



Inflation at the Household Level:

Web Appendix

Greg Kaplan

University of Chicago

and National Bureau of Economic Research

Sam Schulhofer-Wohl

Federal Reserve Bank of Minneapolis

Working Paper 732

Revised June 2016

Keywords: Inflation; Heterogeneity

JEL classification: D12, D30, E31

The views expressed herein are those of the authors and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.

Federal Reserve Bank of Minneapolis • 90 Hennepin Avenue • Minneapolis, MN 55480-0291

<https://www.minneapolisfed.org/research/>

Inflation at the Household Level: Web Appendix*

Greg Kaplan and Sam Schulhofer-Wohl

Revised June 2016

ABSTRACT

This appendix contains additional results on using scanner data to estimate inflation rates at the household level. There are three sections. Section 1 shows cross-sectional distributions of Fisher and Paasche inflation rates. Section 2 shows the evolution over time of measures of dispersion of Fisher and Paasche inflation rates. Section 3 shows cross-sectional distributions of two-year inflation rates measured with Fisher and Paasche indexes.

Keywords: Inflation; Heterogeneity

JEL classification: D12, D30, E31

*Kaplan: University of Chicago and National Bureau of Economic Research (gkaplan@uchicago.edu). Schulhofer-Wohl: Federal Reserve Bank of Minneapolis (wohls@minneapolisfed.org). We thank Joan Gieseke for editorial assistance. The views expressed herein are those of the authors and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.

1. Cross-sectional distributions of Fisher and Paasche inflation rates

This section presents cross-sectional distributions of Fisher and Paasche inflation rates, similar to the distributions shown for Laspeyres indexes in Figure 2 of the main paper.

