SUPPLEMENTARY APPENDIX
Forecasting Core Inflation and Its Goods, Housing, and Supercore Components*

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Abstract

This supplementary appendix provides additional results for our paper, "Forecasting Core Inflation and Its Goods, Housing, and Supercore Components." In these supplementary results we also consider the trend-cycle model of Mertens (2016). We consider extensions of our models that incorporate core intermediate PPI as a proxy for supply chain disruptions. Additionally, we provide additional forecast evaluations for when our BVARs are extended to include an additional 19 variables, for a total of 24 model variables. Finally, we include time series of disaggregate forecasts for the period of 2020 onwards to provide information on how forecasts developed during both the rise and fall of inflation during this period.

Keywords:
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A Trend-Cycle Models

In this section we present forecast evaluations from the trend-cycle model of Mertens (2016), in which a common trend is assumed across the variables of the model and the cyclical components are modeled as following a VAR process. In our application, a common trend is assumed across ECI wage growth, the disaggregates of inflation, and aggregate inflation.

Table 1 compares the forecast performance of the trend-cycle model (TC-SV) to the UC-SV and AM-BVAR-SV models that we consider in our main paper for aggregate and disaggregate inflation forecasts. These results indicate that the trend-cycle specification shows no broad advantage over our BVAR with stochastic volatility. For core PCE inflation, forecasts from the trend-cycle model are comparable to UC-SV forecasts. For the components of inflation, forecasts from the trend-cycle model are on balance modestly less accurate than forecasts from our baseline BVAR. More specifically, over the full sample period, the accuracy of the aggregate inflation forecasts from the TC-SV model is comparable to accuracy of forecasts from the AM-BVAR-SV model. Looking at sub-samples, the results suggest that in a more recent sample, the TC-SV model undeperformed AM-BVAR-SV in forecasting aggregate inflation, but performed marginally better over the longer sample spanning 1985-2017 (similarly to the UC-SV model). Figure 1 is analogous to Figure 3 of our main paper, and presents time series of forecasts of core PCE inflation produced from the trend-cycle model. At multi-step horizons, since the pandemic, the TC-SV forecasts have been more similar to the UC-SV forecasts than to the AM-BVAR-SV baseline.

B Supply Chain Disruption Proxy

Bai, et al. (2024) and Gordon and Clark (2023) find that disruptions to supply chains were important contributing factors to the rise of inflation since 2020. As a result, a natural question is whether the inclusion of a proxy for supply chain disruptions might help improve aggregate and disaggregate inflation forecasts. However, proxies for supply chain disruptions, such as the Federal Reserve Bank of New York's Global Supply Chain Pressure Index (GSCPI), tend to be limited in historical scope and do not extend to our sample start of 1959. In this section we use the core PPI: Intermediate Materials series as a proxy of supply chain disruptions, backcasting the series to 1959:Q1 by taking the predicted values from a regression of the log levels of this series on the headline PPI log levels for

finished goods, intermediate materials, and crude materials. As Figure 2 shows, inflation in the core intermediate PPI tends to follow the GSCPI (relatively closely since 2010), with a contemporaneous correlation of 0.66, and thus is suitable as a proxy for supply chain disruptions.[1]

Forecast evaluations for models that include this proxy can be found in Tables 2-6, which are analogous to Tables 2-6 of the main paper. Diffusion indices for these models can be found in Figures 3-4, which are analogous to Figures 1-2 of the main paper. Note that for all results except those of Table 6, an AM-BVAR-SV model, which excludes core intermediate PPI inflation in its variable set, is used as the benchmark model (i.e. the same baseline model considered in the main paper).

In these results, adding the PPI as a measure of supply chain issues to our baseline variable set is fairly consistent in yielding some small gains in forecast accuracy in the 2018-2023 period. However, in the longer pre-pandemic sample of 1985-2017, adding the PPI has mixed impacts, in some cases yielding small gains in accuracy and others reducing forecast accuracy; on net, over the long sample of 1985-2017, adding the PPI yields no consistent benefit (e.g.,the diffusion index results in Figures 3-4 generally favor our baseline model over the version augmented with the PPI), in line with our finding that our baseline model in five variables is effective for forecasting core inflation and its three components.

C BVARs with Additional Macroeconomic Variables

The variable set considered within our main paper – consisting of the Employment Cost Index, core inflation, and some disaggregates of inflation – is fairly small compared to what is now sometimes employed in the forecasting literature. For example, Carriero, Clark, and Marcellino (2019) and Carriero, et al. (2022a) consider models with 20 economic variables, Carriero, et al. (2022b) considers models with 16 variables, and Chan (2021) considers models with 23 and 30 variables. In a robustness check, we extend our BVAR models to include an additional 19 macroeconomic variables, for an overall total of 24 series, with one coming from the core intermediate PPI series discussed in section B and 18 taken from the FRED-MD database maintained by the Federal Re-

[1] Note that while Figure 2 depicts the PPI series as a year-over-year percent change, for the rest of the results we consider the series transformed according to $400 \cdot \log(\frac{x_t}{x_{t-1}})$. In our models, we order the core intermediate PPI after the ECI.

serve Bank of St. Louis.[2] We aggregate the monthly FRED-MD variables to quarterly values by taking quarterly averages. Table 7 lists the full set of 24 variables that we consider in this exercise, along with the variable transformations and FRED-MD/Haver codes. We order the variables in our model to correspond with Table 7, top to bottom.

Tables 8-11 are analogous to Tables 2-5 of the main paper, and are benchmarked so that values below 1 indicate improvement over the small-scale AM-BVAR-SV forecasts from the main paper (that is, the baseline model we consider in our main paper). Figures 5-6 are analogous to Figures 1-2 of the main paper and are also benchmarked to the small-scale AM-BVAR-SV forecasts from the main paper. Overall, these results indicate that a larger model offers no clear, consistent benefit over the baseline variable set and model. In fact, our smaller baseline generally dominates the larger alternatives.

D Time Series of Disaggregate Forecasts from 2020 Onwards

Analogous to Figure 4 of the main paper, in Figures 7-9 we present time series of forecasts of the disaggregates of inflation, with a focus on forecasts from 2020 on. The SPF does not publish forecasts for the disaggregates we consider and thus are not shown. The broad patterns in core inflation's components align with the patterns in core PCE inflation over the period.

[2]Due to the computational expense of the SVD forecasts we omit them from these supplementary results. We use the 2024-02 vintage of the FRED-MD database for these exercises.

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Table 1: Forecast ratios for RMSEs and CRPSs: trend-cycle and UC-SV models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
Aggregate Core PCE Inflation								
1985:Q1 - 2023:Q4								
UC-SV	1.059	1.006	1.078	1.012	1.039	1.007	1.037	0.995
TC-SV	1.011	**0.996**	1.010	**0.967**	1.016	**0.989**	1.031	**0.964**
1985:Q1 - 2017:Q4								
UC-SV	**0.984**	**0.972**	0.965*	0.941***	**0.952***	**0.927*****	1.021	0.939**
TC-SV	0.985	0.977	**0.943***	**0.928****	0.984	0.953*	1.014	**0.915*****
2018:Q1 - 2023:Q4								
UC-SV	1.150	1.105	1.203	1.215	1.105	1.199	1.047*	1.116**
TC-SV	1.045	1.051	1.087*	1.079	1.042	1.075	1.043*	1.072*
Core PCE Services Excl. Housing Inflation								
1985:Q1 - 2023:Q4								
UC-SV	1.050	1.040	1.094**	1.069**	1.084**	1.075**	1.077**	1.072**
TC-SV	1.040	1.061	1.032	1.022	**0.995**	**0.977**	**0.990**	**0.931****
1985:Q1 - 2017:Q4								
UC-SV	1.034	1.034	1.078*	1.053	1.082*	1.063**	1.092*	1.065*
TC-SV	1.026	1.051	1.001	**0.998**	**0.965**	**0.953**	**0.984**	**0.916****
2018:Q1 - 2023:Q4								
UC-SV	1.107	1.066	1.150	1.139	1.087	1.119	1.051	1.094
TC-SV	1.092	1.109	1.136**	1.127*	1.066	1.069	1.002	**0.982**
PCE Housing Inflation								
1985:Q1 - 2023:Q4								
UC-SV	1.001	**0.998**	1.044	1.047	1.129**	1.119**	1.175**	1.155**
TC-SV	1.427***	1.456***	1.135**	1.171***	1.030	1.079	1.118**	1.144**
1985:Q1 - 2017:Q4								
UC-SV	1.013	1.002	1.041	1.036	1.103*	1.097*	1.202**	1.167**
TC-SV	1.333***	1.413***	1.171***	1.228***	1.122*	1.176**	1.171**	1.211**
2018:Q1 - 2023:Q4								
UC-SV	**0.952**	**0.983**	1.052	1.087	1.169**	1.187**	1.143	1.123
TC-SV	1.747	1.659*	1.050	**0.966**	**0.864**	**0.778**	1.055	**0.955**
Core PCE Goods Inflation								
1985:Q1 - 2023:Q4								
UC-SV	1.057	1.015	1.075	1.023	1.081	1.050	1.035	0.992
TC-SV	1.163**	1.173**	1.126*	1.103*	1.043	1.054	1.001	**0.984**
1985:Q1 - 2017:Q4								
UC-SV	**0.967**	**0.967**	**0.949**	**0.949**	**0.995**	**0.964**	**0.949**	**0.937**
TC-SV	1.115**	1.108**	1.042	1.038	1.041	1.029	1.029	0.984
2018:Q1 - 2023:Q4								
UC-SV	1.141	1.134	1.189*	1.205	1.139*	1.243*	1.093*	1.116***
TC-SV	1.209*	1.337*	1.204**	1.262*	1.044	1.110	**0.981**	**0.984**

