Opportunities and challenges: Leveraging alternate data sources to compile the CPI Rents Index

Background

- The Australian Bureau of Statistics (ABS) is increasingly looking for ways to leverage the use of alternate data sources
- The rents series is one of the most highly weighted indexes in the Australian CPI
- CPI rents has a relatively large sample size and attracts a high level of collection costs and respondent burden
- Rental properties in Australia attract a bond at the commencement of a lease agreement. Bonds are held by State Government authorities and data relating to price and housing characteristics (dwelling type and number of bedrooms) is recorded
- On average, 15,000-20,000 bonds are lodged each month
- The ABS has been investigating the potential use of bond lodgement data including various methods for measuring rental price change using this data

Opportunities of using bond lodgement data

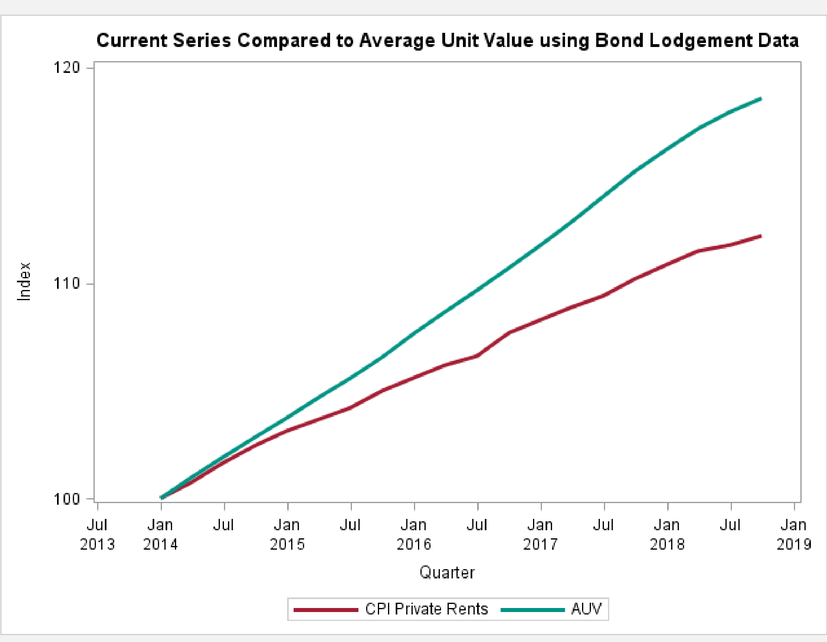
- Significant reductions in collection costs incurred by the ABS
- Reduced respondent burden by removing direct collection
- Significant expansion in sample size and geographic coverage
- Potential compilation of a monthly series for rents in the Australian CPI
- Potential to explore more sophisticated measurement methodologies and bespoke statistical products such as spatial indexes