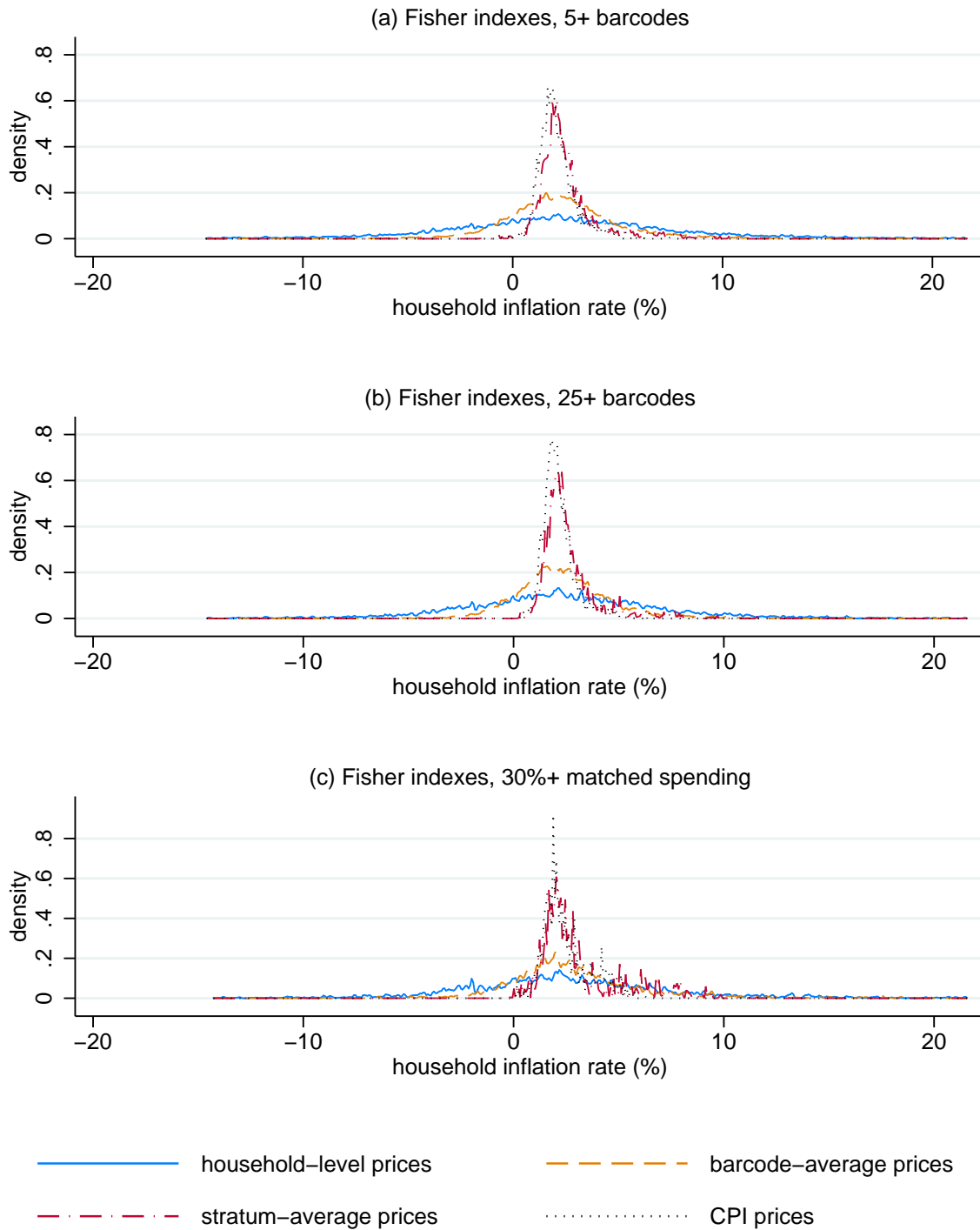


Figure 1: Distributions of household-level inflation rates (Fisher indexes) from fourth quarter of 2004 to fourth quarter of 2005.

Kernel density estimates using Epanechnikov kernel. Bandwidth is 0.05 percentage point for inflation rates with household-level and barcode-average prices and 0.005 percentage point for inflation rates with CPI prices. Data on 23,635 households with matched consumption in 2004q4 and 2005q4. Plots truncated at 1st and 99th percentiles of distribution of inflation rates with household-level prices.

