

Finally, with the collection of the 2011 Census data on 9 August 2011, the new Australian Statistical Geography Standard (ASGS) replaced the existing Australian Standard Geographic Classification (ASGC) system. In the new ASGS, the base geographical unit is the Statistical Area Level 1 (SA1) rather than the collection district. The new system is founded on the principle of collecting data in a way that will be functional and meaningful rather than facilitating administrative considerations. It is thought that with the new methodology, SA1s will be better able to capture socio-economic gradients by reducing the amount of diversity within a geographic unit of analysis[26]. This could alter the SEIFI findings and the 2011 and 2006 version could not be compared directly, increasing the need for the SEIFI analysis to be repeated for the next few Census takings.

Next Steps

The ongoing development of SEIFI has to potential to be extremely valuable to the ACT government. The SEIFI data will provide ACT Government Directorates and community organisations with the evidence base they need to more effectively and efficiently provide adequate, integrated services that best address the needs of the vulnerable and disadvantaged individuals and families in the ACT. SEIFI may have an important role in the monitoring and evaluation of the long-term impacts of government and community programs and aid building stronger service networks with community organisations through initiatives such as the Outcomes Based Service Funding Framework and Purchasing Agreement. ACT organisations will also be in a stronger position to negotiate commitments for financial support from the Commonwealth government by using SEIFI evidence to support bids for funding, though it will be challenging to overcome the institutional inertia that protects existing SEIFA-based processes[27].

In addition to impacting Commonwealth funding relationships, the analysis of SEIFI data described in this report presents a number of opportunities for the ACT Government to strengthen its position as a leading organisation in government service delivery. Evidence of the methodological shortcomings of SEIFA is likely to support a stronger stance on data integrity, validity, and accountability in ACT government processes. The availability of SEIFI as a suitable geographic measure of individual-level disadvantage is also timely given the strong shift towards targeted and location-based policies, programs, and services at both national and state levels, within Australia and abroad. SEIFI data also has a number of potential applications as a social research and modeling tool, where it would be valuable in mapping and geospatial analyses as well as in data linkage activities with other population-based data sets.

One of the most significant limitations of the SEIFI index is therefore the risk that it may not be reproduced using data from the most recent 2011 census. In order to maximise the potential utility of SEIFI, the ACT Government should work closely with the Australian Bureau of Statistics to support the construction of SEIFI using data from the 2011 Census and to consult on its design to ensure it is fit-for-purpose. The ACT Government should also encourage further research with the SEIFI indexes and champion their use as a more appropriate alternative wherever SEIFA is applied as a proxy to inform policy making and funding decisions in the ACT.

REFERENCES

[1] Wise and Mathews (2011). Socio-Economic Indexes for Areas: Getting a Handle on Individual Diversity Within Areas. Available online at: http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/C523F80A0B938ACBCA25790600138037/$File/1351055036_sep%202011.pdf

Pink (2008). Information Paper: An Introduction to Socio-Economic Indexes for Areas (SEIFA) 2006. Available online at: http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/D729075E079F9FDECA2574170011B088/$File/20390_2006.pdf

[2] Baker and Adhikari (2007). Socio-Economic Indexes for Individuals and Families. Available online at: http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/87EA1D92F0BB437CCA25733F001F541D/$File/1352055086_jun%202007.pdf

Australia Bureau of Statistics (ABS) (2011a). Information Paper: Measures of Socioeconomic Status. Available online at: http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/367D3800605DB064CA2578B60013445C/$File/1244055001_2011.pdf

[3] Wise and Mathews (2011). See above.

[4] Kennedy and Firman (2004). Indigenous SEIFA – revealing the ecological fallacy. Available online at: http://www.apa.org.au/upload/2004-4E_Kennedy.pdf

[5] Baker and Adhikari (2007). See above.

[6] Wise and Mathews (2011). See above.

[7] Wise and Mathews (2011). See above.

