Younger Households' Inflation Is More Responsive to Monetary Policy

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Abstract

When the Federal Reserve raises interest rates, prices faced by younger households fall more than prices faced by older households. Using age-specific distributional consumer price indices together with high-frequency monetary policy shocks, we document a monotone age gradient in inflation responses, from households under 25 through households 75 and older. A simple decomposition combining BLS major-group CPI responses with age-specific CEX expenditure shares accounts for most of the gap between the youngest and oldest households. Transportation and medical care drive the result: younger households spend disproportionately on transportation (including motor fuel, vehicles, and auto insurance), whose prices respond strongly to monetary policy, while older households spend disproportionately on medical care, whose prices respond less.

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1 Introduction

We show that age matters for how households' inflation responds to monetary policy: when the Federal Reserve raises interest rates, prices faced by younger households fall by more than prices faced by older households. We use the age-specific distributional consumer price indices of Jaravel (2024),[1] which apply the official CPI methodology with age-group-specific expenditure weights. Combining these series with the high-frequency monetary policy shocks of Bauer and Swanson (2023) in a proxy-SVAR framework, we find that six months after a 25 basis point contractionary shock, the CPI faced by households under 65 falls by about 0.34 percent, compared with about 0.28 percent for households 65 and older.[2] This difference is statistically significant for roughly ten months. Across the full set of ten-year age bins, the pattern is monotone: inflation responses become steadily less negative from households under 25 to households 75 and older. Over the first year after the shock, the cumulative response is about -4.1 percent for households under 25 and about -2.1 percent for households 75 and older.

Younger and older households spend very differently across broad consumption categories. Most notably, younger households devote a much larger share of spending to transportation (including motor fuel, vehicles, and auto insurance), while older households devote a much larger share to medical care (including prescription drugs, physician services, and hospital services). These two sectors also differ sharply in their price responsiveness to monetary policy: transportation prices fall strongly, while medical care prices rise slightly. A coarse composition exercise that weights BLS major-group CPI responses by age-specific expenditure shares from the Consumer Expenditure Survey captures most of the age gradient. This suggests that the main age pattern is already visible in broad expenditure composition, rather than requiring finer within-category differences in consumption baskets. This decomposition is especially natural in our setting because the age profile of expenditure shares is stark in categories such as transportation and medical care, and differs visibly from the corresponding profile by income quintile (Appendix Table A.5).

Our paper sits at the intersection of two literatures. First, a growing literature studies inflation heterogeneity across households and how monetary policy may affect the prices different households face (Jaravel, 2021; Ampudia, Ehrmann, and Strasser, 2024; Lauper and Mangiante, 2023; Cravino, Lan, and Levchenko, 2020). That work has focused mainly on income. We instead study age as a distinct source of inflation heterogeneity and show that age-specific inflation responses can be understood through a simple, transparent decomposition based on broad CPI categories.

[1] Jaravel (2024) documents persistent age differences in inflation, including higher inflation for households above 65 than for the average household. We use his age-specific CPI series to study how these age-specific inflation rates respond to monetary policy shocks.

[2] Following convention, the age of a household refers to the age of the "reference person" in the CEX survey. This is the first person listed in the survey response and can be considered as the head of the household.

Second, our paper relates to work on age and monetary transmission through real channels such as labor income, assets, and consumption (Berg et al., 2021; Leahy and Thapar, 2022; Wong, 2018), as well as to research linking demographic aging to inflation dynamics (Ambrocio, 2023; Curtis, Garín, and Lester, 2024; Sugisaki, 2025). Relative to these papers, we focus directly on age-specific inflation responses rather than real-side transmission outcomes, and we show that a coarse sectoral decomposition already accounts for most of the observed age gradient.

2 Data and Empirical Strategy

We use the following sources of data for our analysis. For the baseline results we combine the age-specific distributional CPIs with high-frequency monetary policy shocks and commonly used monthly macroeconomic indicators. We add age-specific expenditure weights and group-level CPI indices for the mechanism exercise.

