

EXPERIMENTAL INDEXES OF INDIGENOUS SOCIO-ECONOMIC DISADVANTAGE

1. The Commission contracted the ABS to construct an experimental Index of Indigenous Socio-economic Disadvantage by ATSI¹ region.

2. The aim of the work was to provide general insights into the relative socio-economic characteristics of Indigenous people in the ATSI regions and provide a check on indicators of relative need the Commission constructed.

3. The Commission specified that, subject to feasibility and robustness of results, the analysis should:

- (i) bring as many Indigenous-specific dimensions of disadvantage as possible into the index, which, at the least, meant including Census data, and other data relating to health (for example, hospital inpatient and/or NATSIS² data), and access to services and infrastructure data (for example, CHINS³);
- (ii) construct a set of indexes along broad functional lines:
 - a **Habitat** Index, that would combine Health, Housing and Infrastructure; and
 - an **Economic** Index, that would combine Education, Training and Employment;
- (iii) construct a set of indexes along broad geographical lines:
 - an **Urban** Index; and
 - a **Rural/Remote** Index, based on a separate set of weights for these areas;
- (iv) advise whether more individual functional indexes could be constructed; and
- (v) consult widely with interested individuals and institutional stakeholders to obtain expert views based on experience.

¹ Or at the finer Indigenous Area (IA) level.

² National Aboriginal and Torres Strait Islanders Survey, 1994.

³ Community Housing and Infrastructure Needs Survey, 1999.

4. Disadvantage is a complex and subtle concept, especially as it relates to the Indigenous population whose culture differs in many respects from that of the non-Indigenous population. On this basis, the ABS considered as many data items as possible, covering many dimensions of socio-economic deprivation. The views of experts in Indigenous statistics were also sought and taken into account.

5. As part of the work, the ABS considered supplementing Census data with data from the 1999 CHINS, the hospital inpatient data collection, NATSIS and the National Perinatal data collection. It concluded that it was not possible to use data from CHINS (because they were not comprehensive) or from the hospital inpatient collection (because they suffered a number of problems, including a variation across States in the extent to which Indigenous people were identified). For NATSIS, the coverage was considered more complete, but the reliability of responses to some items varied. The ABS decided to use data that were considered reliable. Some under-identification was noted in the Perinatal data but they were considered to be sufficiently accurate to be used.

6. The selected data items were:

(i) classified into the following categories:

- levels of human capital (education),
- income levels,
- unemployment,
- housing,
- mobility, and
- family and occupation structure; and then

(ii) combined into a single index for each ATSI region, using a statistical technique called Principal Components Analysis.

7. The ABS concluded that it was feasible to construct indexes of Indigenous socio-economic disadvantage which are generally consistent with general expectations, local expert knowledge and opinion, and robust to different choice of variables and geographical boundaries. The ABS report has been reproduced in full in the volume of consultant's reports. The general conclusions are discussed below.

8. The ABS developed and tested 9 different indexes. Eight of these produce reasonably consistent rankings of the ATSI regions relative to each other, particularly when the 36 regions were grouped into quartiles. Comparisons of one index with another indicated that regions generally did not move between quartiles, although there was some movement within quartiles.

9. The most comprehensive of the experimental indexes was based on data from the Census, NATSIS and National Perinatal data. However, because NATSIS and

National Perinatal data are not available at a fine level of geography, this base index only allows analysis and rankings at the ATSI region level⁴.

10. Of the other indexes, the general Habitat index did not concur with ‘expert’ expectations in some areas of Western Australia. Similarly, the health index based on hospital separations data does not concur very well with the ranking of ATSI regions on the basis of the *base* index. The ABS suggested that this divergence might be due to the differences in the data sets used.