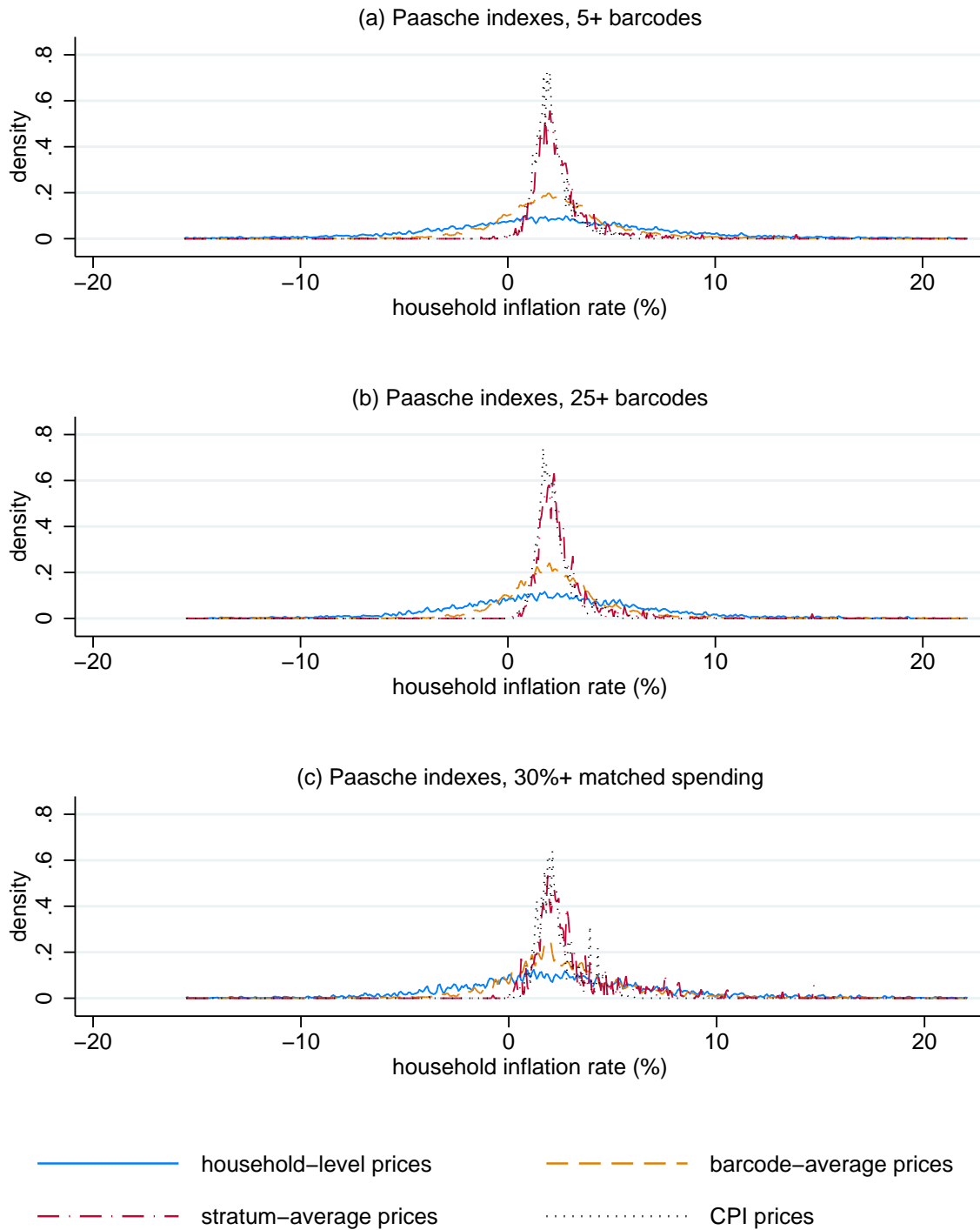


Figure 2: Distributions of household-level inflation rates (Paasche indexes) from fourth quarter of 2004 to fourth quarter of 2005.

Kernel density estimates using Epanechnikov kernel. Bandwidth is 0.05 percentage point for inflation rates with household-level and barcode-average prices and 0.005 percentage point for inflation rates with CPI prices. Data on 23,635 households with matched consumption in 2004q4 and 2005q4. Plots truncated at 1st and 99th percentiles of distribution of inflation rates with household-level prices.

2. Evolution over time of dispersion in Fisher and Paasche inflation rates

This section presents time series of dispersion measures for Fisher and Paasche inflation rates, similar to the time series shown for Laspeyres indexes in Figures 3 and 4 of the main paper.