[8] ABS (2010). Statistical Geography Explained. Accessed at: http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Statistical+Geography+Explained

[9] ABS (2008). 2006 Census Community Profile Series. Available online at: http://www.abs.gov.au/websitedbs/censushome.nsf/home/communityprofiles?opendocument&navpos=230

[10] ABS (2008). See above.

[11] ACT Community Services Directorate (CSD) (2012). Public Housing Asset Management Strategy 2012-2017. Available online at: http://www.dhcs.act.gov.au/__data/assets/pdf_file/0005/273551/Public_Housing_Asset_Management_Strategy.pdf

[12] ABS (2008). See above.

[13] ABS (2008). See above.

[14] ABS (2008). See above.

[15] ABS (2008). See above.

[16] ABS (2008). See above.

[17] ABS (2008). See above.

[18] ABS (2008). See above.

[19] ABS (2008). See above.

[20] ABS (2008). See above.

[21] ACT Government (2012). ACT Targeted Assistance Strategy. Available online at: http://www.cmd.act.gov.au/__data/assets/pdf_file/0005/298337/ACT_Targeted_Assistance_Strategy.pdf

[22] ABS (2008). See above.

[23] ABS (2008). See above.

[24] Baker and Adhikari (2007). See above.

ABS (2011a). See above.

[25] Wise and Mathews (2011). See above.

[26] ABS (2010b). Presentation: Implementing the Australian Statistical Geography Standard (ASGS). http://www.abs.gov.au/websitedbs/D3310114.nsf/4a256353001af3ed4b2562bb00121564/c453c497aadde71cca2576d300026a38/$FILE/ASGS%20Roadshow%20Presentation.pdf

[27] GST Distribution Review (2011). Terms of Reference. Accessed online at: http://www.gstdistributionreview.gov.au/content/Content.aspx?doc=tor.htm

APPENDIX A – SEIFA AND SEIFI METHODOLOGY

This section will provide more information about the construction of the SEIFA and SEIFI indexes. This section has been adapted from *Socio-Economic Indexes for Areas: Getting a Handle on Individual Diversity Within Areas*[1] and *Socio-Economic Indexes for Areas (SEIFA) – Technical Paper 2006*[2]. Please refer to these publications for more details.

SEIFA consists of a set of four indexes:

- The **Index of Relative Socio-economic Disadvantage (IRSD)**: Using indicators of low socio-economic wellbeing on a number of dimensions, including income, education, employment, occupation, housing, and others, the IRSD provides general measure of overall disadvantage.
- The **Index of Relative Socio-economic Advantage and Disadvantage (IRSAD)**: IRSAD extends IRSD to provide a general socio-economic measure that encompasses the full spectrum of both disadvantage and advantage.
- The **Index of Education and Occupation (IEO)**: This index focuses specifically on the educational and occupational aspects or indicators of socio-economic status.
- The **Index of Economic Resources (IER)**: This index focuses specifically on financial aspects of income, employment, and housing as they relate to relative advantage and disadvantage.

Comparatively, SEIFI only includes the individual-level IRSD and IRSD indexes. The decision not to construct IEO and IER indexes at the individual level was based primarily on findings from literature reviews and user consultations which indicated that IRSD is the most commonly used of the four SEIFA indexes, while IRSAD is complementary and provides the greatest breadth.

Principal Components Analysis and Index Construction

The SEIFA and SEIFI indexes are calculated using a statistical technique known as Principal Components Analysis (PCA). This technique reduces a large number of variables into a smaller set of variables by summarising variables that are highly correlated into a single principal component.

The steps for constructing the indexes are as follows:

1. ***Create the initial variable list***. A complete list of possible variables is compiled from Census data items that relate to the relevant concepts of socio-economic disadvantage captured by the index in question.
2. ***Constructing the variables***. Drawing from Census data, SEIFA variables are derived from summary statistics at the CD level and constructed as proportions of the CD-level population. The derived variables are then standardised to a mean of 0 and standard deviation of 1. SEIFI variables are based on personal records and are constructed as a set of binary indicators for each individual.