Distributional CPIs. We use the age-specific CPI series of Jaravel (2024) for the United States. These are constructed from publicly available BLS price changes and CEX expenditure weights, following the official CPI methodology. The monthly sample begins in 1983 and includes both an under-65 versus 65+ split and ten-year age bins from under 25 through 75+.

Monetary policy shocks and macroeconomic data. We use the orthogonalized high-frequency monetary policy shock series of Bauer and Swanson (2023) in a proxy-SVAR following Gertler and Karadi (2015). We prefer the proxy-SVAR over local projections because the distributional CPI data begin in 1983 while the Bauer-Swanson shocks begin only in 1988; the proxy-SVAR lets us estimate the reduced form on the full sample while using the shorter shock window for identification. The reduced-form VAR includes the 1-year Treasury yield, industrial production, the excess bond premium of Gilchrist and Zakrajšek (2012), and the CPI variable of interest, estimated monthly from 1983:1 to 2020:1 with 12 lags and a constant.[3] All impulse responses are scaled to a 25 basis point increase in the 1-year Treasury rate.

Mechanism exercise. We construct age-specific expenditure weights across eight BLS CPI major groups (food and beverages, housing, apparel, transportation, medical care, recreation, education and communication, and other goods and services) using published CEX age tables

[3]The sample ends before the COVID period. We use the 1-year Treasury rate rather than the federal funds rate so that the shock captures both target-rate and forward-guidance components.

for 2019.[4] This broad-group exercise is informative because it asks whether the age gradient can already be captured using a small, transparent set of CPI categories, rather than only at the much finer item-level detail embedded in the Jaravel indices. On the price side, we estimate a separate proxy-SVAR for each major CPI group, holding fixed the same baseline monthly specification used above and replacing the CPI variable with the relevant major-group price index. Recreation and education and communication are available only from 1993 onward, so those responses are estimated on a shorter sample. We then construct, for each age group g, a predicted inflation response as the expenditure-share-weighted average of the major-group CPI responses:

$$\widehat{IRF}_g(h) = \sum_k w_{gk}\, IRF_k(h),$$

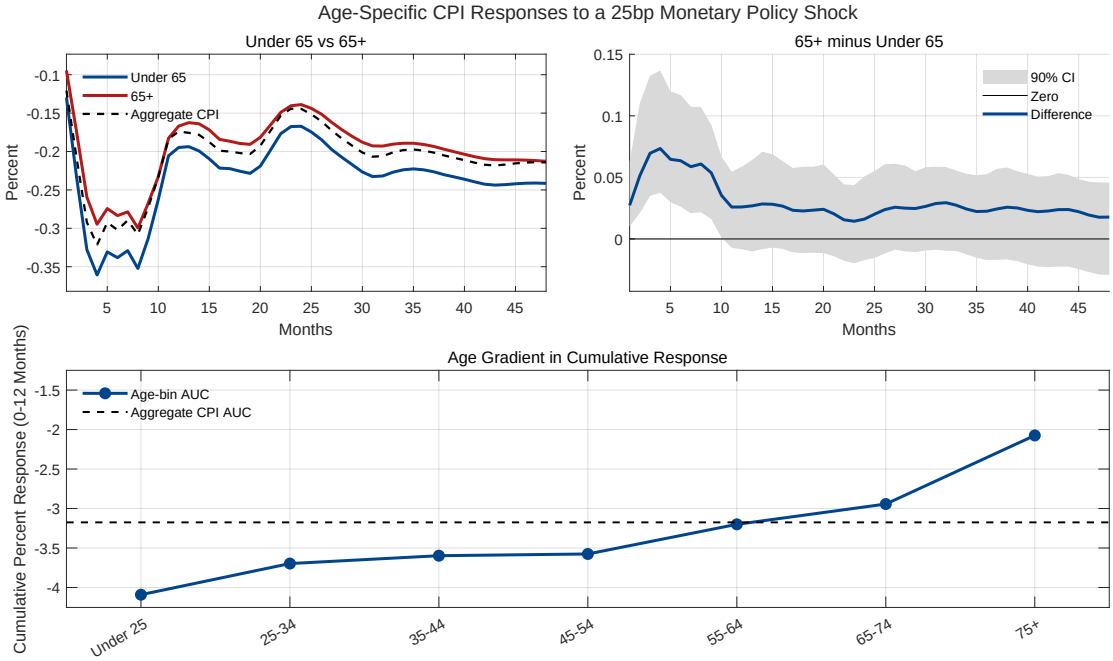
where w_{gk} is the normalized expenditure share of age group g in CPI group k, and $IRF_k(h)$ is the estimated impulse response of major group k at horizon h. We summarize each response by its cumulative effect over months 0 through 12.

