

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

Bettina H. Aten
Dylan G. Rassier



Prepared for the BEA Advisory Committee Meeting

Virtual Meeting

May 14, 2021

- 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

- 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

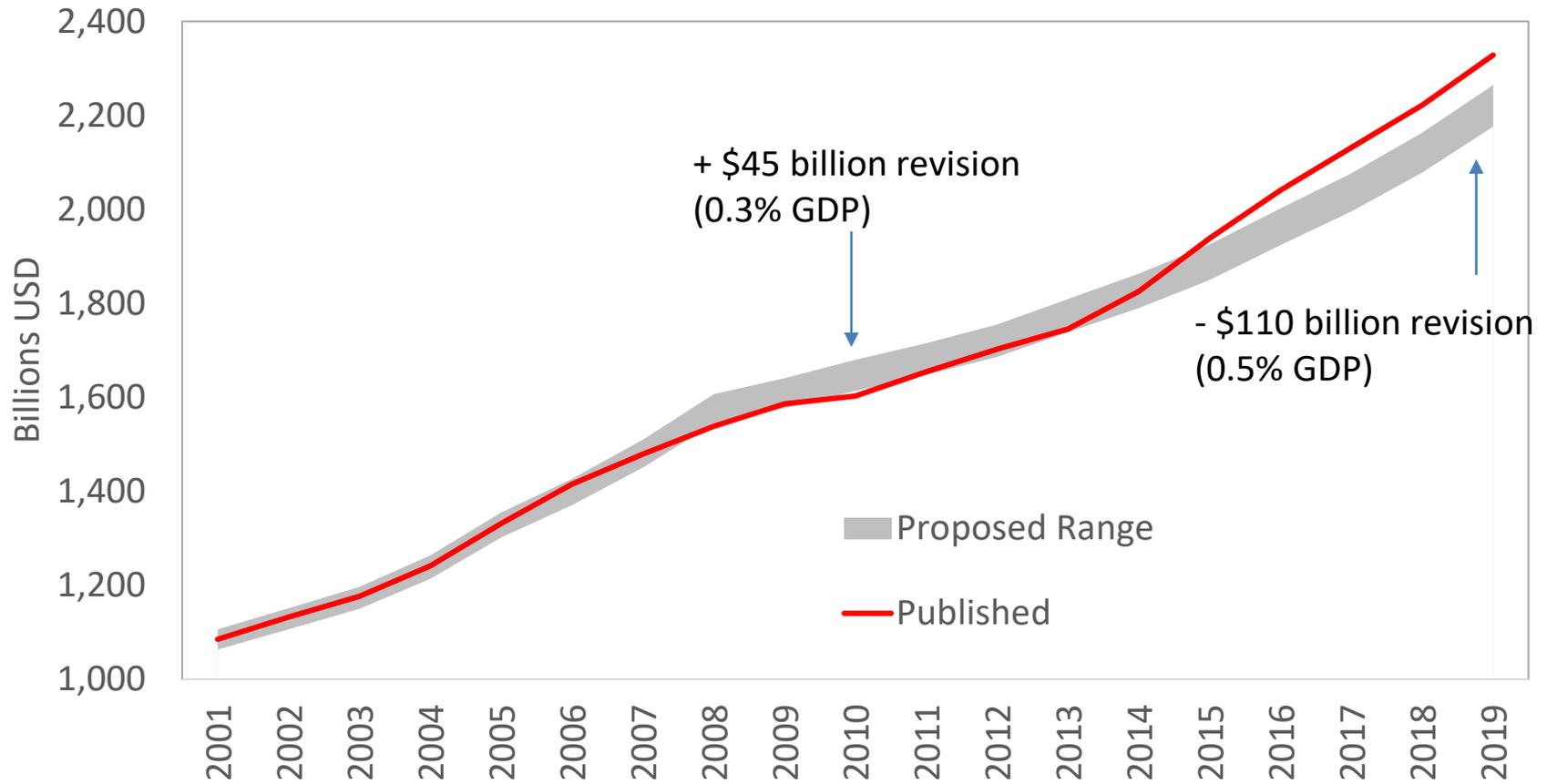
- Tenant-Occupied Units
 - Sums of actual observations on tenant-occupied units
- Owner-Occupied Units
 - Rental equivalence: Stratified averages of reported tenant rents applied to owner-occupied units by year and PUMA
 - $R_T = \alpha_0 + \alpha_1 \mathbf{X}_T + \varepsilon$
 - \mathbf{X}_T : structure 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

