Exploring new administrative data sources for the development of the Consumer Price Index:

*The Portuguese experience with actual rentals for housing*

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Housing rents in the Portuguese CPI

- 4% of HFCME
- Survey-based
- Sample of 3000 dwellings
- Usually, rents are only updated once a year
- (Very) Limited coverage of new rentals
New data source for housing rents

- Transmission agreement with the fiscal authority
- Weekly data on rent receipts
- Monthly data on new contracts
- Monthly data on dwelling characteristics
- Social rents are excluded
New data source for housing rents

- Landlords are obliged to process the rent receipts online

- Some exceptions are possible:
  - Landlords with low income
  - Landlords above 65 years of age
  - However, tenants usually request the electronic receipts
New data source for housing rents

- Some restrictions have to be applied in order to make the data usable:
  - Only one-on-one receipts
  - Only receipts that cover a full month
  - Only dwellings for housing purposes
  - Exclusion of unlikely values:
    - Too small or too large areas
    - Extreme rent values
New data source for housing rents

- Some information on 2017 data:
  - 86.5% of dwelling did not change the rent value in the year
  - 12.4% changed only once in 2017
  - 1.1% changed more than once
    - Most of these are new contracts for existing rented dwellings
Four new methods were tested for 2016-2017:

- **Method A**: Same method as the survey-based index, massive increase in sample size (from 3000 up to 228000 dwellings)
  - New contracts are still mostly excluded
  - Sample size tends to decrease monthly, due to the exclusion of dwellings when no receipts are available for 3 consecutive months
  - Missing receipts are estimated for up to 2 months
Four new methods were tested for 2016-2017:

- Method B: Matched sample between December of the previous year and the current month (around 233000 dwellings)
  - New contracts are included if the dwelling has been on the rental market in the last year
  - Newly built dwellings are not considered
  - Missing receipts are estimated for up to 2 months
New methods tested

Four new methods were tested for 2016-2017:

- Method C: All receipts are considered, no adjustments whatsoever (around 212,000 dwellings)
  - Does not measure pure price change, can be an indication of market changes
  - Includes new contracts and newly built dwellings
  - Missing receipts are excluded
Four new methods were tested for 2016-2017:

- Method D: Monthly matched sample (around 182000 dwellings)
  - Only considers dwellings with data for two consecutive months
  - New contracts are only considered in the second month, showing no rent change
  - Missing receipts are immediately excluded
Results: Indices

Graph showing the indices from 12-2015 to 12-2017 with different lines representing different categories:
- Line A
- Line B
- Line C
- Line D
- Dashed line labeled Survey
Results: Annual rates
Results: Analysis

- Method C shows the largest index increase, unsuitable for CPI use because of the constant sample change without adjustments.

- Method D presents the lowest index increase, as it tends to exclude new contracts in the first month (unless the tenant change is immediate).
Method A leads to results that are similar to the survey-based index but does not make extensive use of the additional information.

Method B presents the best compromise between using as much information as possible and guaranteeing that quality changes do not impact the results.
Conclusion

- Method B has been selected and is used in the Portuguese CPI compilation since January 2018
- At this time, it is the best compromise between using as much information as possible and guaranteeing that quality changes are properly taken into account
- Further work is ongoing, specifically on the use of hedonic methods (e.g., assessing the impact of excluding new contracts in a matched-sample framework)
- The impact of the non-inclusion of newly built dwellings is also being assessed
Thank you!

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