3 Results

Age gradient in inflation responses. Figure 1 reports the responses of aggregate CPI and age-specific CPIs to a 25 basis point contractionary monetary policy shock. Two features stand out. First, in the top-left panel, the CPI faced by younger households (under 65) declines more sharply than either the aggregate CPI or the CPI for older households (65+) throughout the first year after a contractionary shock. At six months, the under-65 CPI has fallen by about 0.34 percent compared with about 0.28 percent for the 65+ CPI. The top-right panel confirms that this difference is statistically significant for roughly ten months after the shock. Second, the bottom panel shows that the pattern extends across the full set of age bins: the cumulative response is monotonically less negative as we move from households under 25 to households 75 and older. Taken together, the panels show that the response of inflation to monetary policy becomes systematically less negative with age. At the endpoints of the age distribution, the cumulative response over the first year is about -4.1 for households under 25 and about -2.1 for households 75 and older, implying a gap of roughly 2.0 percentage points.

[4] Jaravel (2024) shows that his inflation inequality results are robust to fixing expenditure shares at end-of-sample values. In our case, the broad age patterns in expenditure shares in 2019 are very similar to intermediate years, such as in the 2007 CEX table; in particular, the transportation-medical care tradeoff across age bins is present in both years.

Figure 1: Effects of monetary policy on inflation by age



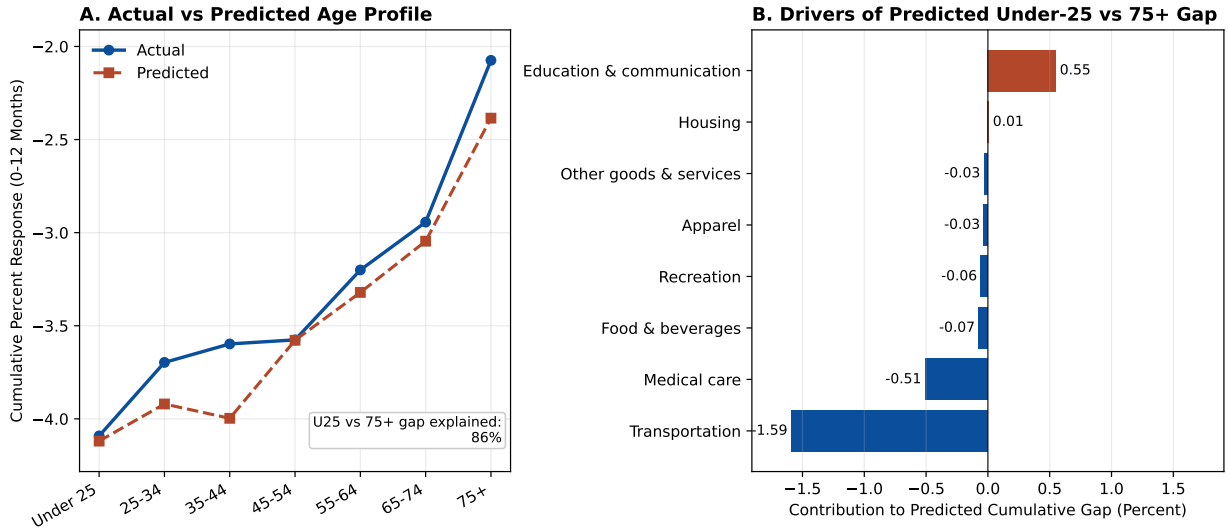
Impulse responses to a 25 basis point contractionary monetary policy shock. The top-left panel plots the responses of aggregate CPI together with the CPI for households under 65 and for households 65 and older. The top-right panel plots the difference between the 65+ and under-65 CPI responses, with 90% bootstrapped confidence intervals. The bottom panel reports the cumulative response over months 0–12 for the detailed age bins. The reduced-form VAR is estimated from 1983:1 to 2020:1 and identification uses the Bauer-Swanson shock sample from 1988:2 to 2019:12. See Section 2 for details.