Note: Values below 1 indicate improvement over the AM-BVAR-SV model. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h + 1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 2: Forecast ratios for RMSEs and CRPSs, core PCE inflation: core intermediate PPI inflation models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
NM-BVAR-SV	1.025	1.029	1.067	1.063**	1.046*	1.071**	1.024	1.049
NM-BVAR-SVO	1.017	1.034	1.060	1.085***	1.036	1.127***	1.013	1.153***
NM-BVAR-SV-TVM	1.031	1.036	1.091*	1.080**	1.073**	1.096**	1.074	1.088**
NM-BVAR-SVO-TVM	1.028	1.043*	1.093*	1.107***	1.077**	1.152***	1.065	1.161***
AM-BVAR-SV	0.996	**0.998**	1.004	**0.999**	0.994	1.004	0.992	**1.000**
AM-BVAR-SVO	**0.991**	1.007	1.001	1.027**	**0.991**	1.060***	**0.988**	1.092***
AM-BVAR-SV-TVM	1.015	1.016	1.050*	1.039*	1.037	1.049	1.032	1.033
AM-BVAR-SVO-TVM	1.008	1.021	1.047*	1.062***	1.036	1.098***	1.017	1.093***
NGM-BVAR-SV	1.003	1.007	1.007	1.009	0.997	1.014	0.998	1.013
NGM-BVAR-SVO	0.999	1.016*	1.004	1.037***	0.995	1.074***	0.994	1.109***
NGM-BVAR-SV-TVM	1.033*	1.034**	1.075**	1.059**	1.063	1.077**	1.049	1.054
NGM-BVAR-SVO-TVM	1.025	1.038**	1.075**	1.084***	1.065*	1.126***	1.036	1.113***
SVD-GP-NC	1.040	1.025	1.037*	1.020	1.054	1.036	1.077**	1.046
1985:Q1 - 2017:Q4								
NM-BVAR-SV	1.062	1.047	1.143*	1.096**	1.101*	1.103**	0.995	1.053
NM-BVAR-SVO	1.052	1.055**	1.135*	1.128***	1.081*	1.185***	**0.973**	1.221***
NM-BVAR-SV-TVM	1.071	1.054*	1.174**	1.114**	1.165**	1.140***	1.171	1.130**
NM-BVAR-SVO-TVM	1.069	1.066**	1.179**	1.151***	1.169**	1.218***	1.165	1.254***
AM-BVAR-SV	0.999	1.000	1.011	1.001	0.991	1.006	0.984	1.001
AM-BVAR-SVO	**0.996**	1.014	1.013	1.041***	**0.987**	1.089***	0.978	1.148***
AM-BVAR-SV-TVM	1.028	1.022	1.072*	1.046*	1.060	1.058*	1.064	1.044
AM-BVAR-SVO-TVM	1.020	1.032**	1.072*	1.078***	1.053	1.128***	1.043	1.148***
NGM-BVAR-SV	1.011	1.012	1.019	1.015	0.998	1.022	0.999	1.021
NGM-BVAR-SVO	1.009	1.026**	1.020	1.055***	0.994	1.110***	0.993	1.175***
NGM-BVAR-SV-TVM	1.048**	1.040**	1.091**	1.060**	1.084*	1.082**	1.092	1.070
NGM-BVAR-SVO-TVM	1.040*	1.049***	1.093*	1.095***	1.082*	1.154***	1.077	1.173***
SVD-GP-NC	1.069	1.038	1.057*	1.015	1.052	1.001	1.159**	1.038
2018:Q1 - 2023:Q4								
NM-BVAR-SV	0.973	0.976	0.964*	0.967*	1.000	0.995	1.043**	1.042*
NM-BVAR-SVO	**0.969**	**0.972**	**0.957***	**0.961***	0.997	**0.986**	1.039**	1.005
NM-BVAR-SV-TVM	0.976	0.983	0.979	0.982	**0.991**	0.990	1.003	0.995
NM-BVAR-SVO-TVM	0.972	0.974	0.974	0.980	0.994	0.991	**0.991**	**0.957****
AM-BVAR-SV	0.990	0.991	0.995	0.995	0.997	0.999	0.998	0.998
AM-BVAR-SVO	0.985**	0.985	0.987*	0.987	0.995**	0.989	0.996	0.967*
AM-BVAR-SV-TVM	0.997	0.999	1.021	1.018	1.018	1.027	1.010	1.009
AM-BVAR-SVO-TVM	0.990	0.990	1.016	1.016	1.022	1.023	0.998	0.971
NGM-BVAR-SV	0.991*	0.993	0.991	0.992	0.996	0.996	0.997	0.995
NGM-BVAR-SVO	0.986**	0.987	0.984*	0.985	0.995**	0.987	0.995	0.964**
NGM-BVAR-SV-TVM	1.012	1.015	1.056	1.056	1.046	1.065	1.019	1.020
NGM-BVAR-SVO-TVM	1.005	1.007	1.053	1.054	1.050	1.059	1.008	0.981
SVD-GP-NC	0.999	0.986	1.012	1.036	1.056	1.120	1.018	1.065

Note: Values below 1 indicate improvement over an AM-BVAR-SV model that does not include core intermediate PPI inflation. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h+1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 3: Forecast ratios for RMSEs and CRPSs, core PCE services excl. housing inflation: core intermediate PPI inflation models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
NM-BVAR-SV	0.986	1.005	1.026	1.022	1.008	1.017	0.987	1.011
NM-BVAR-SVO	**0.984**	1.007	1.026	1.036	1.004	1.055**	0.980	1.100***
NM-BVAR-SV-TVM	0.992	1.008	1.040*	1.032*	1.028	1.031	1.007	1.023
NM-BVAR-SVO-TVM	0.985	1.008	1.035*	1.041**	1.030	1.068***	1.004	1.087***
AM-BVAR-SV	0.991	**0.990**	0.999	**0.988**	0.983	**0.984**	0.983	0.994
AM-BVAR-SVO	0.990	0.996	1.000	1.004	0.983	1.021	0.979*	1.069***
AM-BVAR-SV-TVM	0.998	1.001	1.019	1.006	1.002	1.000	0.985	0.995
AM-BVAR-SVO-TVM	0.990	1.002	1.013	1.018	0.999	1.032**	**0.973**	1.046**
NGM-BVAR-SV	0.998	0.997	**0.997**	0.993	**0.980**	0.991	0.989	1.008
NGM-BVAR-SVO	0.999	1.004	0.997	1.010	0.981	1.032**	0.986	1.087***
NGM-BVAR-SV-TVM	0.999	1.005	1.034	1.017	1.016	1.015	1.001	1.014
NGM-BVAR-SVO-TVM	0.994	1.007	1.032	1.029*	1.016	1.047***	0.992	1.062***
SVD-GP-NC	1.002	1.006	1.030**	1.028	1.042	1.031	1.017	**0.982**
1985:Q1 - 2017:Q4								
NM-BVAR-SV	0.984	1.007	1.034	1.029	1.005	1.021	0.959	1.004
NM-BVAR-SVO	**0.983**	1.010	1.038	1.048*	1.001	1.069**	**0.948**	1.127***
NM-BVAR-SV-TVM	0.993	1.013	1.052**	1.040*	1.037	1.041*	1.008	1.030
NM-BVAR-SVO-TVM	0.985	1.013	1.048**	1.054**	1.039	1.086***	1.010	1.122***
AM-BVAR-SV	0.991	**0.992**	0.998	**0.986**	0.979	**0.984**	0.979	0.996
AM-BVAR-SVO	0.991	1.000	1.003	1.009	0.981	1.031**	0.974	1.100***
AM-BVAR-SV-TVM	1.003	1.008	1.031*	1.015	1.008	1.006	0.975	0.991
AM-BVAR-SVO-TVM	0.994	1.009	1.026	1.030**	1.003	1.045***	0.963*	1.065***
NGM-BVAR-SV	1.000	1.001	**0.996**	0.993	**0.974**	0.992	0.989	1.014
NGM-BVAR-SVO	1.002	1.010	1.001	1.017	0.977	1.045**	0.986	1.123***
NGM-BVAR-SV-TVM	1.007	1.014	1.051	1.028*	1.026	1.021	0.996	1.012
NGM-BVAR-SVO-TVM	1.001	1.016	1.051	1.043***	1.025	1.060***	0.987	1.083***
SVD-GP-NC	0.998	1.005	1.026	1.020	1.045	1.021	1.052	**0.990**
2018:Q1 - 2023:Q4								
NM-BVAR-SV	0.993	0.998	0.996	0.992	1.018	1.003	1.035*	1.034
NM-BVAR-SVO	0.987	0.993	0.983	0.985	1.012	0.999	1.034*	1.008
NM-BVAR-SV-TVM	0.985	0.988	0.996	0.993	1.005	0.993	1.007	1.002
NM-BVAR-SVO-TVM	0.985	0.989	0.986	0.986	1.009	1.001	0.993	0.970**
AM-BVAR-SV	0.990	0.981	1.004	0.995	0.995	0.987	0.989	0.990
AM-BVAR-SVO	0.984***	0.976*	0.988	0.984	0.989	0.981*	0.987	0.967***
AM-BVAR-SV-TVM	0.977	0.970	0.976	0.967	**0.985**	**0.977**	1.003	1.010
AM-BVAR-SVO-TVM	0.973	0.969	0.966	**0.965**	0.989	0.984	0.992	0.981
NGM-BVAR-SV	0.992*	0.983	1.000	0.992	0.995	0.985	0.988	0.987
NGM-BVAR-SVO	0.987*	0.979*	0.984*	0.982	0.989*	0.981	0.988	0.966***
NGM-BVAR-SV-TVM	0.971	0.968	0.974	0.971	0.990	0.989	1.011	1.021
NGM-BVAR-SVO-TVM	**0.966**	**0.966**	**0.964**	0.968	0.993	0.995	1.001	0.992
SVD-GP-NC	1.018	1.012	1.047	1.063	1.035	1.070	**0.949****	**0.957**

