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## Modelling languages (other than English) spoken in Australia using census data

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### Abstract

This paper tries to answer the following hypothetical question: Suppose people were not asked to specify languages (other than English) spoken at home on the ABS Census form. Is it possible to use other variables on Census to estimate the number of people speaking languages other than English at home?

This paper evaluates the feasibility of using a variety of techniques including: Multivariate regression modelling, distribution analysis, and a combination of the regression modelling and distribution analysis approaches to estimate the number of people speaking languages other than English at home.

The following steps were employed for this research:

- Descriptive analysis to explore the characteristics of people speaking a specific 'other' language;
- Regression modelling using other census responses such as Ancestry, Birthplace, and Religious Affiliation;
- Estimating the number of people who speak a language other than English at home in each statistical local area (SLA), as if the detailed language information was not available; and
- Assessing and evaluating the models.

The investigations and results presented in the paper were conducted on the thirty most frequent languages published by the ABS using Victoria and New South Wales 1996 and 2001 Census data, and 1986 Victoria Census data.

The main findings show that it is possible to estimate the number of people who speak languages other than English at home, at the statistical local area. The paper also comments on the accuracy of the estimates.

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