What drives the age gradient? To understand the age gradient, we next examine whether differences in spending patterns across broad CPI categories can account for it. Figure 2 shows that they can. The exercise starts from two empirical observations. First, broad CPI groups respond quite differently to monetary policy (Appendix Figure A.1). Second, expenditure shares across those same groups vary systematically with age (Appendix Table A.1). Panel A compares the actual cumulative age profile with the profile predicted by the eight-group expenditure-share decomposition. The predicted profile tracks the actual one closely and captures more than four-fifths of the gap between the under-25 and 75+ responses. This close fit suggests that most of the age gradient is already captured by differences in expenditure shares across broad CPI categories, rather than by finer within-category differences in consumption baskets.

Which broad CPI categories account for the predicted age gap? Panel B answers this question by decomposing the under-25 minus 75+ gap into contributions from each of the eight groups. Transportation dominates, accounting for about −1.59 percentage points of the predicted cumu-

lative gap: younger households spend much more on transportation (23.5% versus 15.3%), and transportation prices are among the most responsive to monetary policy. Medical care is the second-largest contributor at about −0.51 percentage points, reflecting the much higher medical expenditure share among older households (17.7% versus 4.3%) and the fact that medical-care prices move in the opposite direction after a contractionary shock. Housing contributes almost nothing because all age groups spend roughly similar shares on it. The later-start categories are not central to the mechanism: education and communication partly offsets the predicted gap, and recreation contributes very little, while the main contributions come from transportation and medical care. Appendix Table A.5 shows that the age and income profiles of expenditure shares are qualitatively different. Transportation spending falls sharply with age (23.5% for under-25 versus 15.3% for 75+) but varies little across income quintiles (16.9% to 20.0%). Medical care rises steeply with age (4.3% to 17.7%) but has a flatter income profile (10.6% to 8.8%). This suggests that the age gradient is not simply mirroring the income profile of expenditure shares and is more naturally tied to age-specific consumption patterns. Taken together, the results indicate that younger households are more exposed to categories whose prices are highly responsive to monetary policy, while older households are more exposed to categories whose prices respond much less. The full set of major-group IRFs, expenditure weights, and contribution details appear in the Appendix.

Figure 2: Expenditure composition and the age gradient in inflation responses



Panel A compares the actual age profile of cumulative CPI responses over months 0–12 with the profile predicted by combining age-specific CEX expenditure shares with BLS major-group CPI responses. Panel B decomposes the predicted under-25 minus 75+ gap into contributions from the eight CPI groups. All units are expressed as cumulative percent deviations.

First-stage F statistics for the orthogonalized Bauer-Swanson shock are modest, around 5 for

the headline age specifications and about 3.7 for the 65+ minus under-65 differential (Appendix Table A.3). We therefore interpret the exact orthogonalized-shock magnitudes with caution, especially for the later-start recreation and education and communication categories. Our emphasis is on the qualitative age gradient and on the fact that transportation and medical care are the main drivers of the decomposition. That message is not fragile: Appendix Figure A.2 shows that the age gradient and the broad expenditure-share decomposition are similar under the raw Bauer-Swanson shock, which delivers substantially stronger first stages.