Note: Values below 1 indicate improvement over the AM-BVAR-SV model without core intermediate PPI inflation. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h+1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 4: Forecast ratios for RMSEs and CRPSs, PCE housing inflation: core intermediate PPI inflation models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
NM-BVAR-SV	0.998	1.005	0.967	0.983	0.978	0.992	1.024	1.040
NM-BVAR-SVO	0.999	1.009	0.969	0.990	0.978	1.002	1.019	1.071*
NM-BVAR-SV-TVM	0.987	0.981	**0.956**	**0.961**	0.966	0.983	1.038	1.046
NM-BVAR-SVO-TVM	0.986	0.985	0.958	0.968	**0.961**	0.986	1.022	1.054
AM-BVAR-SV	0.981**	0.983*	0.971*	0.976*	0.975	0.979	0.993	0.990
AM-BVAR-SVO	0.980**	0.986	0.972*	0.981	0.976	0.988	0.991	1.018
AM-BVAR-SV-TVM	0.979	**0.972**	0.967	0.970	0.989	1.001	1.060	1.061
AM-BVAR-SVO-TVM	0.979	0.975	0.971	0.978	0.987	1.003	1.049	1.063
NGM-BVAR-SV	0.976**	0.978**	0.965*	0.972*	0.970	**0.976**	0.989	**0.988**
NGM-BVAR-SVO	**0.976****	0.981*	0.965*	0.977	0.971	0.987	**0.988**	1.019
NGM-BVAR-SV-TVM	0.987	0.979	0.989	0.990	1.015	1.021	1.079**	1.081*
NGM-BVAR-SVO-TVM	0.986	0.982	0.992	0.996	1.011	1.022	1.070**	1.082
SVD-GP-NC	0.980	0.983	0.997	1.003	1.040	1.038	1.031	1.046
1985:Q1 - 2017:Q4								
NM-BVAR-SV	1.023	1.030	1.004	1.019	1.011	1.023	1.044	1.064
NM-BVAR-SVO	1.024	1.036	1.007	1.029	1.011	1.042	1.037	1.120***
NM-BVAR-SV-TVM	1.021	1.011	1.018	1.010	1.046	1.039	1.092	1.080
NM-BVAR-SVO-TVM	1.018	1.013	1.017	1.017	1.039	1.048	1.070	1.105
AM-BVAR-SV	0.993	0.993	0.990	0.991	0.991	0.991	0.991	0.990
AM-BVAR-SVO	0.992	0.998	0.992	1.001	0.993	1.009	0.989	1.041**
AM-BVAR-SV-TVM	1.012	0.998	1.030	1.015	1.063	1.049	1.111*	1.085
AM-BVAR-SVO-TVM	1.010	1.001	1.032	1.025	1.061	1.058	1.099	1.103
NGM-BVAR-SV	**0.991**	**0.990**	**0.988**	**0.990**	**0.989**	**0.990**	0.986	**0.989**
NGM-BVAR-SVO	0.991	0.996	0.990	1.000	0.992	1.012	**0.984**	1.045*
NGM-BVAR-SV-TVM	1.012	0.998	1.040	1.025	1.073*	1.058	1.126*	1.101
NGM-BVAR-SVO-TVM	1.010	1.001	1.041	1.034	1.067*	1.065	1.115*	1.117*
SVD-GP-NC	1.004	1.007	1.026	1.034	1.062	1.057	1.059*	1.065
2018:Q1 - 2023:Q4								
NM-BVAR-SV	0.895*	0.885	0.877**	0.851*	0.923*	0.896**	1.001	0.975**
NM-BVAR-SVO	0.894*	0.886	0.877**	0.846*	0.923*	0.876*	0.998	0.934***
NM-BVAR-SV-TVM	**0.838***	**0.842**	**0.796***	**0.785***	0.824	0.811	0.974	0.952
NM-BVAR-SVO-TVM	0.848*	0.851	0.809*	0.793	**0.822**	**0.794**	**0.965**	**0.911**
AM-BVAR-SV	0.933**	0.934**	0.926*	0.921**	0.948	0.943*	0.995	0.989*
AM-BVAR-SVO	0.929**	0.930**	0.923*	0.911**	0.947	0.922*	0.994	0.952**
AM-BVAR-SV-TVM	0.838*	0.848*	0.804*	0.804*	0.859	0.852	0.998	0.994
AM-BVAR-SVO-TVM	0.845*	0.853	0.813*	0.805*	0.855	0.833	0.990	0.952
NGM-BVAR-SV	0.917**	0.919**	0.910*	0.906**	0.939*	0.931**	0.993	0.985*
NGM-BVAR-SVO	0.911**	0.912**	0.906*	0.894**	0.936	0.910*	0.992	0.947**
NGM-BVAR-SV-TVM	0.883*	0.890	0.861*	0.861*	0.915	0.905	1.022**	1.024
NGM-BVAR-SVO-TVM	0.888	0.892	0.868*	0.859	0.915	0.888	1.016**	0.981
SVD-GP-NC	0.879**	0.874**	0.926	0.890*	1.003	0.982	0.998	0.992

Note: Values below 1 indicate improvement over an AM-BVAR-SV model that does not include core intermediate PPI inflation. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h+1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 5: Forecast ratios for RMSEs and CRPSs, core PCE goods inflation: core intermediate PPI inflation models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
NM-BVAR-SV	1.054	1.058**	1.058	1.059*	1.016	1.038*	1.012	1.020
NM-BVAR-SVO	1.047	1.055**	1.051	1.064**	1.009	1.057***	1.007	1.064**
NM-BVAR-SV-TVM	1.047	1.040	1.068	1.046	1.018	1.028	1.038	1.027
NM-BVAR-SVO-TVM	1.050	1.044	1.072	1.060	1.017	1.050	1.034	1.060
AM-BVAR-SV	0.997	0.997	0.997	1.002	1.008	1.017	1.001	1.004
AM-BVAR-SVO	**0.993**	0.997	**0.993**	1.009	1.006	1.033***	0.999	1.037**
AM-BVAR-SV-TVM	1.002	**0.993**	1.011	**0.993**	0.988	**0.983**	0.996	0.969
AM-BVAR-SVO-TVM	1.002	0.995	1.012	1.002	**0.988**	1.000	0.991	0.994
NGM-BVAR-SV	1.004	1.007	1.006	1.014	1.013	1.027**	1.007	1.014
NGM-BVAR-SVO	0.998	1.006	1.002	1.021	1.011	1.043***	1.003	1.046***
NGM-BVAR-SV-TVM	1.022	1.008	1.040	1.013	0.995	0.986	0.993	**0.969**
NGM-BVAR-SVO-TVM	1.021	1.010	1.042	1.022	0.996	1.005	**0.989**	0.996
SVD-GP-NC	1.042**	1.052**	1.031	1.039	1.040**	1.061*	1.051**	1.061**
1985:Q1 - 2017:Q4								
NM-BVAR-SV	1.125**	1.093***	1.143*	1.101**	1.057*	1.064**	0.989	1.017
NM-BVAR-SVO	1.113**	1.090***	1.133*	1.109***	1.045	1.094***	**0.980**	1.091**
NM-BVAR-SV-TVM	1.116	1.071*	1.153	1.080	1.082	1.058	1.093	1.043
NM-BVAR-SVO-TVM	1.126	1.082*	1.163	1.101	1.082	1.092*	1.093	1.100
AM-BVAR-SV	1.004	1.002	1.007	1.008	1.021	1.025*	1.005	1.010
AM-BVAR-SVO	**0.997**	1.003	1.002	1.018	1.017	1.050***	1.003	1.064***
AM-BVAR-SV-TVM	1.018	1.000	1.021	**0.996**	0.998	0.986	1.000	**0.958**
AM-BVAR-SVO-TVM	1.021	1.006	1.025	1.010	0.997	1.013	0.997	1.003
NGM-BVAR-SV	1.015	1.015	1.024	1.026	1.036*	1.041**	1.022	1.026
NGM-BVAR-SVO	1.008	1.015	1.019	1.035	1.032*	1.067***	1.018	1.079***
NGM-BVAR-SV-TVM	1.035	1.011	1.032	1.005	**0.989**	**0.979**	0.999	0.958
NGM-BVAR-SVO-TVM	1.037	1.017	1.035	1.019	0.991	1.010	0.997	1.006
SVD-GP-NC	1.078**	1.069**	1.059	1.048	1.065	1.053	1.116**	1.082*
2018:Q1 - 2023:Q4								
NM-BVAR-SV	0.977*	0.970*	0.963*	0.956**	0.987	0.981	1.029	1.027
NM-BVAR-SVO	0.975*	0.968**	**0.961***	**0.953****	0.982	0.972	1.026	1.005
NM-BVAR-SV-TVM	0.972**	0.961**	0.975	0.960*	0.969	0.961	0.996	0.992
NM-BVAR-SVO-TVM	**0.966***	**0.950****	0.972*	0.958**	**0.968**	**0.956**	0.988	**0.971****
AM-BVAR-SV	0.991	0.984	0.987	0.988	0.999	0.998	0.998	0.991**
AM-BVAR-SVO	0.988	0.982	0.985	0.987	0.998	0.994	0.996*	0.976
AM-BVAR-SV-TVM	0.986	0.975	1.002	0.986	0.981	0.975	0.994	0.993
AM-BVAR-SVO-TVM	0.981	0.968	0.999	0.985	0.981	0.970	0.987	0.974
NGM-BVAR-SV	0.992	0.987	0.986	0.986	0.996	0.993*	0.995*	0.988***
NGM-BVAR-SVO	0.989	0.984	0.985	0.986	0.995	0.990	0.993**	0.973
NGM-BVAR-SV-TVM	1.009	1.000	1.049	1.032	0.999	1.001	0.989	0.992
NGM-BVAR-SVO-TVM	1.004	0.993	1.049	1.032	1.000	0.996	**0.982**	0.972
SVD-GP-NC	1.003	1.009	1.002	1.017	1.022	1.078	1.000	1.014