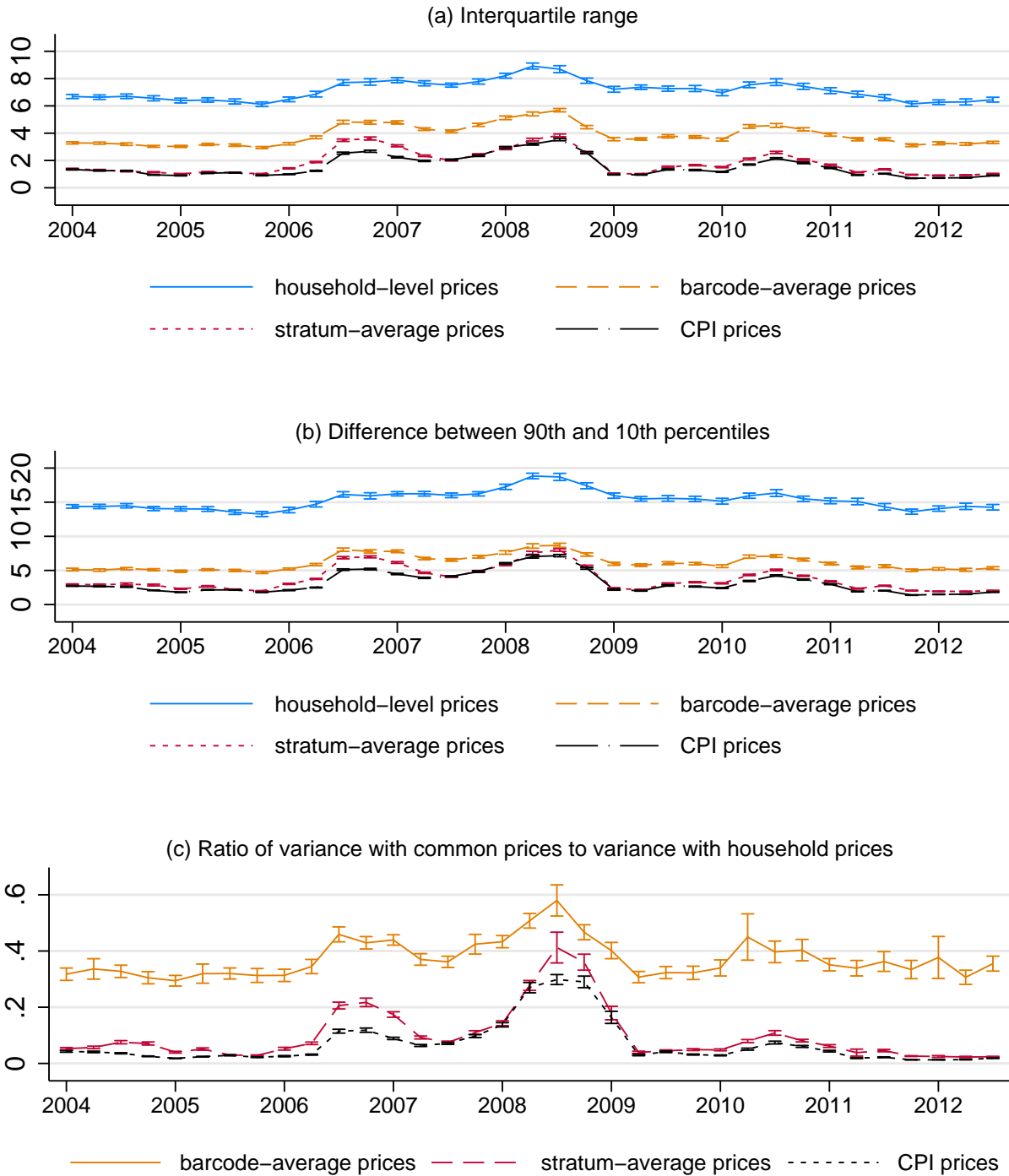


Figure 3: Measures of the dispersion of household-level inflation rates (Fisher indexes). Vertical bars show an interval of ± 2 bootstrap standard errors around each point estimate. In panel (c), variances are calculated on data from 1st to 99th percentiles of distribution of inflation rates with household-level prices at each date.