4 Conclusion

We show that contractionary monetary policy lowers the inflation rate faced by younger households more than the inflation rate faced by older households. The age pattern is monotone across ten-year bins and can largely be traced to broad differences in expenditure composition, especially the relative importance of transportation for younger households and medical care for older households. More broadly, the results suggest that the effects of disinflation are not uniform across the age distribution, a consideration that may become increasingly relevant as population aging changes the composition of household spending.

Declaration of generative AI and AI-assisted technologies in the writing process. During the preparation of this work the authors used Codex (OpenAI) in order to assist with editing and revising the manuscript and to review replication code. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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Appendix

Table A.1: Age-specific expenditure shares across BLS major CPI groups

Age group	Food & bev.	Housing	Apparel	Transport.	Medical	Recreation	Educ./comm.	Other goods & serv.
Under 25	17.5	32.6	4.0	23.5	4.3	4.1	11.3	2.8
25–34	16.3	38.5	3.9	21.2	6.5	5.0	5.2	3.3
35–44	16.5	35.6	4.0	21.9	7.7	6.0	4.8	3.5
45–54	16.9	33.0	3.7	20.8	8.3	6.1	7.3	3.9
55–64	16.3	32.8	3.2	19.9	10.4	7.1	6.0	4.2
65–74	16.5	34.6	3.1	18.0	14.1	5.9	3.8	3.9
75+	15.2	36.4	2.7	15.3	17.7	5.4	3.3	4.0

Entries are 2019 expenditure shares, in percent, normalized within the included eight-group CPI basket. The shares are constructed from published CEX age tables rather than household-level microdata.

Table A.2: Which sectors drive the predicted age gap?

Category	U25 − 75+ contribution	Share of U25 − 75+ gap	U25 − 65+ contribution
Transportation	-1.59	91.74	-1.27
Education and communication	0.55	-31.79	0.53
Medical care	-0.51	29.31	-0.42
Food and beverages	-0.07	4.28	-0.05
Recreation	-0.06	3.30	-0.07
Apparel	-0.03	1.89	-0.03
Other goods and services	-0.03	1.83	-0.03
Housing	0.01	-0.55	0.01

Entries report contributions, in cumulative percent-deviation units over months 0–12, to the predicted age gap implied by the eight-group expenditure-share decomposition. Positive values offset the tendency for younger households to have more negative inflation responses.

Table A.3: First-stage diagnostics

Specification / category	Orthogonalized B-S shock	Raw B-S shock
Under 65 CPI	5.24	12.30
65+ CPI	5.18	11.79
65+ minus Under 65	3.67	9.72
Food and beverages	4.27	11.39
Housing	4.08	11.10
Apparel	5.21	14.19
Transportation	4.49	12.03
Medical care	4.93	13.00
Recreation	0.43	2.25
Education and communication	1.13	3.86
Other goods and services	4.49	10.66