Note: Values below 1 indicate improvement over an AM-BVAR-SV model that does not include core intermediate PPI inflation. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h + 1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 6: Forecast ratios for RMSEs and CRPSs when using bottom-up approach, core PCE inflation: core intermediate PPI inflation models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
NM-BVAR-SV	0.993	0.996	0.991	0.996	0.998	1.000	0.997	1.000
NM-BVAR-SVO	0.999	0.999	0.995	0.996	1.005	1.001	1.003	0.999
NM-BVAR-SV-TVM	1.003	1.004	1.002	1.004	1.014	1.010	1.010	1.002
NM-BVAR-SVO-TVM	1.002	1.001	0.994	0.993	1.000	0.992	1.002	0.985
AM-BVAR-SV	1.008	1.011	1.029	1.037**	1.030***	1.045***	1.019	1.032***
AM-BVAR-SVO	1.011	1.010	1.029*	1.031**	1.031**	1.041***	1.016	1.029***
AM-BVAR-SV-TVM	1.008	1.009	1.020*	1.023**	1.024**	1.025**	1.018	1.013
AM-BVAR-SVO-TVM	1.012	1.010	1.018*	1.017*	1.016	1.013	1.017	1.005
NGM-BVAR-SV	1.003	1.005	1.028	1.030**	1.031***	1.037***	1.020	1.023*
NGM-BVAR-SVO	1.007	1.005	1.029*	1.024*	1.032***	1.029**	1.017	1.016
NGM-BVAR-SV-TVM	1.014	1.013	1.025	1.025	1.004	1.005	0.992	0.984
NGM-BVAR-SVO-TVM	1.013	1.009	1.018	1.009	**0.996**	**0.985**	0.989	**0.964****
SVD-GP-NC	**0.973**	**0.978**	**0.982**	**0.987**	1.012	1.018	**0.975**	0.973
1985:Q1 - 2017:Q4								
NM-BVAR-SV	0.994	0.997	0.992	0.997	1.003	1.003	1.002	1.001
NM-BVAR-SVO	1.002	1.000	0.996	0.995	1.017	1.004	1.020	1.000
NM-BVAR-SV-TVM	1.006	1.007	1.002	1.004	1.012	1.007	0.996	0.989
NM-BVAR-SVO-TVM	1.004	1.003	0.991	0.992	**0.994**	**0.988**	0.979	0.968
AM-BVAR-SV	1.021	1.017	1.073***	1.059***	1.077***	1.068***	1.021	1.038**
AM-BVAR-SVO	1.024	1.015	1.069***	1.048***	1.079***	1.059***	1.021	1.036**
AM-BVAR-SV-TVM	1.015	1.014	1.045***	1.035***	1.047**	1.036**	1.015	1.005
AM-BVAR-SVO-TVM	1.020	1.013	1.042***	1.028**	1.040**	1.021*	1.012	0.994
NGM-BVAR-SV	1.011	1.008	1.069***	1.048***	1.076***	1.055***	1.021	1.025
NGM-BVAR-SVO	1.014	1.007	1.066***	1.037**	1.078***	1.042**	1.022	1.017
NGM-BVAR-SV-TVM	1.033	1.022	1.070*	1.046**	1.045	1.025	0.979	0.970
NGM-BVAR-SVO-TVM	1.031	1.017	1.060*	1.027	1.038	0.998	**0.973**	**0.944*****
SVD-GP-NC	**0.942**	**0.960**	**0.973**	**0.984**	1.057	1.035	0.984	0.973
2018:Q1 - 2023:Q4								
NM-BVAR-SV	0.991	0.993	0.990	0.994	0.992	0.993	0.995	0.997
NM-BVAR-SVO	0.994	0.995	0.995	0.997	0.993	0.994	0.992	0.994
NM-BVAR-SV-TVM	0.999	0.994	1.004	1.005	1.016	1.018	1.022*	1.037**
NM-BVAR-SVO-TVM	0.998	0.996	1.001	0.997	1.007	1.003	1.023*	1.035*
AM-BVAR-SV	0.990	0.993	0.968	0.975	0.991	0.988	1.018**	1.017**
AM-BVAR-SVO	0.994	0.996	0.975	0.981	0.990*	0.990	1.013*	1.011
AM-BVAR-SV-TVM	0.997	0.995	0.984	0.989	1.002	0.999	1.020***	1.032***
AM-BVAR-SVO-TVM	1.001	1.000	0.984	0.984	0.996	0.991	1.022***	1.033***
NGM-BVAR-SV	0.992	0.994	0.972	0.978	0.993	0.993	1.019**	1.020**
NGM-BVAR-SVO	0.997	0.998	0.979	0.985	0.992	0.994	1.013*	1.012*
NGM-BVAR-SV-TVM	**0.987**	0.985	0.963	0.966	0.968*	0.959*	1.002	1.017
NGM-BVAR-SVO-TVM	0.988	**0.984**	**0.959***	**0.958***	**0.957****	**0.952**	1.000	1.018
SVD-GP-NC	1.018*	1.033	0.993	0.996	0.973	0.981	**0.966***	**0.975**

Note: Values below 1 indicate improvement over the corresponding core PCE inflation forecast that is taken directly from the model that includes aggregate inflation and core intermediate PPI. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 7: Variables in the expanded data set

Variable	FRED-MD / Haver Code	Transformation
Real Personal Income	RPI	$\Delta \log(x_t) \cdot 400$
Real Personal Consumption Expenditures	DPCERA3M086SBEA	$\Delta \log(x_t) \cdot 400$
Real Manufacturing and Trade Sales	CMRMTSPLx	$\Delta \log(x_t) \cdot 400$
Industrial Production	INDPRO	$\Delta \log(x_t) \cdot 400$
Capacity Utilization	CUMFNS	x_t
Unemployment Rate	UNRATE	x_t
Nonfarm Payrolls	PAYEMS	$\Delta \log(x_t) \cdot 400$
Hours	CES0600000007	$\log(x_t)$
Hourly Earnings	CES0600000008	$\Delta \log(x_t) \cdot 400$
Employment Cost Index	LSP@USECON*	$\Delta \log(x_t) \cdot 400$
PPI (Core Int. Materials)	SP2900@PPI*	$\Delta \log(x_t) \cdot 400$
Core PCE Services excl. Housing	JCSXEHM@USNA*	$\Delta \log(x_t) \cdot 400$
Core PCE Housing Prices	JCSRM@USNA*	$\Delta \log(x_t) \cdot 400$
Core PCE Goods Prices	JCGXFEM@USNA*	$\Delta \log(x_t) \cdot 400$
Core PCE Prices	JCXFEM@USNA*	$\Delta \log(x_t) \cdot 400$
Federal Funds Rate	FEDFUNDS	x_t
Housing Starts	HOUST	$\log(x_t)$
S&P 500	SP500	$\Delta \log(x_t) \cdot 400$
USD / GBP FX Rate	EXUSUKx	$\Delta \log(x_t) \cdot 400$
Spread of 1-Year Treasuries and Federal Funds	T1YFFM	x_t
Spread of 10-Year Treasuries and Federal Funds	T10YFFM	x_t
Spread of Seasoned BAA Bonds and Federal Funds	BAAFFM	x_t
New Orders for Durable Goods	AMDMNOx	$\Delta \log(x_t) \cdot 400$
Unfilled Orders for Durable Goods	AMDMUOx	$\Delta \log(x_t) \cdot 400$

Note: This tables list the variables considered in the models of Appendix D. Codes with a * represent a Haver mnemonic instead of a FRED-MD code. Variable names in bold represent variables that were used in our main paper.

