Socio-Economic Index for Areas In Greater Western Sydney

By Jawed Gebrael, Social Research and Information Officer, WESTIR Ltd

August 2018
CENSUS 2016 TOPIC PAPER:
Socio-Economic Index for Areas in
Greater Western Sydney

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Acknowledgement of Country / Statement of Commitment
We respectfully acknowledge the traditional custodians of the land which Western Sydney covers, the Dharug people of the Dharug Nation, and pay our respects to Elders past and present. We acknowledge that Dharug people were the first people of the Western Sydney area and have striven to retain their culture, identity and special connection with country for more than two centuries of non-Aboriginal and Torres Strait Islander settlement. We recognise the valuable contribution made by Dharug people to the local community in working towards a future of mutual harmony and respect.

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Introduction

The Socio-Economic Index for Areas (SEIFA) is a useful tool for identifying relative levels of socio-economic advantage and disadvantage in Australia based on Census Data collected and compiled by the Australian Bureau of Statistics (ABS).

The main purpose of this paper is to explore socio-economic advantage and disadvantage in Greater Western Sydney through 2016 SEIFA data. This paper will briefly explain SEIFA, exploring the purpose behind it, how it is constructed; outline the four indexes designed to measure socio-economic advantage and disadvantage; and identify specific characteristics of SEIFA, focusing on the appropriate use of the indexes and limitations of this measure.

The main body of the paper will explore the levels of advantage and disadvantage in Greater Western Sydney LGAs, comparing them with Local Government Areas in Sydney and the surrounding area.

What is SEIFA?

SEIFA is a measure of relative socio-economic advantage and disadvantage, broadly defined by the ABS in terms of “people’s access to material and social resources, and their ability to participate in society” (Australian Bureau of Statistics, 2018, p. 6). It is a set of indexes devised by the ABS based on the five-yearly Census, each focusing on a different aspect of socio-economic advantage and disadvantage. The indexes are calculated based on specific variables identified in the Census that measure levels of advantage and disadvantage.

Index scores are initially calculated at the Statistical Area Level 1 (SA1) - small geographic areas of between 200 to 800 persons, with an average population of 400. The scores at SA1 have been standardised to a mean of 1000, with a standard deviation of 100. Areas with a score above 1000 are considered to be relatively advantaged, while areas with a score below are considered to be relatively disadvantaged.

It is important to be aware of some other specific features of SEIFA when interpreting the data. Index scores are ordinal measures designed to rank areas based on their relative level of disadvantage/advantage. The individual scores themselves purely identify where an area ranks relative to other areas and are not quantifiable. For instance, an area with a score of 1000 is not twice as advantaged as an area with a score of 500.

SEIFA is also designed as a tool for comparing areas at a particular point in time. SEIFA is not particularly suited for measuring trends over time for a number of factors: areas can change over time due to changing population size or boundary lines, variables used to calculate scores may change, and scores are not quantifiable measures that remain consistent over time (e.g. a score of 800 in 2011 is not necessarily equivalent to a score of 800 in 2016). More information on how SEIFA scores are calculated can be found in the ABS Technical Paper: Socio-Economic Indexes for Areas (SEIFA).
The Four Indexes of SEIFA

SEIFA is comprised of four indexes measuring different dimensions of advantage and disadvantage. They are the:

- Index of Relative Socio-Economic Disadvantage
- Index of Relative Socio-Economic Advantage and Disadvantage
- Index of Economic Resources
- Index of Education and Occupation

*The Index of Relative Socio-Economic Disadvantage (IRSD)* ranks areas on a continuum from most disadvantaged to least disadvantaged. Areas with a low score have a relatively high proportion of disadvantaged people while areas with a high score have a relatively low proportion of disadvantaged people. However, this bears no reflection on the level of advantage in an area as there are no variables included in this index to measure advantage. Therefore, an area with a high score (i.e., low level of disadvantage) does not necessarily have a high incidence of advantage.

*The Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD)* ranks areas on a continuum from least advantaged/most disadvantaged to most advantaged/least disadvantaged. An area with a high score has a relatively high incidence of advantage coupled with a relatively low incidence of disadvantage. The IRSAD incorporate variables measuring both advantage and disadvantage unlike the IRSD which only incorporates variables for disadvantage. Because of the scores for the IRSD and IRSAD in an area has the potential to differ substantially.

*The Index of Economic Resources (IER)* summarises factors relating to financial aspects of relative advantage and disadvantage, including levels of wealth and income. Areas with higher scores indicate a high proportion of people with high incomes and relatively greater access to economic resources (e.g., assets, wealth) while areas with lower scores have a high proportion of people with low incomes and relatively low access to economic resources.