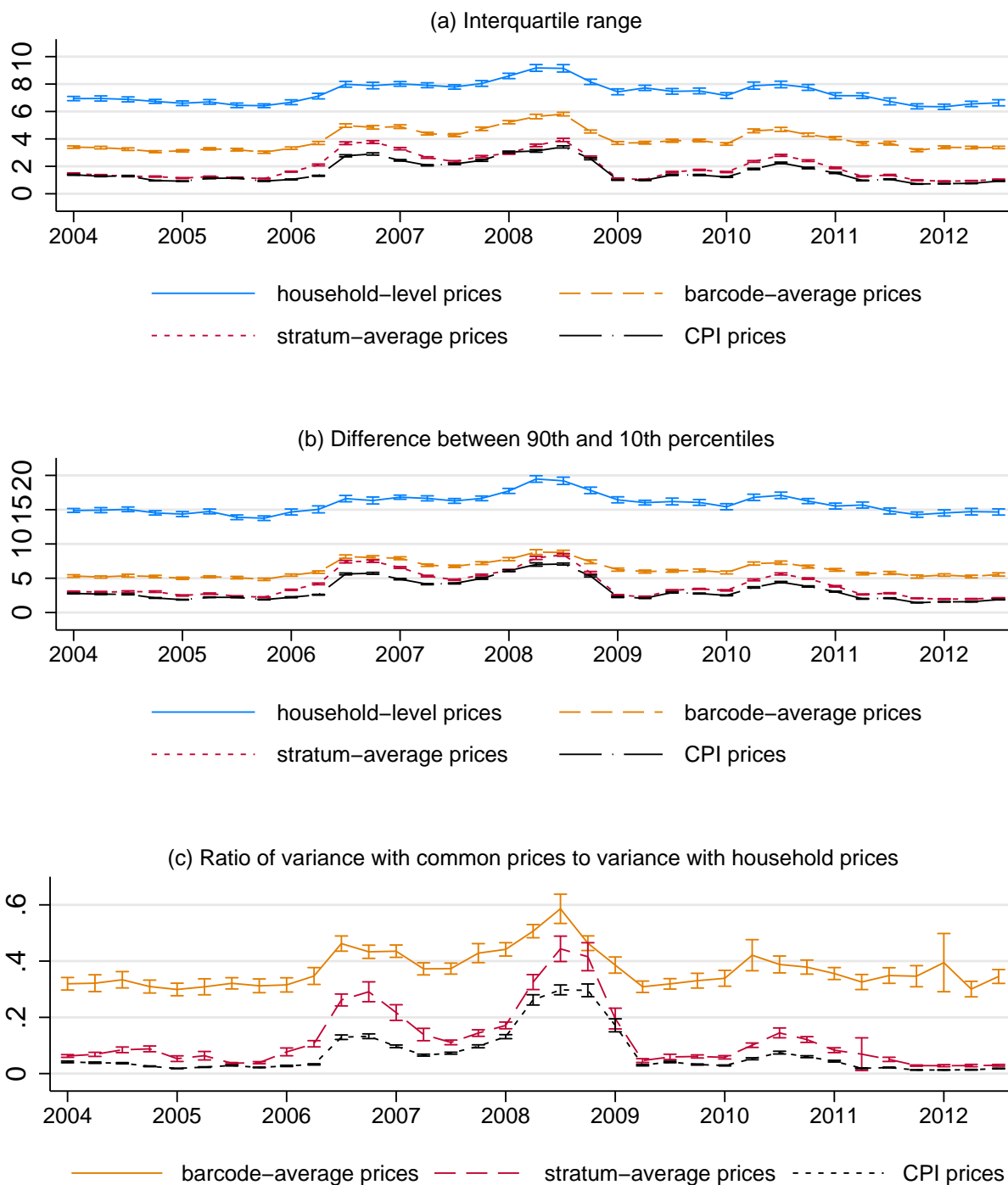


Figure 4: Measures of the dispersion of household-level inflation rates (Paasche indexes). Vertical bars show an interval of ± 2 bootstrap standard errors around each point estimate. In panel (c), variances are calculated on data from 1st to 99th percentiles of distribution of inflation rates with household-level prices at each date.