Table 8: Forecast ratios for RMSEs and CRPSs, core PCE inflation: large-scale models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
UC-SV	1.059	1.006	1.078	1.012	1.039	1.007	1.037	**0.995**
NM-BVAR-SV	1.190***	1.181***	1.237**	1.263***	1.288**	1.404***	1.420**	1.593***
NM-BVAR-SVO	1.143***	1.191***	1.230**	1.333***	1.286**	1.564***	1.435**	1.853***
NM-BVAR-SV-TVM	1.193*	1.176**	1.502***	1.427***	1.570***	1.617***	2.415***	2.250***
NM-BVAR-SVO-TVM	1.332*	1.248***	1.452***	1.467***	1.555***	1.728***	2.125***	2.203***
AM-BVAR-SV	1.022	1.110***	1.040*	1.139***	1.034	1.145***	1.050	1.169***
AM-BVAR-SVO	1.017	1.166***	1.032	1.218***	1.035	1.282***	1.062	1.327***
AM-BVAR-SV-TVM	1.087**	1.091**	1.144**	1.143***	1.254***	1.267***	1.615**	1.470***
AM-BVAR-SVO-TVM	1.033	1.073**	1.103**	1.144***	1.086	1.213***	1.168**	1.301***
NGM-BVAR-SV	1.032***	1.116***	1.044**	1.156***	1.043	1.170***	1.060	1.192***
NGM-BVAR-SVO	1.026**	1.171***	1.031	1.238***	1.039	1.318***	1.058	1.356***
NGM-BVAR-SV-TVM	1.061	1.057*	1.110*	1.104**	1.103	1.118**	1.184**	1.222***
NGM-BVAR-SVO-TVM	1.014	1.057	1.099	1.127**	1.082	1.198***	1.100**	1.238***
1985:Q1 - 2017:Q4								
UC-SV	0.984	**0.972**	**0.965***	**0.941*****	**0.952***	**0.927*****	1.021	**0.939****
NM-BVAR-SV	1.302***	1.268***	1.394**	1.364***	1.581**	1.608***	1.823*	1.845***
NM-BVAR-SVO	1.205**	1.265***	1.367**	1.444***	1.524**	1.796***	1.818*	2.243***
NM-BVAR-SV-TVM	1.300***	1.258***	1.608***	1.489***	1.993***	1.874***	3.512***	2.791***
NM-BVAR-SVO-TVM	1.297**	1.262***	1.515***	1.516***	1.954***	1.980***	3.101***	2.767***
AM-BVAR-SV	1.029*	1.156***	1.046*	1.184***	1.074*	1.236***	1.197**	1.302***
AM-BVAR-SVO	1.018	1.220***	1.030	1.287***	1.071*	1.406***	1.227***	1.541***
AM-BVAR-SV-TVM	1.109**	1.113***	1.137*	1.143**	1.441***	1.370***	2.261**	1.730***
AM-BVAR-SVO-TVM	1.019	1.083**	1.110**	1.174***	1.163*	1.299***	1.401**	1.465***
NGM-BVAR-SV	1.043***	1.163***	1.057**	1.205***	1.089*	1.268***	1.217**	1.335***
NGM-BVAR-SVO	1.037**	1.227***	1.035	1.314***	1.078	1.453***	1.218**	1.584***
NGM-BVAR-SV-TVM	1.040	1.058*	1.088*	1.096**	1.127**	1.162***	1.442***	1.358***
NGM-BVAR-SVO-TVM	**0.969**	1.052	1.033	1.119***	1.076	1.243***	1.257**	1.380***
2018:Q1 - 2023:Q4								
UC-SV	1.150	1.105	1.203	1.215	1.105	1.199	1.047*	1.116**
NM-BVAR-SV	1.021	**0.930**	1.007	**0.974**	**0.985**	**0.909**	1.060	1.038
NM-BVAR-SVO	1.056	0.976	1.033	1.016	1.051	1.002	1.100*	0.995
NM-BVAR-SV-TVM	1.034	0.939	1.357	1.250	1.109	0.995	1.181*	1.059
NM-BVAR-SVO-TVM	1.376	1.208	1.370	1.326	1.129	1.120	1.017	0.965
AM-BVAR-SV	1.013	0.978	1.032	1.011	1.001	0.924	0.936***	0.876***
AM-BVAR-SVO	1.015	1.011	1.035	1.023	1.004	0.985	0.934***	**0.855*****
AM-BVAR-SV-TVM	1.057	1.028	1.152	1.141	1.077	1.017	0.948**	0.900***
AM-BVAR-SVO-TVM	1.052	1.042	1.095	1.059	1.018	1.008	0.977	0.939**
NGM-BVAR-SV	1.017	0.981	1.027	1.016	1.004	0.932	0.938***	0.877***
NGM-BVAR-SVO	1.011	1.010	1.026	1.020	1.006	0.992	**0.933*****	0.855***
NGM-BVAR-SV-TVM	1.089	1.055	1.135	1.127	1.083	1.014	0.970	0.922**
NGM-BVAR-SVO-TVM	1.070	1.070	1.176	1.150	1.087	1.087	0.978	0.927**

Note: Values below 1 indicate improvement over the small-scale AM-BVAR-SV model from the main paper. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h+1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 9: Forecast ratios for RMSEs and CRPSs, core PCE services excl. housing inflation: large-scale models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
UC-SV	1.050	1.040	1.094**	1.069**	1.084**	1.075**	1.077**	1.072**
NM-BVAR-SV	1.212**	1.257***	1.151**	1.297***	1.229**	1.433***	1.387**	1.672***
NM-BVAR-SVO	1.136**	1.249***	1.169***	1.380***	1.217**	1.573***	1.418**	1.964***
NM-BVAR-SV-TVM	1.173**	1.222***	1.539***	1.489***	1.607***	1.629***	2.445***	2.291***
NM-BVAR-SVO-TVM	1.401**	1.333***	1.459***	1.457***	1.568***	1.706***	2.197***	2.279***
AM-BVAR-SV	1.029*	1.168***	1.044	1.219***	1.051	1.248***	1.024	1.295***
AM-BVAR-SVO	1.022	1.215***	1.026	1.292***	1.042	1.375***	1.039	1.489***
AM-BVAR-SV-TVM	1.068**	1.077**	1.082**	1.089**	1.161***	1.173***	1.689*	1.476***
AM-BVAR-SVO-TVM	**0.999**	1.043*	1.059**	1.103***	1.066	1.168***	1.110	1.265***
NGM-BVAR-SV	1.043**	1.188***	1.038	1.249***	1.045	1.282***	1.026	1.332***
NGM-BVAR-SVO	1.040*	1.240***	1.015	1.331***	1.036	1.429***	1.011	1.541***
NGM-BVAR-SV-TVM	1.041	1.053	1.106**	1.095***	1.082*	1.100**	1.225**	1.263***
NGM-BVAR-SVO-TVM	1.002	1.045	1.051	1.085**	1.052	1.157***	1.133**	1.256***
1985:Q1 - 2017:Q4								
UC-SV	1.034	1.034	1.078*	1.053	1.082*	1.063**	1.092*	1.065*
NM-BVAR-SV	1.238**	1.304***	1.196**	1.347***	1.358***	1.547***	1.565**	1.842***
NM-BVAR-SVO	1.116**	1.284***	1.206***	1.450***	1.325**	1.729***	1.586**	2.241***
NM-BVAR-SV-TVM	1.197***	1.257***	1.402***	1.425***	1.787***	1.785***	2.879***	2.607***
NM-BVAR-SVO-TVM	1.257***	1.288***	1.427***	1.470***	1.734***	1.868***	2.584***	2.609***
AM-BVAR-SV	1.040**	1.213***	1.060	1.272***	1.087*	1.331***	1.091	1.425***
AM-BVAR-SVO	1.032	1.264***	1.037	1.358***	1.072*	1.482***	1.114*	1.680***
AM-BVAR-SV-TVM	1.088**	1.104***	1.090*	1.103**	1.246***	1.251***	2.005**	1.662***
AM-BVAR-SVO-TVM	**1.000**	1.056*	1.072**	1.126***	1.117**	1.231***	1.200**	1.372***
NGM-BVAR-SV	1.055**	1.235***	1.054*	1.306***	1.078*	1.371***	1.096	1.473***
NGM-BVAR-SVO	1.054**	1.293***	1.025	1.405***	1.063*	1.546***	1.077	1.747***
NGM-BVAR-SV-TVM	1.046	1.065*	1.126**	1.115***	1.127**	1.148***	1.377***	1.379***
NGM-BVAR-SVO-TVM	1.001	1.055*	1.056	1.101***	1.069	1.197***	1.225**	1.360***
2018:Q1 - 2023:Q4								
UC-SV	1.107	1.066	1.150	1.139	1.087	1.119	1.051	1.094
NM-BVAR-SV	1.110	1.050	0.978	1.077	**0.810**	0.997	0.991	1.102
NM-BVAR-SVO	1.208	1.088	1.025	1.075	0.877	0.978	1.049	1.029
NM-BVAR-SV-TVM	1.077	1.062	1.945	1.767**	1.008	1.032	1.349**	1.228**
NM-BVAR-SVO-TVM	1.843	1.532	1.565	1.397*	1.022	1.087	1.223**	1.169***
AM-BVAR-SV	**0.984**	0.967	0.984	**0.987**	0.953	0.929	0.892**	0.857***
AM-BVAR-SVO	0.986	0.997	0.990	1.005	0.961	0.968	0.888***	**0.846*** **
AM-BVAR-SV-TVM	0.989	**0.956**	1.052	1.028	0.908	**0.874**	**0.870** **	0.851***
AM-BVAR-SVO-TVM	0.995	0.989	1.012	0.999	0.921	0.930	0.926	0.903**
NGM-BVAR-SV	0.996	0.980	0.978	1.000	0.956	0.941	0.885**	0.859***
NGM-BVAR-SVO	0.990	1.002	**0.978**	1.010	0.961	0.980	0.879***	0.847***
NGM-BVAR-SV-TVM	1.019	0.999	1.032	1.009	0.954	0.916	0.889***	0.873***
NGM-BVAR-SVO-TVM	1.006	1.002	1.031	1.015	1.007	1.008	0.945	0.910**