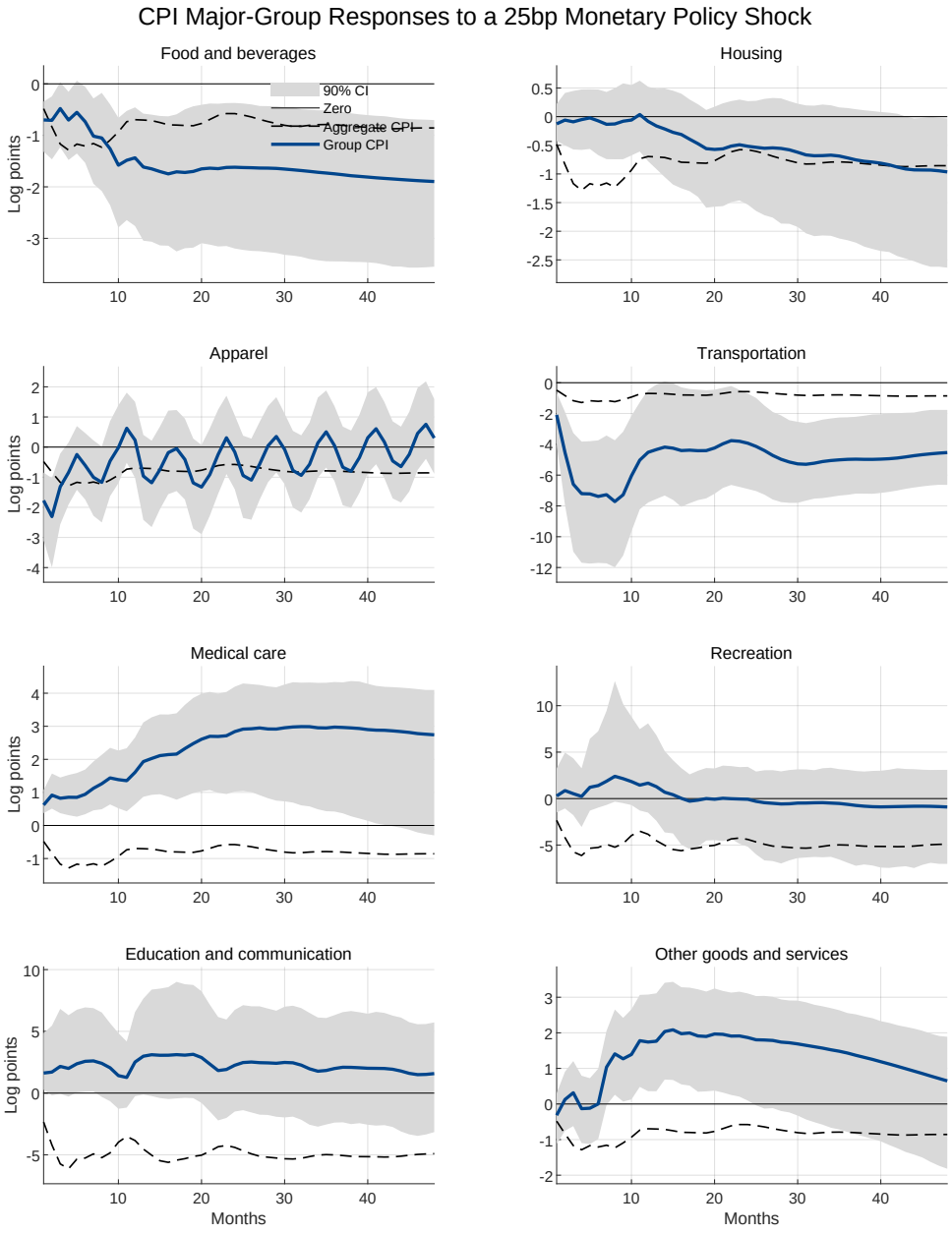
Entries report the robust first-stage F statistics from the proxy-SVAR estimations. The raw Bauer-Swanson shock delivers materially stronger first stages for both the headline age specifications and the broad CPI-group responses, although recreation and education and communication remain the weakest categories.

Table A.4: Mapping the published CEX age tables into BLS CPI major groups

CPI group	CEX components used
Food and beverages	Food + Alcoholic beverages
Housing	Shelter + Natural gas + Electricity + Fuel oil and other fuels + Water and other public services + Household operations + Household furnishings and equipment
Apparel	Apparel and services
Transportation	Transportation
Medical care	Healthcare
Recreation	Entertainment + Reading
Education and communication	Education + Telephone services + Postage and stationery
Other goods and services	Personal care products and services + Tobacco products and smoking supplies + Miscellaneous