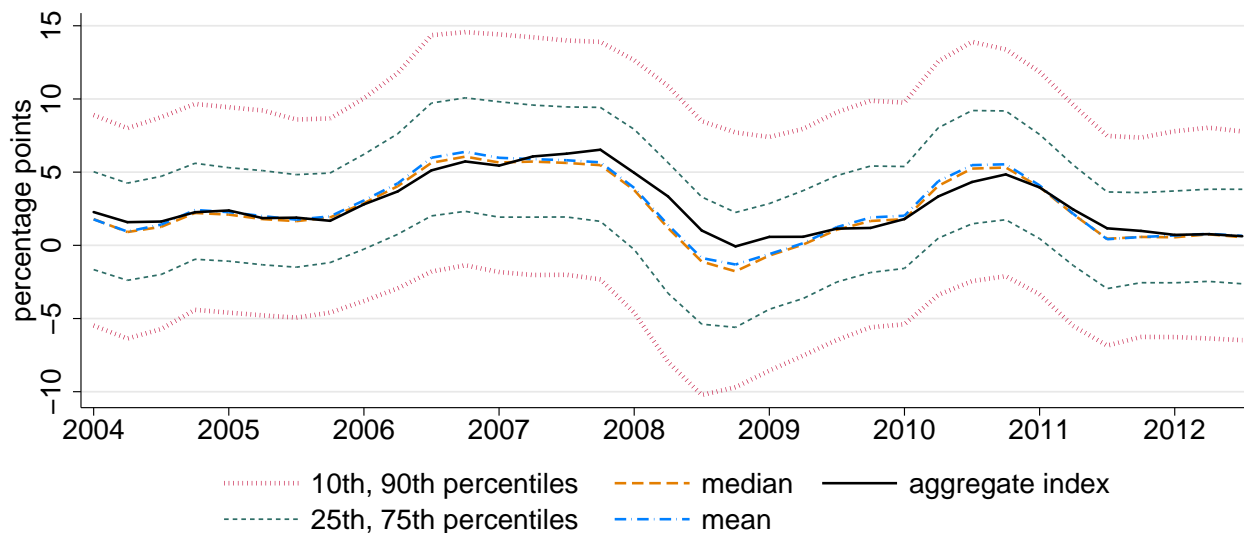


Figure 5: Evolution of the distribution of household inflation rates (Fisher indexes) with household-level prices.

Mean is calculated on data from 1st to 99th percentiles of distribution of inflation rates at each date.

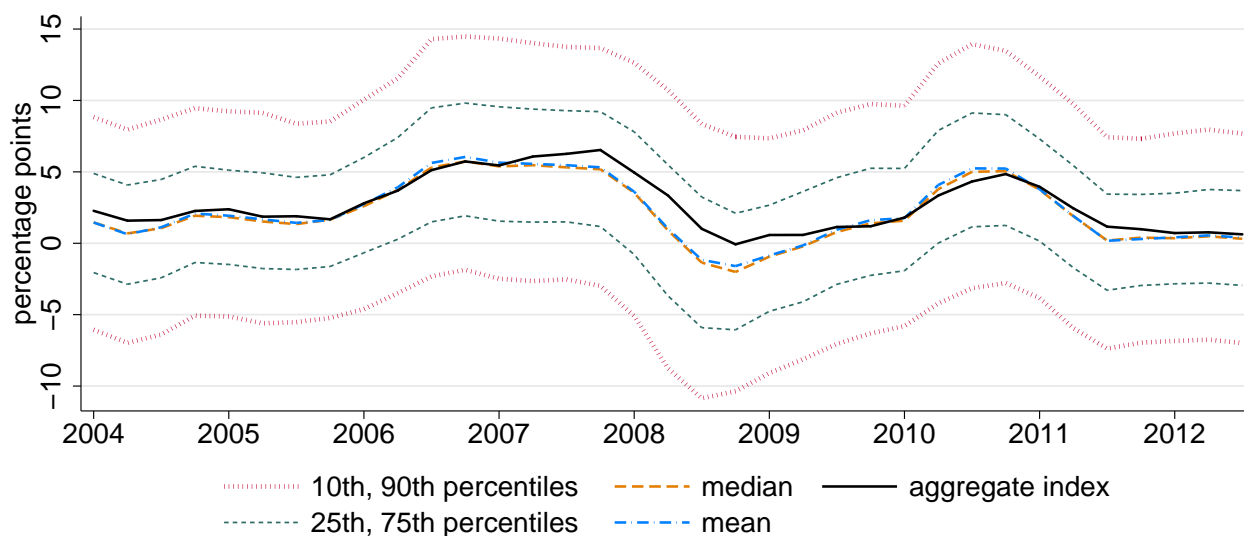


Figure 6: Evolution of the distribution of household inflation rates (Paasche indexes) with household-level prices.

Mean is calculated on data from 1st to 99th percentiles of distribution of inflation rates at each date.

3. Cross-sectional distributions of two-year inflation rates

This section presents cross-sectional distributions of two-year Fisher and Paasche inflation rates, similar to the distributions shown for Laspeyres indexes in Figure 7 of the main paper.