3. ***Remove highly correlated variables.*** Highly correlated variables are removed to prevent over-representation of any specific socio-economic characteristic. Discretion is applied whenever two variables have a correlation greater than |0.8|; one variable may be removed if the two correlated variables capture similar attributes.

4. ***Conduct initial PCA to obtain loadings***. PCA is performed to determine the loading or weight by which each variable should be multiplied to get the score of the first principal component.

5. ***Removing low loading variables***. Variables with a loading below |0.3| are not considered strong indicators of relative advantage or disadvantage and are therefore removed. Variables are removed one at a time, starting with the lowest loading variables, and the PCA is re-run each time. The threshold of |0.3| in generally accepted in PCA literature.

6. ***Conducting PCA on the reduced list of variables*.** The PCA process in Step 5 is repeated until no remaining variables have a loading below |0.3|, ensuring that all variables included contribute significantly to the index.

7. ***Standardise component/index scores***. The principal component score for each collection district is standardised to a mean of 1000 and a standard deviation of 100. This is performed for ease of interpretation.

8. ***Reverse signs of loadings and weights***. Each variable is multiplied by -1 to assign positive weights and loading to advantage indicators and negative weights and loadings to disadvantage indicators. This is also performed for ease of interpretation.

9. ***Create higher geographic level indexes***. Suburb level and higher geographic level index scores were calculated using population weighted averages of the constituent collection districts of the geographic area in question.

See **Table A1** on page 40 for a detailed list of the variable included in the SEIFA and SEIFI IRSD and IRSAD indexes.

[1] Wise, P. & Mathews, R. (2011). Socio-Economic Indexes for Areas: Getting a Handle on Individual Diversity Within Areas. ABS Cat. No. 1351.0.55.036.

[2] Pink, B. (2008). Socio-Economic Indexes for Areas (SEIFA) – Technical Paper 2006. ABS Cat. No. 2039.0.55.001.

Table A1: Codes and descriptions for variables included in SEIFA IRSD, SEIFI IRSD, SEIFA IRSAD, and SEIFI IRSAD

		Index Used			
Variable Code	**Variable Description**	**SEIFA IRSD**	**SEIFI IRSD**	**SEIFA IRSAD**	**SEIFI IRSAD**
INC_LOW	Persons with stated annual household equivalised income between $13,000 and $20,799 (approx. 2nd and 3rd deciles)	√	√	√	√
INC_HIGH	Persons with stated annual household equivalised income greater than $52,000 (approx. 9th and 10th deciles)			√	√
NOQUAL	Persons aged 15 years and over with no post-school qualifications	√	√	√	√
NOSCHOOL	Persons aged 15 years and over who did not go to school	√			
NOYEAR12	Persons aged 15 years and over whose highest level of schooling completed is Year 11 or lower		√		√
ATUNI	Persons aged 15 years and over at university or other tertiary institution			√	
DIPLOMA	Persons aged 15 years and over with an advanced diploma or diploma qualification			√	
DEGREE	Persons aged 15 years and over has a degree or higher qualification				√
UNEMPLOYED	Persons (in the labour force) who are unemployed	√		√	
OCC_DRIVERS	Persons employed in the sector classified as Machinery Operators and Drivers	√		√	
OCC_LABOUR	Persons employed in the sector classified as Labourers	√		√	
OCC_SERVICE_L	Persons employed in the sector classified as Low-Skill Community and Personal Service Workers	√		√	
OCC_PROF	Persons employed in the sector classified as Professionals			√	√
LOWRENT	Persons in an occupied private dwelling or households paying less than $120 rent per week (not $0)	√	√	√	√
OVERCROWD	Occupied private dwellings requiring one or more extra bedrooms (based on Canadian national Occupancy Standard)	√		√	
RENT_SOCIAL	Persons or households renting dwelling from a government or community organisation	√	√	√	√
HIGHBED	Occupied private dwellings with four or more bedrooms			√	
HIGHMORTGAGE	Households paying mortgage who pay more than $2,120 per month			√	
HIGHRENT	Households paying rent who pay more than $290 per week			√	
DISABILITYU70	Persons aged under 70 who need assistance with core activities due to a long-term health condition, disability or old age	√		√	
ENGLISHPOOR	Persons who do not speak English well	√			
INDIGENOUS	Persons who identified themselves as being of Aboriginal and/or Torres Strait Islander origin	√	√		
NOCAR	Occupied private dwelling (or person residing in such) with no cars	√	√	√	
NONET	Occupied private dwelling (or person residing in such) with no internet connection	√	√	√	√
ONEPARENT	Families that are one parent families with dependent offspring only	√		√	
DIVORCED	Persons aged 15 and over who are separated or divorced	√		√	
BROADBAND	Occupied private dwelling (or person residing in such) with a broadband connection			√	√

