Improved Measures of Housing Services for the U.S. Accounts

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• New Methodology
  – Bottom-up approach will replace the previous top-down approach for tenant- and owner-occupied units
  – Update period is 2002-2020
    • Current-dollar estimates of PCE housing services
    • No changes to deflators

• Changes for mobile, vacant, and farm

• Preview of Results
New Methodology

• American Community Survey (ACS)
  – Single official statistical data source
  – Covers all categories of housing
  – Nationally and regionally representative sample
  – Supports rental equivalence for owner-occupied housing

• We use the public-use microdata sample (PUMS)
  – Annual estimates at the unit level
  – Aggregate to national and sub-national levels
New Methodology

• Tenant-Occupied Units
  – Sums of actual observations on tenant-occupied units

• Owner-Occupied Units
  – **Rental equivalence**: Stratified averages of reported tenant rents applied to owner-occupied units by year and PUMA
    • \( R_T = \alpha_0 + \alpha_1 X_T + \varepsilon \)
    • \( X_T \): structure type, age, # rooms, # bedrooms
    • Apply data on each owner unit to parameter estimates
  – **Owner premium**: Adjusts for known quality differences between owner units and tenant units
Owner Premium

• How do we calculate the premium?
  – $\beta = \text{value of unit ÷ median value for same stratum as unit}$
    • Stratum: PUMA, structure type, # bedrooms
    • Bounds: $1 \leq \beta \leq 10$
  – Owner-reported values for owner-occupied units

• Owner imputed rental value = rental equivalence $\times \beta$

• Owner premium increases the aggregate rental equivalence value by 35-40 percent each year
Changes for Mobile, Vacant, Farm

• Mobile Units
  – Expanded scope to include houseboats, RVs, etc.

• Vacant Units
  – Expanded scope to include “for sale” and “for rent” units
  – Included with owner-occupied units

• Farm Dwellings
  – Scope limited to ag sales > $1,000 (point farms in non-farm)
  – No distinction for operator and nonoperator landlords
Current-Dollar Total PCE Housing Services

+ $45 billion revision (0.3% GDP)

- $110 billion revision (0.5% GDP)
Current-Dollar Owner-Occupied Non-Farm

+ $53 billion revision

Billions USD

Proposed Range

Published
Current-Dollar Tenant-Occupied Non-Farm

12.3% increase

Proposed Range

Published
Current-Dollar Farm

![Chart showing the proposed range and published data for current-dollar farm from 2001 to 2019. The chart illustrates the fluctuations in billions USD over the years, with a trend of growth generally observed.](chart.png)
Percent Revision by State, 2019

U.S. Bureau of Economic Analysis
Forthcoming Roll-Out

- Advisory Committee Meeting – May 2021
- *Survey of Current Business* – May 2021
- NIPA Annual Update
- Subsequent Regional Accounts Updates
- BEA Working Paper – Fall 2021