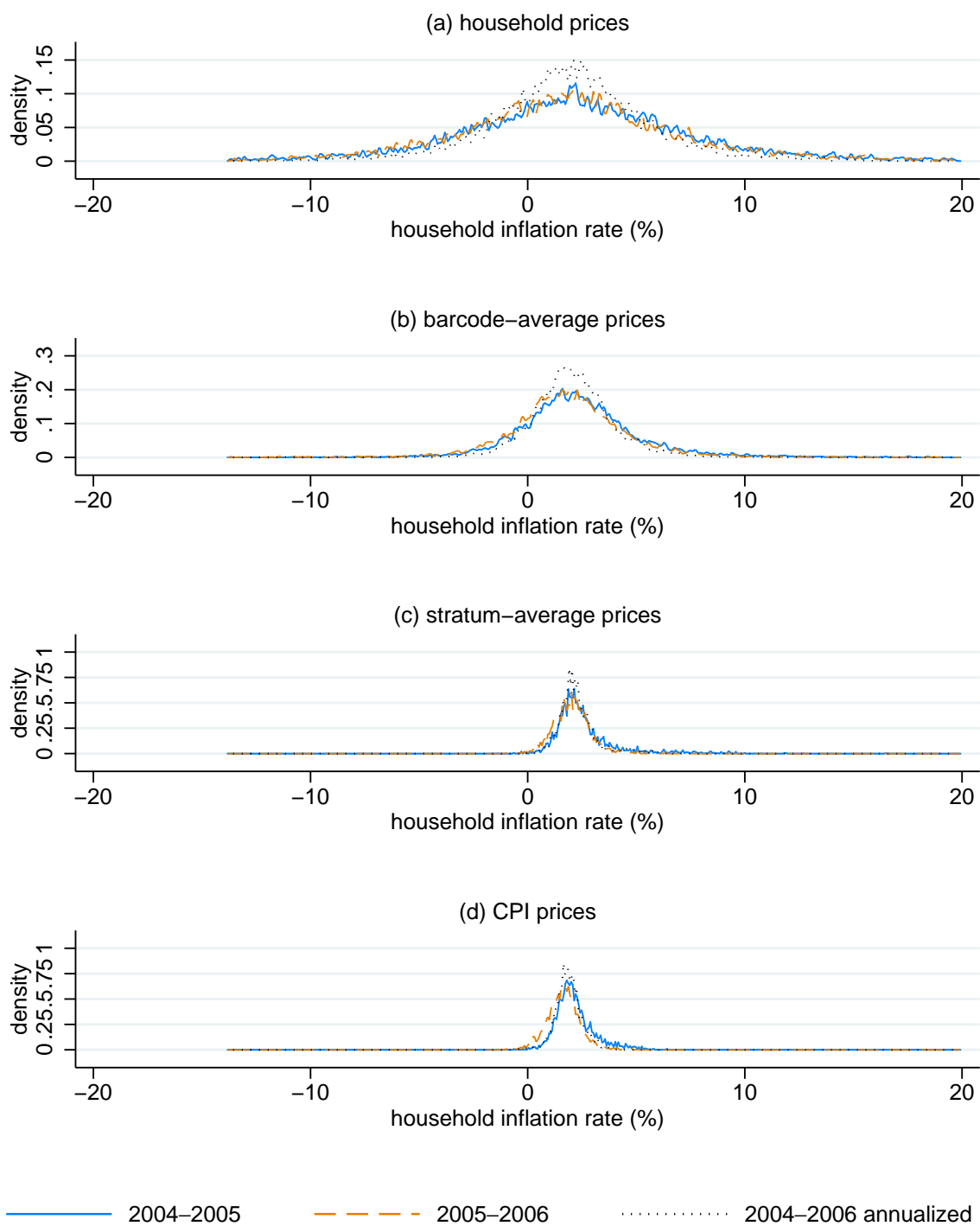


Figure 7: Distributions of one-year and two-year household-level inflation rates, 2004q4–2005q4 and 2005q4–2006q4.

Calculated with Fisher indexes. Kernel density estimates using Epanechnikov kernel. Bandwidth is 0.05 percentage point for inflation rates with household-level and barcode-average prices and 0.005 percentage point for inflation rates with CPI prices. Sample limited to 19,252 households with inflation rates calculated for both 2004q4–2005q4 and 2005q4–2006q4.