- How do we calculate the premium?
 - β = value of unit \div 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

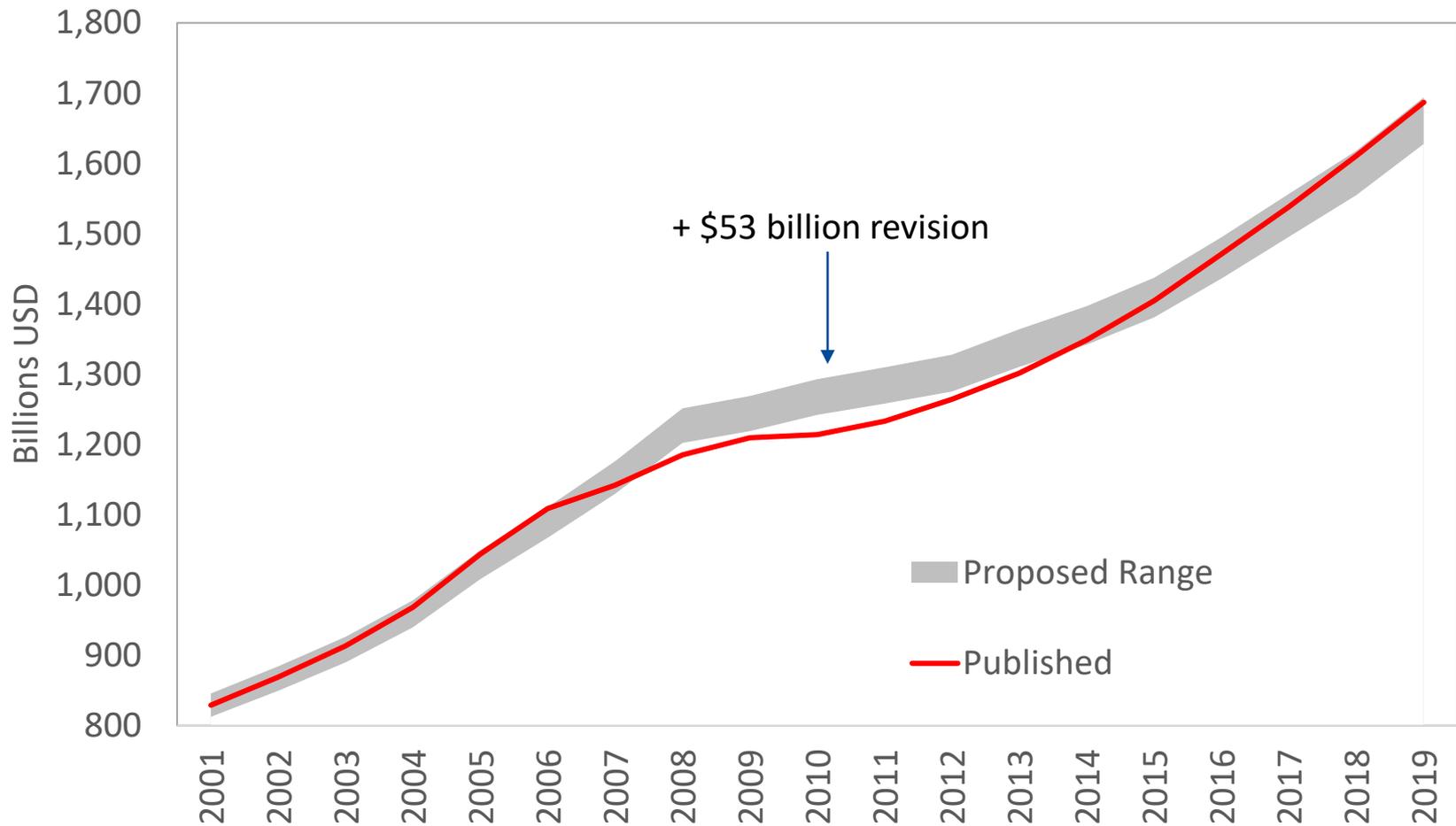