*The Index of Education and Occupation (IEO)* measures the level of educational attainment and occupation in an area. Areas with relatively high scores comprise a high proportion of people with high qualifications and/or highly skilled occupations, while areas with relatively lower scores indicate a high proportion of people with low/no qualifications, no jobs and/or low-skilled jobs. It is important to note that areas with high scores on this measure do not necessarily correlate with relatively greater economic resources, namely income levels. For example, an area may have a high proportion of undergraduates and young graduate university students yet to find employment in their field. Conversely areas with low scores do not directly correlate with low economic resources as some areas may have a highly paid, but low skilled workforce.
Greater Western Sydney and the surrounding areas

This section will present the SEIFA data for Greater Western Sydney (GWS) in comparison with Greater Sydney, and adjacent LGAs Wingecarribee and Lithgow.

GWS is made up of the following 13 local government areas (LGAs):

- Blacktown
- Blue Mountains
- Camden
- Campbelltown
- Canterbury – Bankstown
- Cumberland
- Fairfield
- Hawkesbury
- Liverpool
- Parramatta
- Penrith
- The Hills Shire
- Wollondilly

Table 1 presents the scores and deciles for LGAs in Greater Sydney and the surrounding area. The deciles split LGAs across Australia into 10 equal groups, ranking them from 1 (the lowest) to 10 (the highest). A decile of 1 means an LGA ranks in the bottom 10% of LGAs; a decile of 2 means an LGA sits in the next 10% (11-20%), and so forth.

When compared with Greater Sydney across the four indexes the LGAs in GWS generally have a higher proportion of disadvantage and a lower proportion of advantage. Some notable exceptions to this trend include The Hills Shire, Blue Mountains and Hawkesbury, which rank in either the 9th or 10th decile in all four indexes.
<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Index of Relative Socio-economic Disadvantage</th>
<th>Index of Relative Socio-economic Advantage and Disadvantage</th>
<th>Index of Economic Resources</th>
<th>Index of Education and Occupation</th>
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</table>

Index of Relative Socio-Economic Disadvantage

Five GWS LGAs are placed between 1st and 4th deciles, indicating that there is a relatively high proportion of disadvantaged people in these areas (See Figure 1). Among them were Cumberland, Canterbury-Bankstown and Liverpool, with Fairfield being the only one sitting in the 1st decile (ie. bottom 10 percent). Six LGAs, including the Blue Mountains, Parramatta and the Hills Shire, ranked in the 8th to 10th deciles, or top 30%, indicating a low percentage of disadvantaged people in these areas.

Figure 1. Index of Relative Socio-Economic Disadvantage by percentile, LGAs in Greater Sydney and surrounding areas, 2016

Index of Relative Socioeconomic Advantage and Disadvantage

The trend is similar for IRSAD where GWS LGAs have a lower incidence of advantage and higher incidence of disadvantage relative to other LGAs in Greater Sydney (See Figure 2). When compared to all LGAs in Australia, however, only three out of 13 Western Sydney LGAs sit in the bottom half – Fairfield, Campbelltown and Cumberland. On the other hand, eight rank in the top 30% - with Parramatta and the Hills Shire in the top 10%, indicating a relatively high proportion of advantaged people coupled with a low proportion of disadvantaged people. Interesting to note are the contrasting levels of disadvantage and advantage for Canterbury-Bankstown and Liverpool. While both maintain a relatively high proportion of disadvantaged people, placing in the 3rd and 4th deciles for IRSD respectively, their IRSAD scores, placing them both in the 6th decile, indicate that they are also home to a significant proportion of advantaged people. These contrasting scores succinctly illustrate the limitations of focusing on one index that only measures socio-economic disadvantage, as it can cloud the overall picture.

Figure 2. Index of Relative Socio-Economic Advantage and Disadvantage by percentile, LGAs in Greater Sydney and surrounding areas, 2016

Index of Economic Resources
When comparing LGAs in Sydney in terms of economic resources GWS fares quite well. GWS Only three appear in the bottom 30% (Cumberland, Fairfield and Canterbury Bankstown) of LGAs in Australia, though none of these appear in the bottom 10%. Parramatta however, places in the 6th decile, a relatively low ranking compared to its rank in the other three indexes, where it places in either the 9th or 10th decile. Interestingly, City of Sydney Council is the only LGA from Greater Sydney area and surrounding areas that appears in the 1st decile for IEO. While this is surprising, given that it ranks either in the 9th or 10th decile in the other three indexes, it could be an indication of a highly educated, skilled population coupled with a low-income base with few assets – for example, a high proportion of university students with low home ownership rate. Liverpool, on the other hand places in the 8th decile, noticeably higher than its ranking in the other three indexes. Seven other GWS LGAs, including Blacktown, Penrith, Camden and The Hills Shire, rank in the top 30%.