Note: Values below 1 indicate improvement over the small-scale AM-BVAR-SV model from the main paper. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h+1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 10: Forecast ratios for RMSEs and CRPSs, PCE housing inflation: large-scale models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
UC-SV	1.001	**0.998**	1.044	1.047	1.129**	1.119**	1.175**	1.155**
NM-BVAR-SV	1.104	1.151***	1.028	1.117*	1.028	1.151*	1.055	1.278***
NM-BVAR-SVO	1.158*	1.214***	1.015	1.156**	1.033	1.280***	1.079	1.532***
NM-BVAR-SV-TVM	1.241***	1.261***	1.206***	1.257***	1.276**	1.345***	1.822***	1.793***
NM-BVAR-SVO-TVM	1.333***	1.366***	1.303***	1.351***	1.398***	1.569***	1.708***	1.902***
AM-BVAR-SV	0.997	1.048*	1.003	1.032	1.027	1.040	1.041	1.050
AM-BVAR-SVO	0.995	1.075***	1.001	1.069**	1.023	1.097**	1.028	1.161**
AM-BVAR-SV-TVM	1.054	1.079**	1.017	1.034	1.055	1.045	1.235*	1.179
AM-BVAR-SVO-TVM	**0.962**	1.029	1.008	1.044	1.053	1.075	1.114**	1.187**
NGM-BVAR-SV	0.983	1.037	0.980	1.024	1.003	1.034	1.027	1.054
NGM-BVAR-SVO	0.980	1.061**	**0.975**	1.062	**0.992**	1.095*	1.014	1.173**
NGM-BVAR-SV-TVM	1.046	1.052	1.015	1.007	1.016	**0.993**	1.044	1.046
NGM-BVAR-SVO-TVM	1.031	1.063*	1.035	1.040	1.061	1.052	1.091**	1.129**
1985:Q1 - 2017:Q4								
UC-SV	1.013	1.002	1.041	1.036	1.103*	1.097*	1.202**	1.167**
NM-BVAR-SV	1.083	1.142***	1.029	1.143**	0.965	1.212***	1.094	1.431***
NM-BVAR-SVO	1.150*	1.231***	1.005	1.209***	**0.951**	1.385***	1.101	1.758***
NM-BVAR-SV-TVM	1.235***	1.261***	1.263***	1.295***	1.450**	1.485***	2.293***	2.125***
NM-BVAR-SVO-TVM	1.336***	1.359***	1.404***	1.435***	1.587***	1.767***	2.199***	2.313***
AM-BVAR-SV	0.982	1.040	0.983	1.032	1.000	1.048	1.049	1.112*
AM-BVAR-SVO	0.976	1.081***	0.975	1.087**	0.987	1.133**	1.027	1.249***
AM-BVAR-SV-TVM	1.053	1.082*	1.024	1.044	1.056	1.048	1.403*	1.270*
AM-BVAR-SVO-TVM	**0.921**	1.011	0.997	1.051	1.043	1.096	1.187*	1.264***
NGM-BVAR-SV	0.982	1.038	0.979	1.037	0.986	1.055	1.029	1.122*
NGM-BVAR-SVO	0.979	1.078**	**0.972**	1.097**	0.974	1.149**	1.013	1.273***
NGM-BVAR-SV-TVM	1.018	1.035	0.989	**0.997**	0.994	**0.982**	1.075	1.086
NGM-BVAR-SVO-TVM	0.988	1.043	0.988	1.027	1.031	1.054	1.143**	1.180**
2018:Q1 - 2023:Q4								
UC-SV	**0.952**	0.983	1.052	1.087	1.169**	1.187**	1.143	1.123
NM-BVAR-SV	1.181	1.193	1.025	1.024	1.121	0.962	1.009	0.848
NM-BVAR-SVO	1.187	1.136	1.037	0.966	1.152	0.955	1.053	0.897
NM-BVAR-SV-TVM	1.263	1.257	1.065	1.122	**0.933**	**0.912**	1.061	0.864
NM-BVAR-SVO-TVM	1.325	1.394*	1.035	1.042	1.026	0.957	**0.860**	**0.750**
AM-BVAR-SV	1.056	1.087*	1.046	1.032	1.070	1.015	1.031	0.878
AM-BVAR-SVO	1.066	1.049	1.058	1.002	1.078	0.985	1.030	0.914
AM-BVAR-SV-TVM	1.058	1.064	1.003	0.997	1.052*	1.037	1.009	0.923
AM-BVAR-SVO-TVM	1.107**	1.115***	1.033	1.019	1.069	1.007	1.024	0.970
NGM-BVAR-SV	0.987	1.031	0.985	0.978	1.029	0.967	1.024*	0.863*
NGM-BVAR-SVO	0.983	**0.980**	**0.982**	**0.933***	1.020	0.927	1.015	0.892*
NGM-BVAR-SV-TVM	1.150	1.128	1.072	1.045	1.051	1.026	1.007	0.933
NGM-BVAR-SVO-TVM	1.184	1.154*	1.137	1.086	1.106	1.046	1.028	0.985

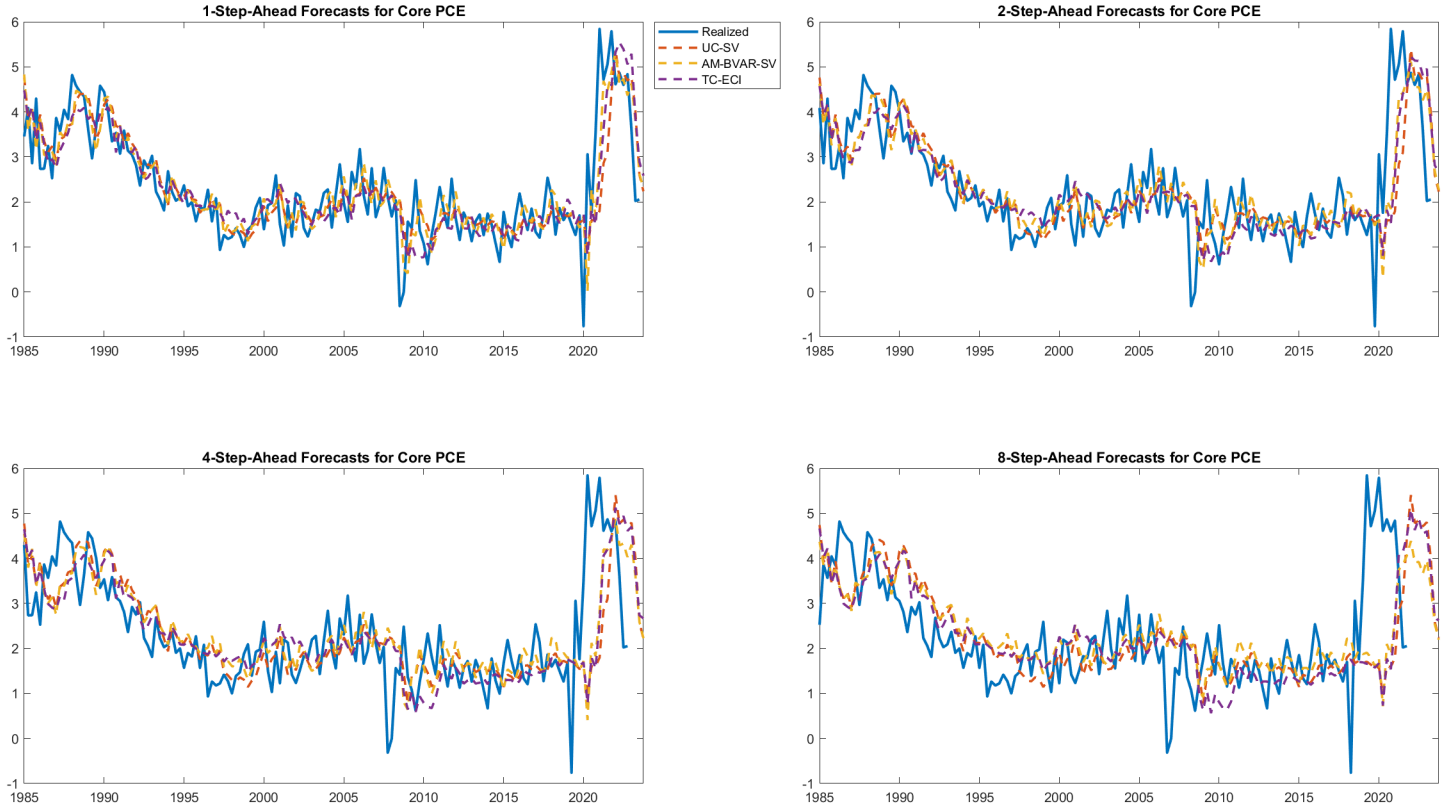
Note: Values below 1 indicate improvement over the small-scale AM-BVAR-SV model from the main paper. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h+1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Table 11: Forecast ratios for RMSEs and CRPSs, core PCE goods inflation: large-scale models