Changes for Mobile, Vacant, Farm

- **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

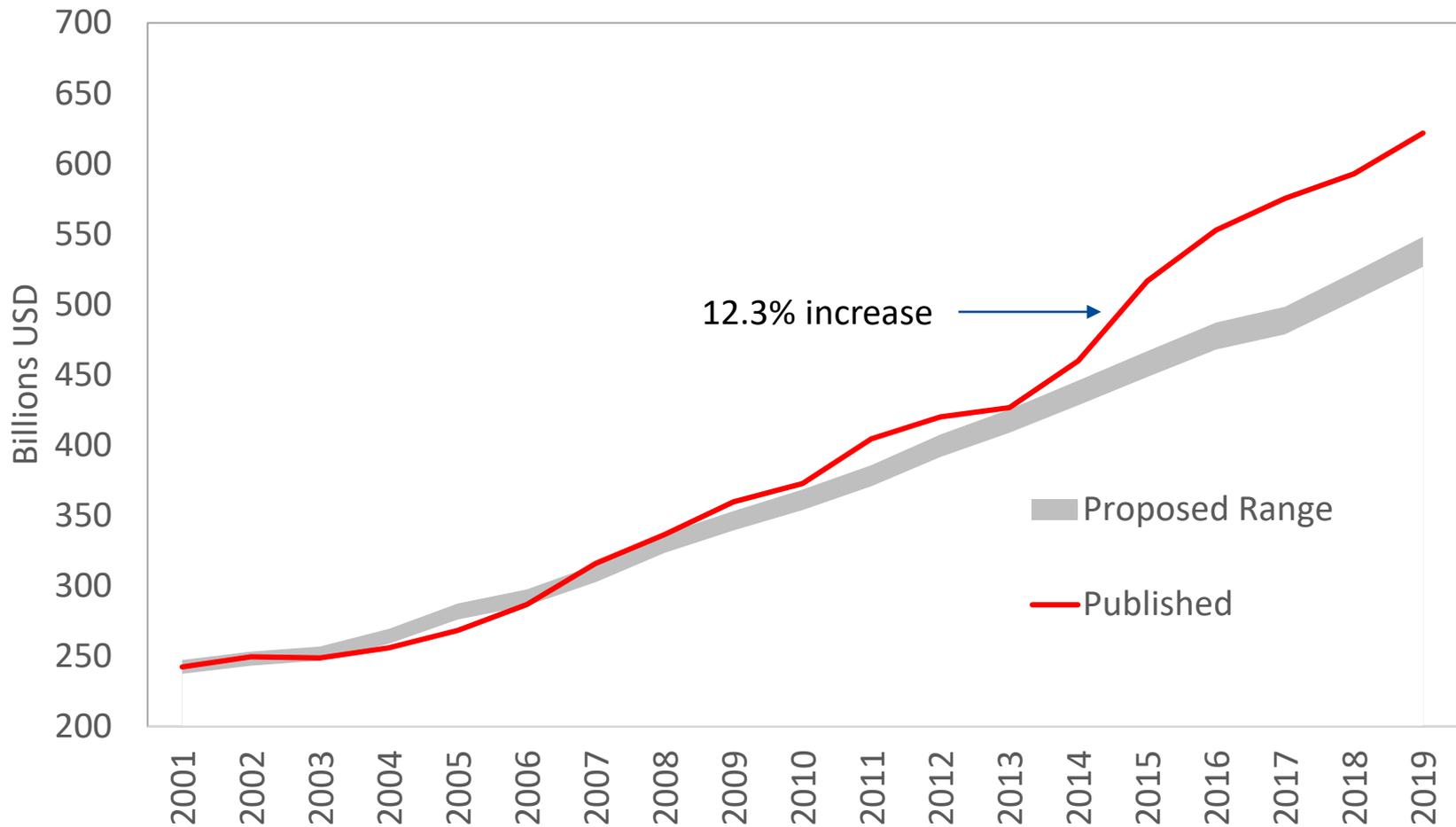
Current-Dollar Total PCE Housing Services