APPENDIX B – SUPPLEMENTARY DATA TABLES[1]

List of Supplementary Data Tables

Table B1:	Percentage distributions of SEIFI IRSD Group by state or territory (15-64 year old population)	43
Table B2:	ACT suburbs with 15% or more in Group 1 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)	43
Table B3:	ACT suburbs with 10% or more in Group 1 of SEIFI IRSD and SEIFA IRSD of 10 (15-64 year old population)	44
Table B4:	ACT suburbs with 15% or more in Group 2 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)	44
Table B5:	ACT suburbs with less than 30% in Group 4 SEIFI IRSD (15-64 year old population)	45
Table B6:	Frequency table of SEIFI IRSD Groups by SEIFA IRSD decile score of collection district of residence (15-64 year old population)	45
Table B7:	ACT CDs with 'diverse' populations aged 15-64 (>19.37% in Group 1 SEIFI IRSD and >30.03% in Group 4 SEIFI IRSD) with SEIFA of 7 or higher	45
Table B8:	ACT CDs with 20% or more in Group 1 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)	46
Table B9:	CDs with 20% or more in Group 2 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)	47
Table B10:	CDs with more than in Group 1 SEIFI IRSD in suburbs with SEIFA IRSD of 8 or higher (15-64 year old population)	48

[1] Percentages in red text indicate above average proportions of Group 1 or Group 4 populations aged 15-64 in area

Table B1: Percentage distributions of SEIFI IRSD Group by state or territory (15-64 year old population)

SEIFI IRSD Group	NSW	VIC	QLD	SA	WA	Tas.	NT	ACT	OT
Group 1	19.2	18.1	19.8	23.1	17.6	27.4	31.2	12.6	42.8
Group 2	18.6	19.5	21.0	21.7	20.4	24.3	16.1	11.4	15.4
Group 3	30.6	31.5	31.1	30.1	31.6	27.7	25.6	32.8	20.0
Group 4	31.6	30.9	28.2	25.1	30.5	20.6	27.1	43.2	21.8

Table B2: ACT suburbs with 15% or more in Group 1 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)

Suburb	% of population by SEIFI IRSD Group				SEIFA 2006 IRSD Decile	Resident Population aged 15-64	Usual Resident Population (all ages)
	1	2	3	4			
Richardson	24%	18%	32%	25%	5	2334	3231
Reid	23%	3%	18%	56%	5	1248	1605
Page	20%	11%	30%	39%	6	1672	2694
Scullin	20%	13%	31%	37%	6	1935	2794
Lyons	20%	9%	29%	42%	6	1669	2442
Holt	19%	15%	32%	34%	6	3255	4697
Belconnen	19%	6%	30%	46%	6	2657	3057
Florey	18%	12%	32%	39%	7	3715	5107
Lyneham	18%	8%	28%	47%	7	3163	4320
Dickson	17%	8%	27%	48%	7	1395	1948
Gilmore	17%	18%	36%	29%	7	2037	2905
Downer	17%	8%	29%	45%	7	2308	3370
Narrabundah	17%	8%	26%	49%	7	3785	5526
Higgins	17%	14%	32%	37%	7	2149	3024
Ainslie	17%	6%	25%	52%	7	3257	4814
Rivett	16%	13%	31%	39%	8	2228	3070
Macquarie	16%	9%	30%	44%	7	1640	2385
Spence	16%	14%	32%	38%	8	1821	2595
Oxley	16%	14%	34%	37%	8	1312	1790
Isabella Plains	15%	19%	36%	31%	8	3045	4316
Banks	15%	17%	37%	30%	8	3296	4904
Macgregor	15%	16%	35%	34%	8	2566	3485
Kambah	15%	14%	33%	38%	8	11421	15579