Figure 3. Index of Economic Resources by percentile, LGAs in Greater Sydney and surrounding areas, 2016

Index of Education and Occupation

The greatest disparity between GWS and the rest of Sydney appears when comparing education and occupation (See Figure 4). Although GWS LGAs do not perform poorly compared to LGAs nationwide, they do make up 10 of the bottom 12 LGAs in Sydney and surrounding areas, the other two being Lithgow and Central Coast. No LGA from GWS appears in the top 15, although again this is misleading. Six out of 13 LGAs in GWS appear in the 7th to 10th deciles, with Blue Mountains, Parramatta and the Hills Shire, appearing in the top two deciles. In fact, 25 of the 37 Greater Sydney and surrounding areas sit in the top two deciles. Generally, this indicates that there is a relatively high rate of employment and a high proportion of highly educated, skilled professionals residing in Greater Sydney.

Figure 4. Index of Education and Occupation by percentile, LGAs in Greater Sydney and surrounding areas, 2016

Greater Western Sydney LGAs: Index of Relative Socio-Economic Advantage and Disadvantage

This section will focus on how GWS LGAs perform on the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD), with a map for each GWS LGA using IRSAD data provided at the end of this section. The reason for focusing on the IRSAD is that while the other three indexes maintain a fairly narrow focus on disadvantage or particular socio-economic indicators of advantage/disadvantage, this index takes into account the proportion of advantaged and disadvantaged people in a particular area across a variety of variables related to education, employment, occupation, income, housing, and “other miscellaneous variables” (ABS, 2018). If you would like further information about the other three indexes, please contact Westir Ltd. on (02) 9635 7764.

Blacktown
Based on the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) Blacktown maintains a relatively high level of advantage. The LGA is in 8th decile, placing them above 70% of LGAs across Australia on this measure. As can be seen in the map below (See Figure 6) the prevailing pattern is that the most highly disadvantaged areas are clustered within the Mount Druitt (southwest) precinct; the relatively more advantaged areas are located in the Blacktown (southeast) precinct; while the most highly advantage areas can be found within the North-West precinct, particularly on the eastern side of the train line. There are, however, pockets of high disadvantage spread beyond the Mount Druitt precinct in Glendenning, Marayong, Woodcroft, Blacktown and Seven Hills. In addition, while there is a high level of advantage in the North-West precinct there are areas with high disadvantage in Rouse Hill, small areas in Stanhope Gardens, Riverstone, and Lalor Park, adjacent to Seven Hills.

Blue Mountains
There is a relatively high level of advantage and low disadvantage in the Blue Mountains with a score placing it in the 9th decile of the IRSAD. Higher levels of advantage appear particularly in the east as well in Leura and Wentworth Falls. While there is a higher proportion of disadvantage concentrated in the western half, particularly in Katoomba and Mount Victoria, the level of disadvantage remains low. A number of suburbs located along the railway, including Blackheath, Katoomba, and Springwood tend to have stronger concentrations of disadvantage/low advantage though it is not the case across the LGA.

Camden
There are relatively high levels of advantage and low disadvantage in Camden (9th decile for IRSAD), particularly around the central belt. There are still areas with relatively high levels of disadvantage in the north-east corner and in pockets in the southern half, especially in Narellan and Grasmere, the only area with a score below 856. While there are particular suburbs that can be regarded as low advantage/high disadvantage areas (Smeaton Grange and Narellan) most suburbs in Camden Council are characterised by a mixture of relatively advantaged areas and relatively disadvantaged areas.

Campbelltown
On this measure Campbelltown sits below the median, in the 5th decile for IRSAD. The corridor from north-east to south-west along the train line comprises a high proportion of relatively low advantage/high disadvantage areas, particularly on the eastern side of the line. There appear to be areas with a high
proportion of disadvantaged people in Claymore, Airds and Macquarie Fields, areas with a high proportion of public housing tenants. Campbelltown contains suburbs with a high incidence of high advantage/low disadvantage, particularly in the northern corner and in larger suburbs west of the train line including Wedderburn, Minto Heights and Kentlyn.