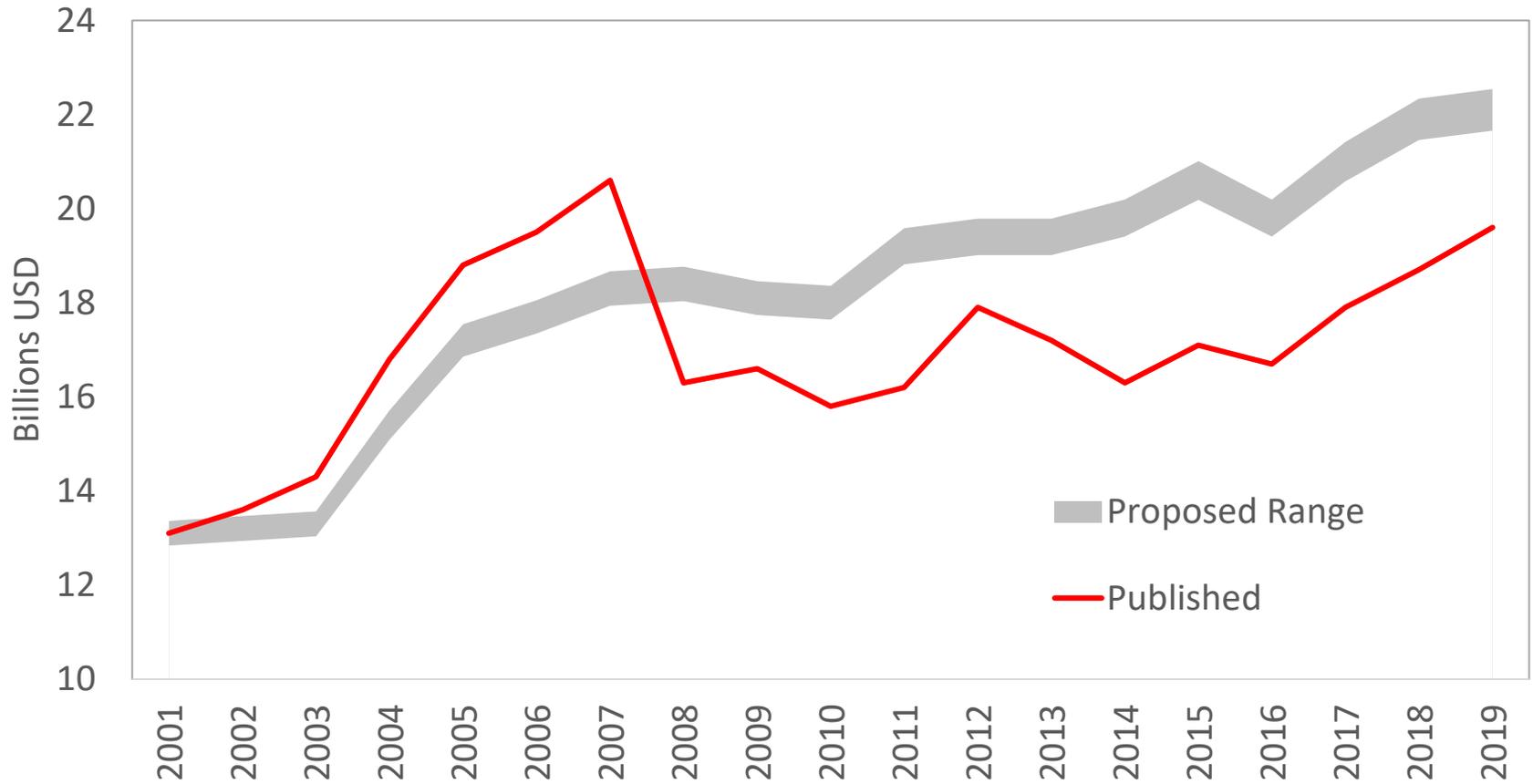
Current-Dollar Owner-Occupied Non-Farm



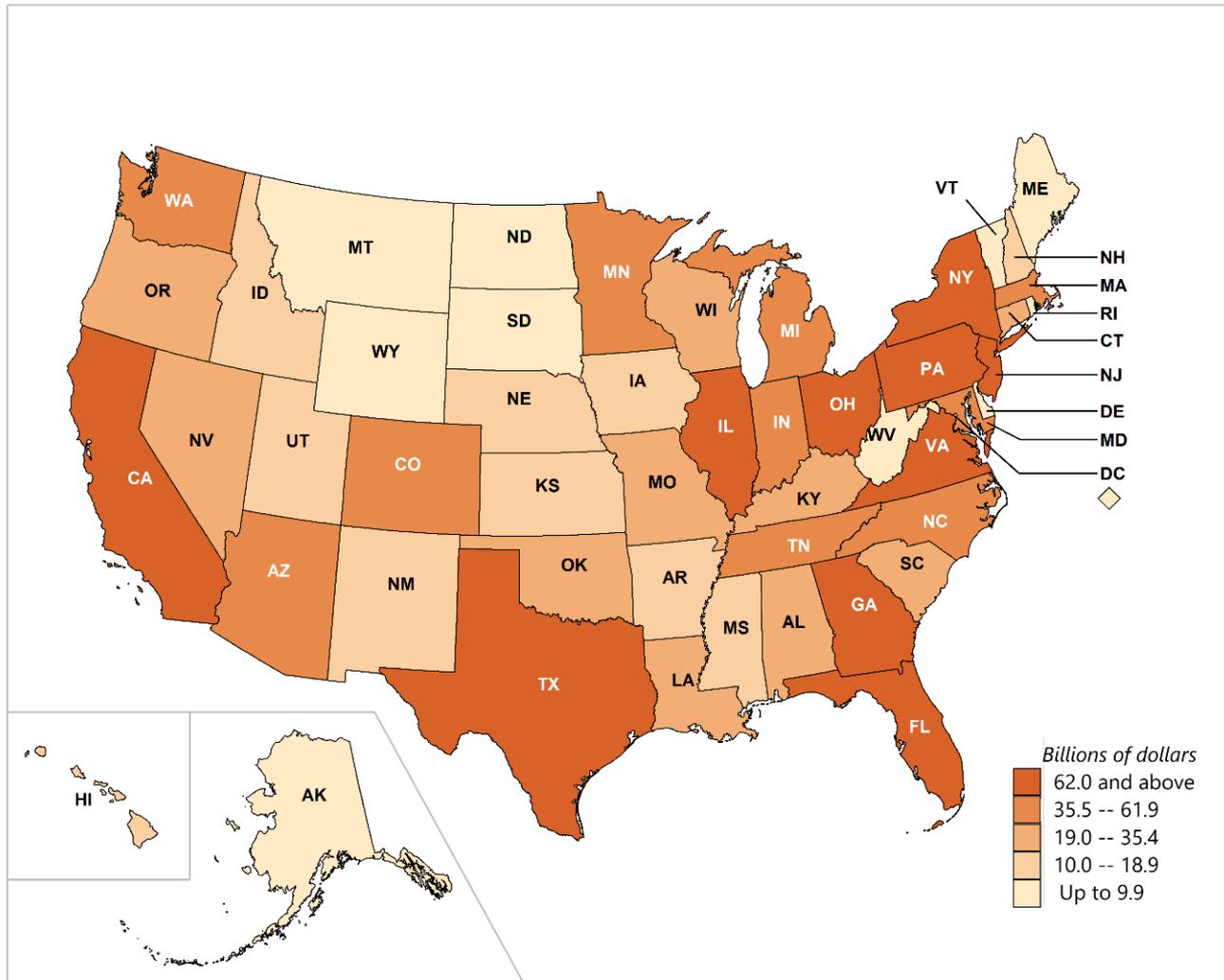