Table B3: ACT suburbs with 10% or more in Group 1 of SEIFI IRSD and SEIFA IRSD of 10 (15-64 year old population)

Suburb	% of population by SEIFI IRSD Group				SEIFA 2006 IRSD Decile	Resident Population aged 15-64	Usual Resident Population (all ages)
	1	2	3	4			
City	11%	5%	23%	60%	10	656	722
Kingston	11%	4%	25%	60%	10	2129	2451
Holder	10%	11%	33%	46%	10	1808	2610
Duffy	10%	11%	32%	47%	10	2026	2942
Harrison	10%	12%	34%	45%	10	225	304
Hawker	10%	7%	30%	53%	10	1995	2827
Fraser	10%	12%	33%	45%	10	1604	2157

Table B4: ACT suburbs with 15% or more in Group 2 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)

Suburb	% of population by SEIFI IRSD Group				SEIFA 2006 IRSD Decile	Resident Population aged 15-64	Usual Resident Population (all ages)
	1	2	3	4			
Fyshwick	10%	41%	33%	16%	6	54	56
Pialligo	6%	21%	38%	35%	10	111	90
Bonner	10%	20%	50%	20%	6	17	8
Isabella Plains	15%	19%	36%	31%	8	4316	3045
Richardson	24%	18%	32%	25%	5	3231	2334
Gilmore	17%	18%	36%	29%	7	2905	2037
Banks	15%	17%	37%	30%	8	4904	3296
Chisholm	13%	17%	40%	30%	8	5379	3895
Conder	11%	17%	39%	33%	9	5052	3422
Theodore	14%	17%	38%	32%	8	4108	2809
Macgregor	15%	16%	35%	34%	8	3485	2566
Gordon	12%	16%	38%	35%	9	7869	5412
Dunlop	12%	16%	37%	35%	9	5849	4037
Calwell	10%	16%	37%	37%	9	5927	4156
Latham	14%	16%	34%	37%	9	3687	2627
Holt	19%	15%	32%	34%	6	4697	3255
Monash	11%	15%	37%	37%	9	5548	4016
Greenway	13%	15%	29%	44%	8	1130	832

Table B5: ACT suburbs with less than 30% in Group 4 SEIFI IRSD (15-64 year old population)

Suburb	% of population by SEIFI IRSD Group				SEIFA 2006 IRSD Decile	Resident Population aged 15-64	Usual Resident Population (all ages)
	1	2	3	4			
Gilmore	17%	18%	36%	29%	7	2037	2905
Charnwood	26%	16%	32%	26%	4	2140	3020
Richardson	24%	18%	32%	25%	5	2334	3231
Bonner	10%	20%	50%	20%	6	8	17
Fyshwick	10%	41%	33%	16%	6	56	54
Symonston	40%	23%	23%	14%	1	343	469

Table B6: Frequency table of SEIFI IRSD Groups by SEIFA IRSD decile score of collection district of residence (15-64 year old population)