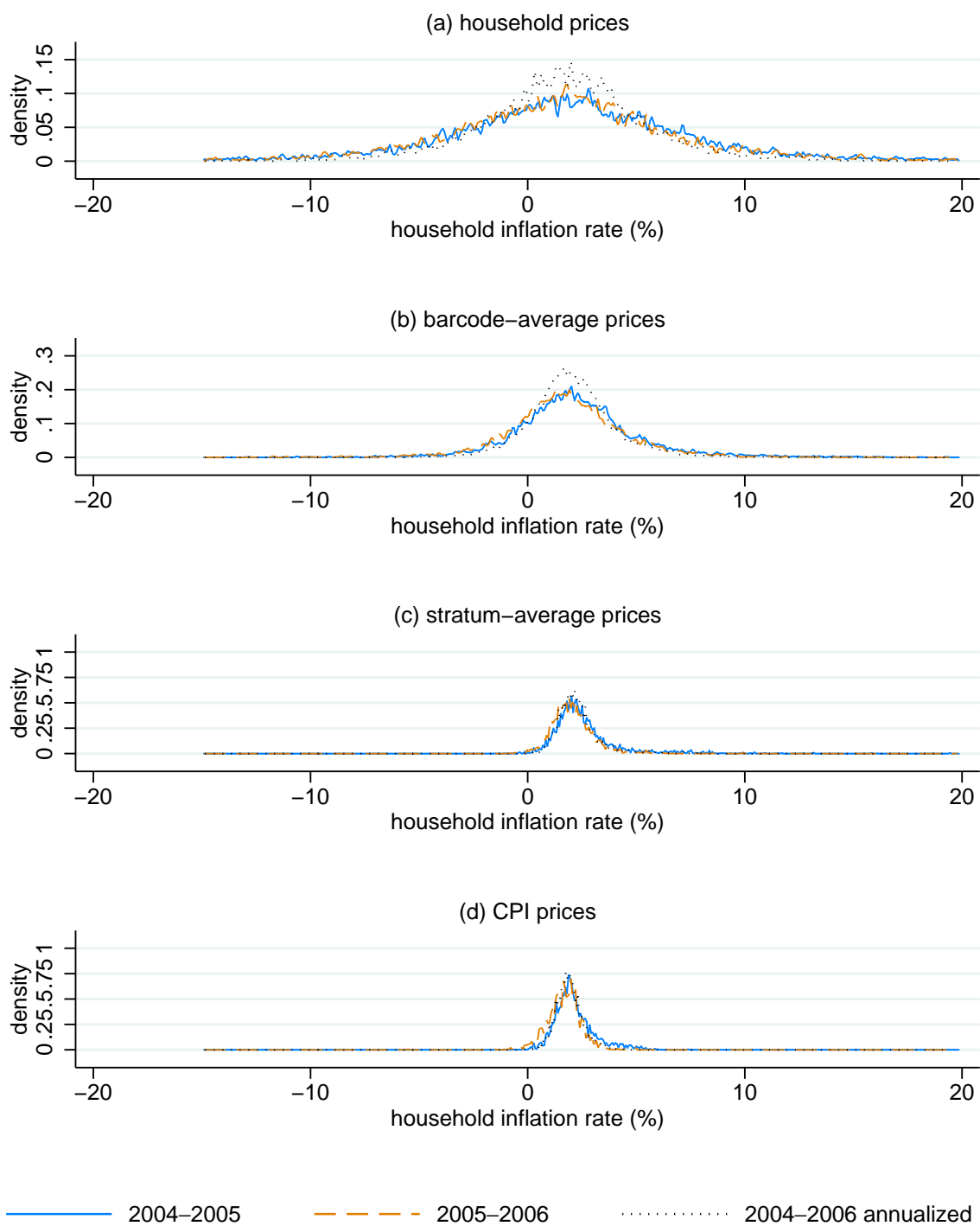


Figure 8: Distributions of one-year and two-year household-level inflation rates, 2004q4–2005q4 and 2005q4–2006q4.

Calculated with Paasche indexes. Kernel density estimates using Epanechnikov kernel. Bandwidth is 0.05 percentage point for inflation rates with household-level and barcode-average prices and 0.005 percentage point for inflation rates with CPI prices. Sample limited to 19,252 households with inflation rates calculated for both 2004q4–2005q4 and 2005q4–2006q4.