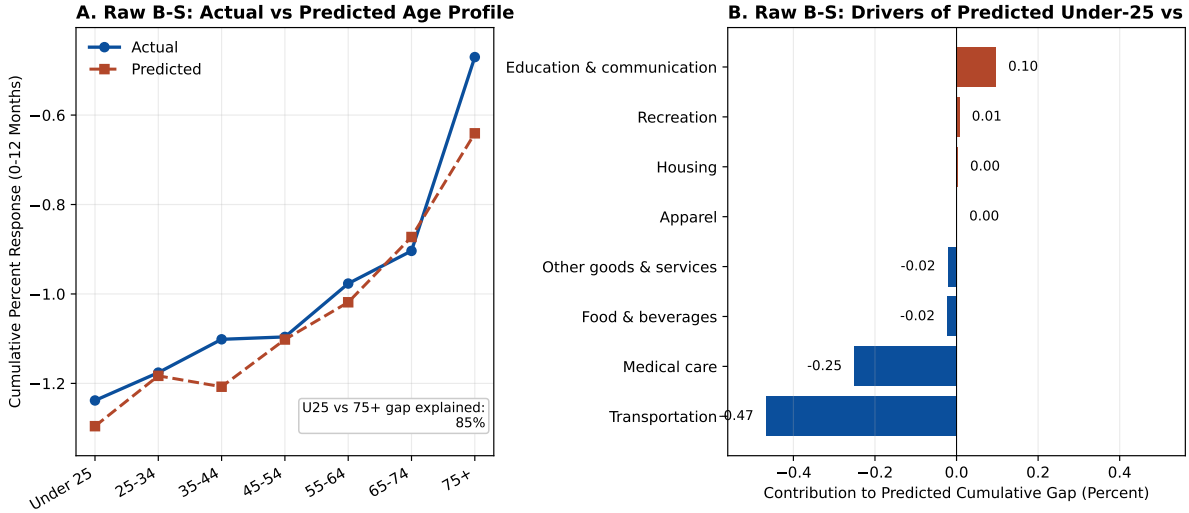
Entries list the published CEX components used to construct each CPI major group. Transportation uses the published CEX transportation row, which includes vehicle finance charges. Education and communication is constructed from the education and communication-related rows available in the published tables.

Figure A.1: Major-group CPI responses to monetary policy



Impulse responses of eight BLS CPI major groups to a 25 basis point contractionary monetary policy shock. Each panel overlays the major-group response with the corresponding sample-matched aggregate CPI response. The reduced-form VAR is estimated on a sample from 1983 to 2020, while identification uses the available Bauer-Swanson shock sample. Recreation and education and communication begin later than the other major groups because of BLS data availability.

Figure A.2: Mechanism robustness under the raw Bauer-Swanson shock



The left panel compares the actual age profile of CPI responses with the profile predicted by combining broad CPI-group responses with age-specific expenditure weights, using the raw Bauer-Swanson shock in place of the orthogonalized shock. The right panel reports the contributions of the eight broad CPI groups to the predicted Under-25 minus 75+ gap. The predicted profile remains upward sloping with age and continues to be driven primarily by transportation and medical care.

Table A.5: Age and income expenditure profiles differ

Category	Under 25	75+	Lowest income quintile	Highest income quintile
Food and beverages	17.5	15.2	17.0	15.9
Housing	32.6	36.4	38.3	34.3
Apparel	4.0	2.7	3.0	3.7
Transportation	23.5	15.3	16.9	20.0
Medical care	4.3	17.7	10.6	8.8
Recreation	4.1	5.4	4.3	7.3
Education and communication	11.3	3.3	5.9	6.6
Other goods and services	2.8	4.0	4.0	3.4

Entries are 2019 expenditure shares, in percent, normalized within the included eight-group CPI basket. The age columns are built from the published CEX age tables used in the main decomposition. The income columns are built from the published CEX income-quintile table using the same eight-group mapping.