SEIFI IRSD Group	SEIFA IRSD Decile										
	1	2	3	4	5	6	7	8	9	10	Total
1	944	783	1,074	2,183	1,851	4,052	5,026	5,479	4,115	3,132	28,639
2	175	197	423	1,108	1,092	2,953	4,184	5,318	5,273	5,277	26,001
3	483	496	1,052	2,572	2,666	6,640	10,491	14,410	15,196	20,462	74,467
4	632	835	1,414	3,237	3,259	7,661	12,798	17,764	19,484	31,178	98,262
Total	2,234	2,311	3,962	9,100	8,868	21,306	32,500	42,971	44,068	60,049	227,369

Table B7: ACT CDs with 'diverse' populations aged 15-64 (>19.37% in Group 1 SEIFI IRSD and >30.03% in Group 4 SEIFI IRSD) with SEIFA of 7 or higher

CD code	Suburb	% of population by SEIFI IRSD Group				SEIFA 2006 IRSD Decile	Resident Pop. aged 15-64	Usual Resident Pop. (all ages)
		1	2	3	4			
8022401	Kambah	26%	9%	24%	42%	8	175	229
8020804	Mawson	23%	7%	28%	42%	7	385	424
8013005	Lyneham	23%	9%	28%	41%	7	166	179
8010104	Unclassified ACT	22%	13%	27%	38%	9	61	65
8011803	Page	21%	10%	32%	36%	7	460	617
8021702	Unclassified ACT	21%	9%	26%	44%	9	42	65
8013101	Downer	20%	9%	26%	44%	7	422	619
8010505	Palmerston	20%	10%	34%	35%	7	375	514

Table B8: ACT CDs with 20% or more in Group 1 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)

CD code	Suburb	% of population by SEIFI IRSD Group				SEIFA 2006 IRSD Decile	Resident Pop. aged 15-64	Usual Resident Pop. (all ages)
		1	2	3	4			
8024101	Unclassified ACT	31%	10%	26%	33%	5	55	85
8012902	O'Connor	27%	5%	21%	47%	5	228	304
8023104	Richardson	26%	16%	33%	25%	6	565	770
8011805	Page	26%	10%	30%	35%	5	306	435
8022401	Kambah	26%	9%	24%	42%	8	175	229
8013203	Watson	25%	10%	23%	42%	5	450	647
8021002	Phillip	25%	7%	31%	38%	6	253	280
8011404	Holt	24%	17%	30%	29%	6	507	740
8011704	Florey	24%	11%	29%	36%	6	648	894
8023102	Richardson	24%	19%	31%	26%	5	739	1048
8022507	Wanniassa	24%	15%	33%	28%	6	570	774
8020804	Mawson	23%	7%	28%	42%	7	385	424
8011401	Holt	23%	16%	33%	27%	5	465	706
8021802	Rivett	23%	10%	28%	39%	5	398	554
8022311	Kambah	23%	14%	28%	35%	6	371	517
8010519	Ngunnawal	23%	16%	26%	35%	5	355	507
8013009	Lyneham	23%	9%	26%	43%	6	379	533
8013005	Lyneham	23%	9%	28%	41%	7	166	179
8022309	Kambah	23%	15%	28%	34%	6	373	539
8024001	Unclassified ACT	23%	28%	33%	18%	7	41	56
8024409	Gordon	22%	16%	32%	29%	5	467	665
8010104	Unclassified ACT	22%	13%	27%	38%	9	61	65
8015003	Narrabundah	22%	11%	26%	42%	5	502	660
8023602	Isabella Plains	21%	19%	28%	31%	6	347	493
8023803	Calwell	21%	15%	33%	31%	5	414	564
8011803	Page	21%	10%	32%	36%	7	460	617
8011802	Page	21%	12%	30%	37%	6	480	661
8011706	Florey	21%	12%	32%	35%	5	499	689
8021702	Unclassified ACT	21%	9%	26%	44%	9	42	65
8013007	Lyneham	21%	8%	27%	44%	6	632	826
8011702	Florey	20%	12%	33%	34%	5	592	805
8013101	Downer	20%	9%	26%	44%	7	422	619
8010807	Evatt	20%	15%	30%	34%	6	498	727
8013403	Dickson	20%	10%	26%	44%	5	206	327
8013105	Downer	20%	9%	28%	42%	6	422	654