Model / Horizon	*h=1*		*h=2*		*h=4*		*h=8*	
	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS	RMSE	CRPS
1985:Q1 - 2023:Q4								
UC-SV	1.057	1.015	1.075	1.023	1.081	1.050	1.035	**0.992**
NM-BVAR-SV	1.104	1.140***	1.184*	1.199***	1.155**	1.251***	1.293**	1.474***
NM-BVAR-SVO	1.094	1.141***	1.198*	1.267***	1.161**	1.388***	1.294*	1.635***
NM-BVAR-SV-TVM	1.306**	1.242***	1.492**	1.388***	1.484***	1.495***	2.106***	1.986***
NM-BVAR-SVO-TVM	1.348**	1.269***	1.374**	1.373***	1.363***	1.508***	1.664***	1.806***
AM-BVAR-SV	0.993	1.007	0.994	1.025	1.007	1.032	1.014	1.101***
AM-BVAR-SVO	0.988	1.026	**0.993**	1.060***	1.005	1.111***	1.006	1.163***
AM-BVAR-SV-TVM	1.027	1.016	1.047	1.052	1.069	1.074	1.217*	1.217**
AM-BVAR-SVO-TVM	0.985	1.005	1.018	1.046	**0.994**	1.072*	1.056	1.145***
NGM-BVAR-SV	0.998	1.011	0.997	1.033*	1.008	1.043	1.027	1.118***
NGM-BVAR-SVO	0.992	1.032*	0.997	1.070***	1.004	1.125***	1.019	1.183***
NGM-BVAR-SV-TVM	1.023	0.999	1.039	1.028	1.020	1.020	1.055	1.108*
NGM-BVAR-SVO-TVM	**0.980**	**0.992**	1.019	1.045	1.014	1.087**	1.042	1.138***
1985:Q1 - 2017:Q4								
UC-SV	0.967	**0.967**	**0.949**	**0.949**	**0.995**	**0.964**	**0.949**	**0.937**
NM-BVAR-SV	1.263**	1.233***	1.320	1.287***	1.319**	1.406***	1.536*	1.630***
NM-BVAR-SVO	1.251*	1.246***	1.347*	1.384***	1.309**	1.564***	1.527*	1.915***
NM-BVAR-SV-TVM	1.402**	1.319***	1.605**	1.445***	1.770***	1.662***	2.913***	2.367***
NM-BVAR-SVO-TVM	1.401*	1.293***	1.553**	1.489***	1.666***	1.704***	2.266***	2.177***
AM-BVAR-SV	0.980	1.011	0.982	1.032	1.027	1.083***	1.080**	1.141***
AM-BVAR-SVO	0.973	1.039	0.982	1.091***	1.024	1.174***	1.070**	1.276***
AM-BVAR-SV-TVM	1.047	1.030	1.053	1.066	1.162**	1.145**	1.474**	1.311**
AM-BVAR-SVO-TVM	0.981	1.018	0.996	1.071	1.024	1.122**	1.132	1.219***
NGM-BVAR-SV	0.989	1.019	0.996	1.048**	1.044**	1.105***	1.111**	1.168***
NGM-BVAR-SVO	0.985	1.049**	0.994	1.108***	1.037**	1.200***	1.102**	1.307***
NGM-BVAR-SV-TVM	1.014	0.999	0.996	1.018	1.045	1.065	1.137	1.150*
NGM-BVAR-SVO-TVM	**0.957**	0.995	0.975	1.062	1.048	1.144***	1.115	1.216***
2018:Q1 - 2023:Q4								
UC-SV	1.141	1.134	1.189*	1.205	1.139*	1.243*	1.093*	1.116***
NM-BVAR-SV	0.915	0.907	1.029	0.980	1.022	**0.903***	1.081	1.127**
NM-BVAR-SVO	**0.907**	**0.878**	1.026	0.977	1.044	0.991	1.091	1.009
NM-BVAR-SV-TVM	1.202	1.051	1.369	1.249	1.241	1.120	1.206**	1.134*
NM-BVAR-SVO-TVM	1.292	1.209	1.167	1.086	1.096	1.070	1.013	0.979
AM-BVAR-SV	1.006	0.998	1.005	1.008	0.992	0.918	0.962***	1.013
AM-BVAR-SVO	1.004	0.993	1.004	0.983	0.991	0.968	0.956***	0.912
AM-BVAR-SV-TVM	1.005	0.984	1.040	1.017	0.997	0.916*	0.986	1.007
AM-BVAR-SVO-TVM	0.990	0.975	1.039	0.985	**0.973**	0.960	0.997	0.979
NGM-BVAR-SV	1.007	0.991	**0.998**	0.997	0.981	0.905	0.961***	1.006
NGM-BVAR-SVO	0.999	0.988	1.000	**0.975**	0.979*	0.955	**0.954*** **	**0.907** **
NGM-BVAR-SV-TVM	1.032	1.000	1.080	1.053	1.001	0.920	0.990	1.015
NGM-BVAR-SVO-TVM	1.002	0.986	1.061	1.004	0.988	0.958	0.985	0.964

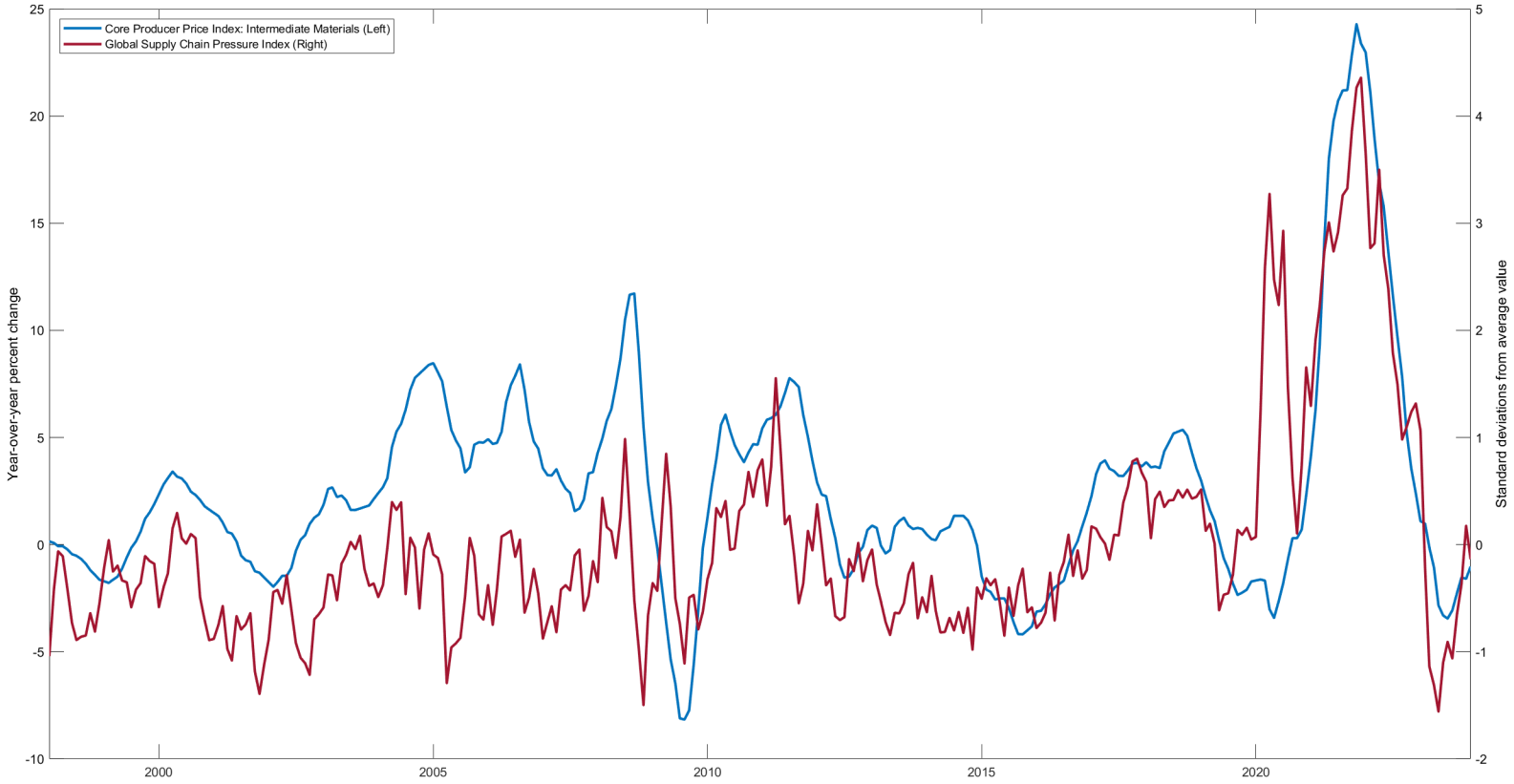
Note: Values below 1 indicate improvement over the small-scale AM-BVAR-SV model from the main paper. Significance assessed by Diebold-Mariano-West test using Newey-West standard errors with $h+1$ lags. *, **, and *** represent the .10, .05, and .01 significance levels, respectively. Entries in bold denote ratios below 1 that are the lowest for a given forecasting horizon and measure.