Current-Dollar Tenant-Occupied Non-Farm



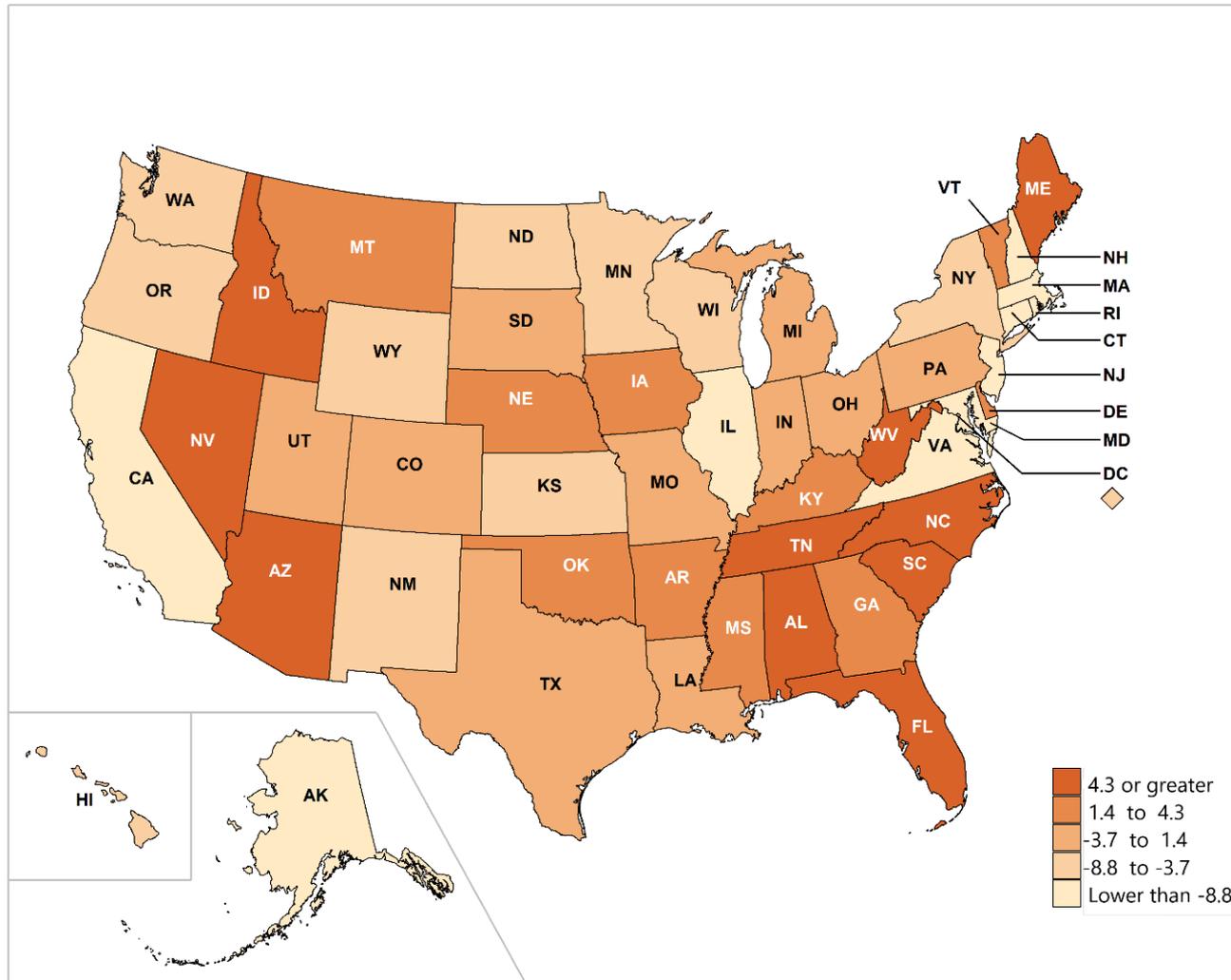
Current-Dollar Farm



Current-Dollar Total by State, 2019



Percent Revision by State, 2019



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