Table B9: CDs with 20% or more in Group 2 SEIFI IRSD and SEIFA IRSD of 5 or higher (15-64 year old population)

CD code	Suburb	% of population by SEIFI IRSD Group				SEIFA 2006 IRSD Decile	Resident Pop. aged 15-64	Usual Resident Pop. (all ages)
		1	2	3	4			
8010105	Fyshwick	10%	41%	33%	16%	6	56	54
8024001	Unclassified ACT	23%	28%	33%	18%	7	41	56
8010108	Pialligo	6%	21%	38%	35%	10	90	111
8023604	Isabella Plains	17%	21%	34%	28%	6	491	677
8023605	Isabella Plains	16%	21%	38%	25%	7	557	783
8023103	Richardson	19%	21%	34%	26%	7	486	660
8021411	Banks	19%	20%	35%	26%	6	434	656
8024402	Gordon	9%	20%	40%	30%	9	447	708
8011205	Dunlop	13%	20%	38%	29%	8	799	1178
8010110	Bonner	10%	20%	50%	20%	6	8	17
8023003	Chisholm	13%	20%	41%	27%	7	658	915

Table B10: CDs with more than in Group 1 SEIFI IRSD in suburbs with SEIFA IRSD of 8 or higher (15-64 year old population)[2]

CD code	Suburb	% of population by SEIFI IRSD Group				CD SEIFA 2006 IRSD Decile	Suburb SEIFA 2006 IRSD Decile	Resident Pop. aged 15-64	Usual Resident Pop. (all ages)
		1	2	3	4				
8014302	Kingston	82%	8%	1%	9%	1	10	78	129
8012805	Turner	69%	8%	1%	22%	1	8	155	206
8014903	Red Hill	48%	4%	15%	33%	1	9	320	442
8022511	Wanniassa	34%	9%	31%	26%	2	8	305	430
8023001	Chisholm	33%	16%	27%	24%	3	8	536	761
8022304	Kambah	32%	13%	28%	27%	3	8	324	443
8014402	Griffith	32%	5%	16%	47%	2	9	319	374
8020701	Torrens	30%	10%	21%	38%	4	9	309	458
8023902	Theodore	28%	18%	26%	28%	4	8	406	592
8024301	Bonython	28%	11%	24%	37%	4	9	405	503
8011903	Hawker	28%	9%	22%	41%	3	10	384	466
8022409	Kambah	27%	18%	31%	25%	4	8	416	568
8012902	O'Connor	27%	5%	21%	47%	5	9	228	304
8022306	Kambah	26%	13%	26%	34%	4	8	190	270
8014407	Griffith	26%	3%	22%	49%	3	9	286	341
8022401	Kambah	26%	9%	24%	42%	8	8	175	229
8013203	Watson	25%	10%	23%	42%	5	8	450	647
8021002	Phillip	25%	7%	31%	38%	6	9	253	280
8022312	Kambah	24%	10%	30%	35%	4	8	386	494
8022507	Wanniassa	24%	15%	33%	28%	6	8	570	774
8020804	Mawson	23%	7%	28%	42%	7	9	385	424
8021802	Rivett	23%	10%	28%	39%	5	8	398	554
8010122	Harrison	23%	15%	42%	19%	2	10	24	32
8022311	Kambah	23%	14%	28%	35%	6	8	371	517
8010519	Ngunnawal	23%	16%	26%	35%	5	9	355	507
8022309	Kambah	23%	15%	28%	34%	6	8	373	539
8024409	Gordon	22%	16%	32%	29%	5	9	467	665
8023602	Isabella Plains	21%	19%	28%	31%	6	8	347	493
8023803	Calwell	21%	15%	33%	31%	5	9	414	564

[2] Excludes 'Unclassified ACT' collection districts 8024101, 8024001, 8010104, and 8021702