11. Submissions to the Inquiry generally indicated qualified support for the work. However, there was concern about the potential use (and misuse) of the indexes. The major concerns included the following:

- (i) The Index is completely data driven. It merely summarises many social indicators and does not provide insights into causal relations. This can make it difficult to interpret for specific purposes.
- (ii) It does not take account of cultural factors.
- (iii) It is only a ranking of disadvantage and says nothing about the size of the differences between two regions. Hence, it cannot be used in formulae for allocating funds.
- (iv) There are data quality problems — the Census does not cover some variables, data are old, there are population undercounts (for example, there are no data for much of the ‘AP’ Lands in South Australia), people may not correctly respond to Census questions and the data reflect where people were on Census night (not where they usually live).
- (v) Users can misinterpret and misuse the data.

12. Other submissions suggested that the work provided useful insights into Indigenous disadvantage (providing its limits are recognised) and provided a good basis for further development.

Overview

13. The caveats specified by the ABS restrict the use of the indexes, and place the onus on the users to adhere to them and give careful consideration to their use of the indexes. For example, the ABS emphasised the ordinal nature of the indexes (that is, they are only a ranking of regions from low to high disadvantage, and not a relative proportional measure of disadvantage). This means that it is not appropriate to use the indexes as the basis for funding distribution in a simple proportional sense.

⁴ Indexes constructed using only Census data could be examined on a smaller region basis, such as Indigenous areas.

14. The disadvantage indexes are generally higher for regions away from the metropolitan and major urban areas, particularly for extremely remote regions. This is consistent with most indicators the Commission constructed for individual functions.

15. That the ranking results for the ATSI regions were robust, particularly between quartiles, to variations in technical aspects of the analysis, choice of data items and geography is important. This generally suggests that, when socio-economic disadvantages are entrenched, several needs tend to be high at the same time.

16. Among other concerns, of particular note was the view of ATSI that non-inclusion of 'cultural, land and language' issues might 'undervalue' the indexes.

17. Statistical variables to capture the cultural dimension are difficult to incontrovertibly identify, and do not generally exist. The ABS did attempt to capture this by considering the proportion of Indigenous persons that DO NOT speak an Aboriginal or Torres Strait Island language as a proxy measure for cultural disadvantage. It was *assumed* that the higher this proportion, the higher was the level of cultural disadvantage.

18. The ABS found this variable to be negatively correlated with — that is, going in a direction opposite to — the general index of disadvantage, and dropped the variable. This relation was expected given that it is often argued that cultural disadvantage is higher in the urban and city areas because of possible loss of contact with land, language and culture in general. The negative correlation however means that an attempt to forcibly marry the two opposite influences jeopardises the 'robustness' of the general socio-economic index.

19. The appropriateness of including cultural variables goes deeper than mere inclusion or exclusion of a variable. One issue, simply stated, is that because these indexes are data driven, and have little theoretical basis, there is little objective basis for arguing for or against the inclusion of specific variables.

20. Consideration of whether or not these variables should be included in the indexes depends partly on the intended use of the indexes. Since the purpose of the indexes is to capture dimensions of disadvantage that affect policies and programs that address the delivery of services related to 'social and economic issues, it is best to include only indicators of that type. To the extent that cultural dimensions affect these issues, their effects would be reflected in the socio-economic variables. On the whole, cultural issues would be better handled by creating a separate cultural index.

21. Even though the experimental indexes of Indigenous socio-economic disadvantage are not appropriate for inclusion in resource allocation formulae, they could be used:

- (i) for supplementing the understanding of other needs indicators;
- (ii) for analysing data (for example, as a catch-all socio-economic variable in the context of understanding or examining statistical relationships);

- (iii) for identifying areas as targets for specific initiatives (for example, identifying particularly disadvantaged communities to implement community development programs); and
- (iv) as proxy measures for some phenomenon (for example, if they correlate with other observed variables, like health status in Western Australia), potentially overcoming the absence of other large data sets.

22. These indexes are in their infancy and could be improved by greater exposure and discussion among researchers, and the availability of additional information. That process could commence with broad discussion on how well the experimental indexes accord with other views of the relative disadvantage of Indigenous people. The ABS have suggested that they might be improved by:

- (i) updating the indexes using the data to be generated from the 2001 Census; and
- (ii) finding better ways of capturing the health dimension of Indigenous disadvantage or better ways for modelling health disadvantage, possibly using theoretical models of economic and social deprivation.