**Canterbury-Bankstown**
Canterbury-Bankstown is a newly formed LGA, an amalgamation of the previously separate councils of Bankstown and Canterbury prior to 2016. Canterbury-Bankstown maintains a relatively even mix of high advantage and low disadvantage, sitting in the 6th decile. Relatively low scores can be across the LGA, particularly in north-west corner, with pockets of high disadvantage around Riverwood and Narwee. The more advantaged areas appear around the south-west and eastern corners of the LGA. With the exception of Hurlstone Park and Potts Hill, one distinct trend is that the most disadvantaged areas are concentrated along the railway lines (particularly the Bankstown line) with the level of advantage gradually increasing as areas move further away from the train lines.

**Cumberland**
Cumberland is a new LGA established as a result of council amalgamations in 2016, incorporating the council of Holroyd and the southern, notably less affluent parts of Auburn and Parramatta Councils (the old LGA boundaries can be identified in Westir's 2011 SEIFA Census Topic Paper, available on our website [www.westir.org.au](http://www.westir.org.au) under the ‘Census’ tab). Council amalgamations such as this contribute to the difficulty of comparing SEIFA results of councils over time, as councils are merged together or redrawn along different boundary lines. Cumberland remains a relatively disadvantaged area (5th decile). The more disadvantaged areas mostly appear around the centre and predominantly east of the Inner West/Leppington train line, particularly in Granville, Guildford, Merrylands, Auburn and Regents Park. There is one other pocket of high disadvantage located in Pendle Hill. The high advantage areas are predominantly located in the far west in Pemulwuy, and Lidcombe in the south east corner.

**Fairfield**
Fairfield appears to be the most disadvantaged LGA, with a high proportion of disadvantaged areas and low proportion of advantaged areas in Greater Sydney, placing it in the 2nd decile nationwide. Across Fairfield there is a high proportion of relatively low advantage/high disadvantage areas, most notably within the eastern half of the LGA and particularly pronounced in the suburbs of Fairfield, Cabramatta, Bonnyrigg, Carramar and Villawood. There are some isolated areas with relatively high levels of advantage in central suburbs including Bossley Park, Bonnyrigg, and Abbotsbury.

**Hawkesbury**
The population of Hawkesbury is predominantly situated in the south eastern corner of the LGA. Although the area has seen expanding development since the 2011 Census, it remains sparsely populated in the north. Hawkesbury is characterised by high levels of advantage and low disadvantage, most notably along the central ribbon from Kurrajong to Yarramundi. However, there are a few areas with relatively low IRSAD scores, with an especially high concentration in Wilberforce, and the south eastern corner around South Windsor and Mulgrave.
Liverpool
A mixture of both highly advantaged and disadvantaged areas sees Liverpool sitting in the 6th decile, above the median for LGAs across Australia. High levels of disadvantage are particularly concentrated in one pocket along the northern border, particularly in Sadleir, Busby and Ashcroft with scores almost exclusively between 400 and 856. Suburbs further east along the train line, in Liverpool and Lurnea, also show a high proportion of disadvantaged areas. There are some suburbs with above average and high levels of advantage along the channel between Cecil Hills and Denham Court, as well as suburbs in the east.

Parramatta
Overall the Parramatta LGA can be characterised as a highly advantaged area, ranking in the 10th decile of LGAs in the IRSAD. The most highly advantaged areas are in the northern suburbs and around the Sydney Olympic Park precinct in the northeast. There are small pockets of highly disadvantaged areas in Parramatta, Constitution Hill and Telopea (scores between 400 and 856), with a cluster of relatively disadvantaged areas (scores between 856 and 946) in Ermington and Rydalmere. One important thing to be mindful of is that the make-up of Parramatta LGA has changed dramatically since 2011. Since council amalgamations in 2016 the highly disadvantaged areas within Parramatta Council, which included Granville, Merrylands and Guildford, were transferred to the new council area of Cumberland, while highly advantaged areas around Olympic Park, Newington and the northern half of Lidcombe were absorbed by Parramatta Council.

Penrith
Penrith LGA maintains a generally high level of advantage (8th decile) with some pockets of high disadvantage. From the map of Penrith LGA we can see that the belt through the centre, along the railway line, is where highly disadvantaged areas are concentrated, most notably in the suburbs of Penrith, Kingswood, and St Marys. Other more centrally located areas with higher levels of advantage include Cambridge Gardens, Cambridge Park, Werrington Downs, Werrington County and South Penrith. The most highly advantaged suburbs include Mulgoa, Luddenham and Badgerys Creek in the southern half of Penrith LGA, and the more centrally located suburbs of Penrith, Jordan Springs, Caddens and Claremont Meadows.