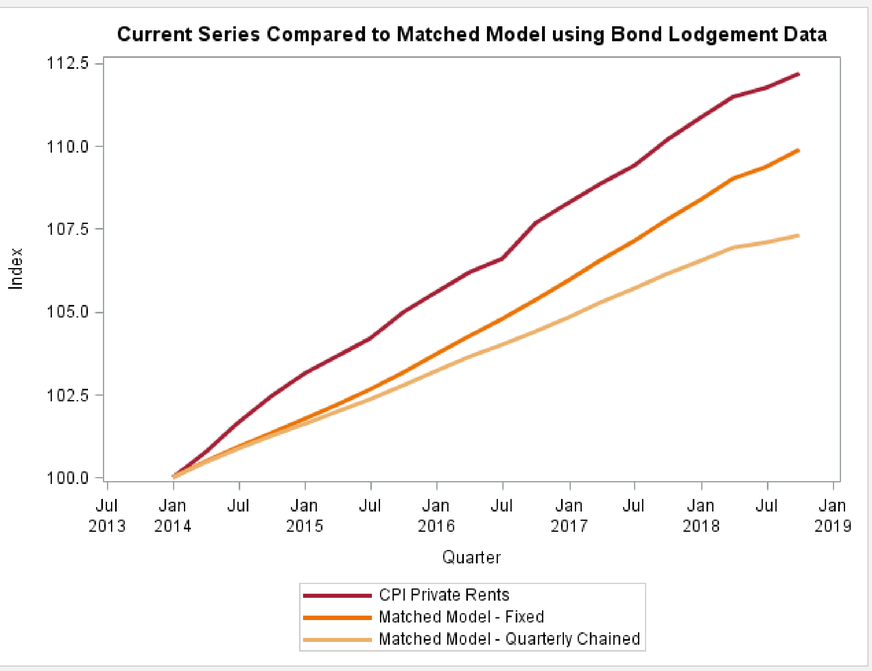
Challenges of using bond lodgement data

- Housing is heterogeneous in nature, such as the age of the property, dwelling type, the number of bedrooms and bathrooms as well as the location and proximity to amenities
- Measuring to constant quality can be difficult using administrative data where very few characteristics are recorded
- Bond lodgement data does not record intra-tenancy price changes. Changes to rents can only be observed when a bond or tenancy is updated
- Methodologies investigated have included an Average Unit Value, Matched Model and Time Product Dummy approach

Average Unit Value (AUV)*

- An AUV approach involves dividing the total expenditure by the quantity of rented properties at disaggregated levels
- A challenge with this approach is controlling for the effects of compositional change and controlling for changes in quality
- Stratifying to lower levels can help to improve the homogeneity of properties to some degree



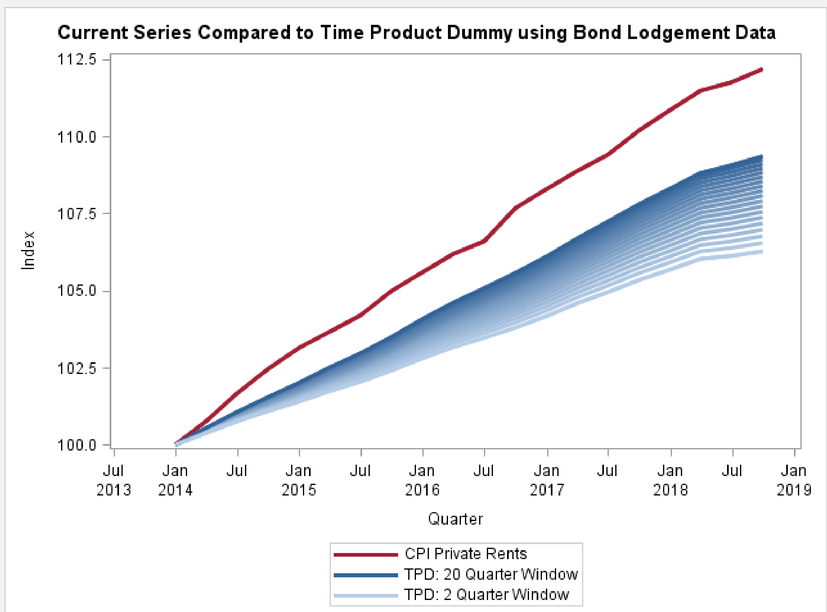


Matched Model*

- A fixed basket matched model method involves comparing the prices of the same products between periods
- A matched model approach is an internationally recommended approach for measuring to constant quality and is straightforward in terms of implementation
- High sample churn means frequent chaining is required to maintain representativeness
- Chain drift can occur when matched model indexes are chained at high frequencies

Time Product Dummy (TPD)*

- A TPD index is a multilateral method which involves using a regression to model the log of price against time and product dummy variables
- An advantage of multilateral methods is the ability to chain frequently to maintain the representativeness of the sample without causing chain drift
- The TPD method can be run using various window lengths
- Longer windows resulted in a higher index indicating that a longer time series would produce more robust estimates of price change



* These series are produced using data from one jurisdiction only.