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Title:

Measuring process accuracy using state space methods: yet another application of the GREG

Abstract:

To measure the state of compliance of customers with respect to entitlement to pension the department of social security in collaboration with other welfare departments and with the delivery agency conducts an annual random sample survey. The collectivity of these surveys, conducted under a common quality constraint since 2003 is known as the random sample survey system. The RSS output dataset of survey estimates now constitutes a series of datapoints corresponding to each quarter of the intervening period.

To leverage efficiency in estimation from the series we have been using moving aggregates but the problem can be stated more generally as one of a state space filter. I will discuss the issue of optimum estimation, prediction, communication of results and the overarching issue of quality. References are to a 2005 paper by Valliant (on SEs when measuring quantities using GREG) and a 1999 paper by Phil Bell (state space modelling) for the ABS statistics advisory panel. I will also make reference to a study the department commissioned to review its methods in to the context of regular audit scrutiny, and discuss how surveys can fit into the risk management side of financial regulation within government.