Annotated Bibliography

Merkouris et al. (2023)

Title: Combining National Surveys with Composite Calibration to Improve the Precision of Estimates from the United Kingdom's Living Costs and Food Supply

Authors: Takis Merkouris, Paul A. Smith, Andy Fallows

Journal (Year): JSSAM (2023)

Summary: In some sense this is the application of ideas from Merkouris (2004) and Merkouris (2010) to combine information from the Living Costs and Food Survey (LCF) and the Labour Force Survey (LFS) in the United Kingdom. The overall approach is to use a linear combination of regression estimators from each survey:

$$\hat{Z}^{CR} = B\hat{Z}_1^R + (I - B)Z_2^R$$

where B is a matrix, Z_1^R is the regression estimator from the first survey and Z_2^R is the regression estimator from the second survey. Like Merkouris (2004), they choose the optimal B that minimizes the variance of the estimator while still having the estimation of $\hat{Z}$ be the same for each survey. To incorporate results from Merkouris (2010), they also control the total at the regional level (a small-area estimation problem). (More details regarding the derivation of the optimal B is left to the summary of Merkouris (2004) and Merkouris (2010).)

Methodologically, the biggest innovation is the jackknife variance estimation that they use. However, even this seems relatively straightforward. I think that the contribution of this paper is to show a dramatic reduction in the variance of regression estimates due to data integration.

Limitations: •

Extensions: •

Merkouris (2004)

Title: Combining Independent Regression Estimators from Multiple Surveys

Author: Takis Merkouris

Journal (Year): JASA (2004)

Summary:

Limitations: •

Extensions: •

Merkouris (2010)

Title:

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Journal (Year):

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