The Hills Shire
The Hills Shire has the highest level of advantage in Greater Western Sydney, sitting in the 98th percentile. The majority of the population, where the level of advantage remains high, is located in the southern half of the LGA, with population density steadily decreasing further north. Unlike some other LGAS in GWS, greater population density does not correlate with higher levels of disadvantage and low advantage. One notable change is that there is much less parkland since the previous Census in 2011.

Wollondilly
The population of Wollondilly is located within the eastern half of the LGA with the western half dedicated to national parkland. The area is not densely populated even when excluding the region covered by parkland. With only a few small areas in Warragamba (far north) and Tahmoor (in the south) with scores below 946, Wollondilly maintains a high level of advantage. The most highly advantaged areas include Wilton, Maldon, Picton, Orangeville and Razorback, Interestingly the most advantaged areas do not appear directly adjacent to any parkland.
Figure 5. Greater Western Sydney

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Greater Western Sydney, 2016

Legend
- LGA Boundary
- National Park
- State Park
- SEIFA Advantage/Disadvantage Index by SA1
  - 400 to 856
  - 856 to 946
  - 946 to 1,017
  - 1,017 to 1,088
  - 1,088 to 1,239
  - all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia 2018
Produced by WESTIR LTD
Figure 6. Blacktown

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Blacktown, 2016

Legend
- LGA Boundary
- Suburb Boundary
- National Park
- State Park
- Railway Line

SEIFA Advantage/Disadvantage Index by SA1
- 400 to 856
- 856 to 946
- 946 to 1,017
- 1,017 to 1,088
- 1,088 to 1,239
- all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia 2018
Produced by WESTIR LTD
Figure 7. Blue Mountains

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Blue Mountains,

Legend

- LGA Boundary
- Suburb Boundary
- National Park
- State Park
- Railway Line

SEIFA Advantage/Disadvantage Index by SA1

- 400 to 856
- 856 to 946
- 946 to 1,017
- 1,017 to 1,088
- 1,088 to 1,239
- all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia
2018
Produced by WESTIR LTD
Figure 8. Camden

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Camden, 2016

Legend
- LGA Boundary
- Suburb Boundary
- National Park
- State Park
- Railway Line

SEIFA Advantage/Disadvantage Index by SA1
- 400 to 856
- 856 to 946
- 946 to 1,017
- 1,017 to 1,088
- 1,088 to 1,239
- all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia
2018
Produced by WESTIR LTD
Figure 9. Campbelltown

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Campbelltown, 2016
Figure 10. Canterbury-Bankstown
Figure 11. Cumberland

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Cumberland, 2016

Legend
- LGA Boundary
- Suburb Boundary
- National Park
- State Park
- Railway Line

SEIFA Advantage/Disadvantage Index by SA1
- 400 to 856
- 856 to 946
- 946 to 1,017
- 1,017 to 1,098
- 1,098 to 1,239
- all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia
2018
Produced by WESTIR LTD
Figure 13. Hawkesbury (south)
Figure 14. Liverpool

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Liverpool, 2016

Legend
- LGA Boundary
- Suburb Boundary
- National Park
- State Park
- Railway Line

SEIFA Advantage/Disadvantage Index by SA1
- 400 to 856
- 856 to 946
- 946 to 1,017
- 1,017 to 1,088
- 1,088 to 1,239
- all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia
2018
Produced by WESTIR LTD
Figure 15. Parramatta

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Parramatta, 2016

[Map of Parramatta with SEIFA index colors and legend]

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia 2018
Produced by WESTIR LTD
Figure 16. Penrith

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Penrith, 2016

Legend
- LGA Boundary
- Suburb Boundary
- National Park
- State Park
- Railway Line

SEIFA Advantage/Disadvantage Index by SA1
- 400 to 855
- 856 to 946
- 946 to 1,017
- 1,017 to 1,088
- 1,088 to 1,239
- all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia
2018
Produced by WESTIR LTD
Figure 17. The Hills Shire

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - The Hills Shire, 2016

Legend
- LGA Boundary
- Suburb Boundary
- National Park
- State Park
- Railway Line

SEIFA Advantage/Disadvantage Index by SA1
- 400 to 856
- 856 to 946
- 946 to 1,017
- 1,017 to 1,088
- 1,088 to 1,239
- all others

Based on SA1 Boundaries
Source: 2016 Census
Commonwealth of Australia 2018
Produced by WESTIR LTD
Figure 18. Wollondilly

SEIFA Index of Relative Socio-Economic Advantage and Disadvantage - Wollondilly, 2016