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### **Exploring state space modelling approach to measuring an impact of transformation on ABS time series**

The ABS is embarking on a transformation program which involves improvements in systems and methodologies. This transformation will deliver benefits to official statistics, but any risk of introducing a statistical impact on a time series will need to be managed. This presentation focuses on a possible approach for measuring statistical impact that may occur from a change in survey methodology. We discuss the use of state space modelling approach to measure a statistical impact under assumption of having a small parallel collection and then gradual incremental phase-in of a new approach to the survey. We consider a few models, such as difference model for parallel run, phase-in model with Kalman filter initialisation using estimated impact from parallel run, and a full model that combines both a parallel run and the phase-in periods. Model performance is estimated with a simulation study for Australian Labour Force Survey (LFS).