Figure 1: Time series of forecasts of (aggregate) core PCE inflation: trend-cycle model



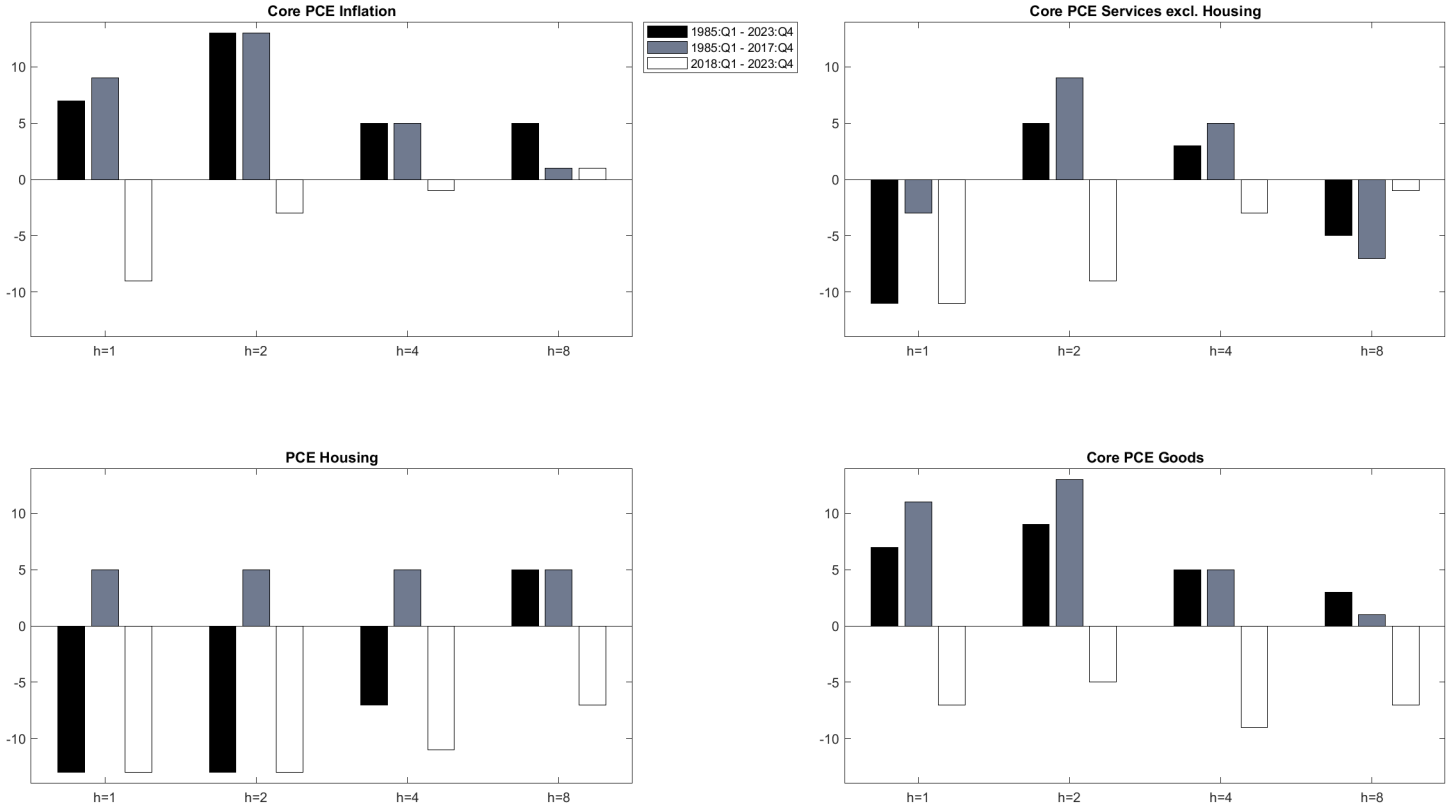
Dates on the x-axis represent the date of each forecast origin, t. Realized and forecasted values represent the n-step-ahead value from that given forecast origin.

Figure 2: Comparison of core PPI: Intermediate Materials to the Global Supply Chain Pressure Index



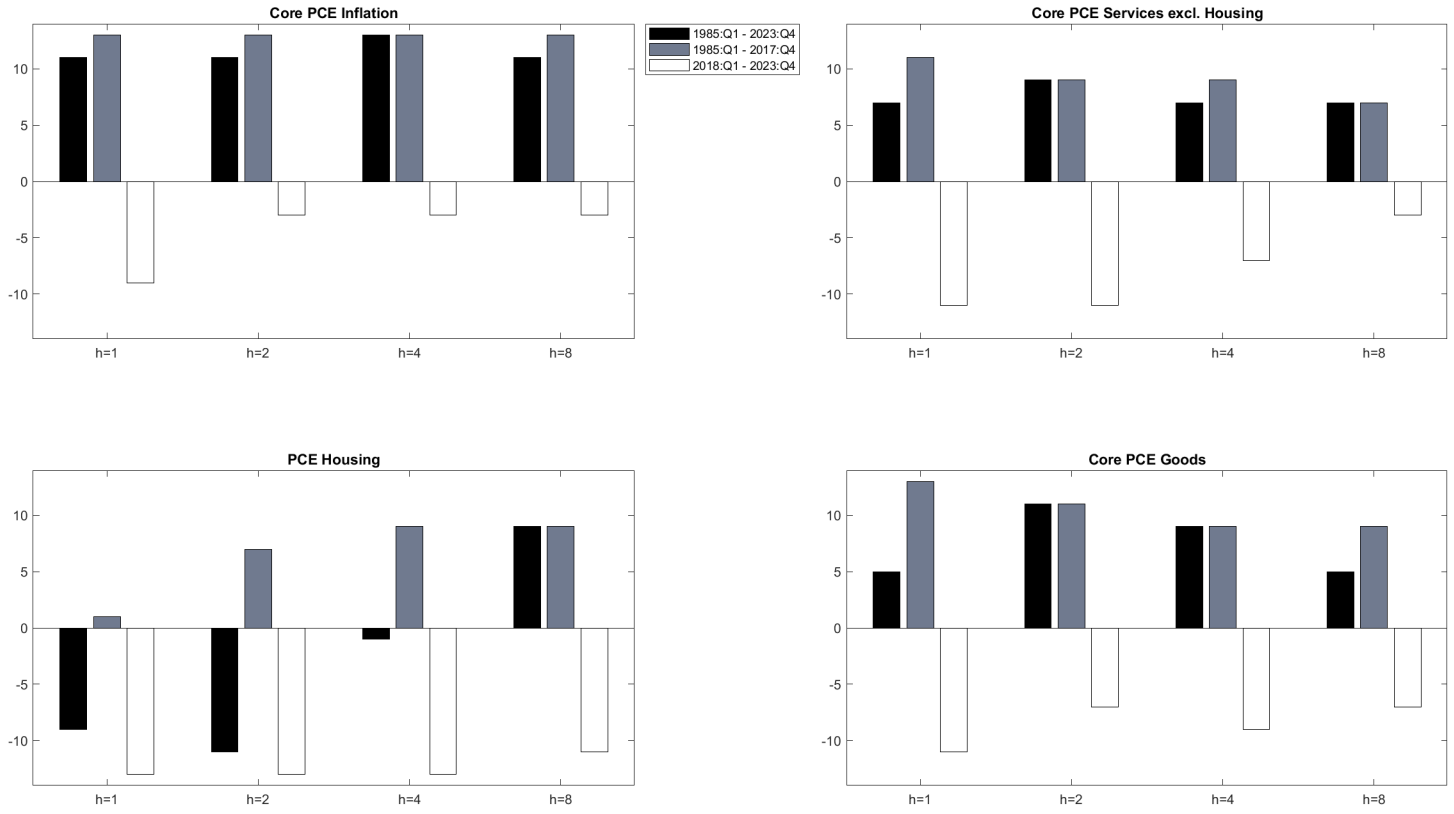
The y-axis on the left represents the core PPI: Intermediate Materials series expressed in year-over-year percent changes. The y-axis on the right represents the Global Supply Chain Pressure Index series expressed as standard deviations from the historical mean.

Figure 3: Diffusion index of RMSE ratios for PCE: core intermediate PPI models



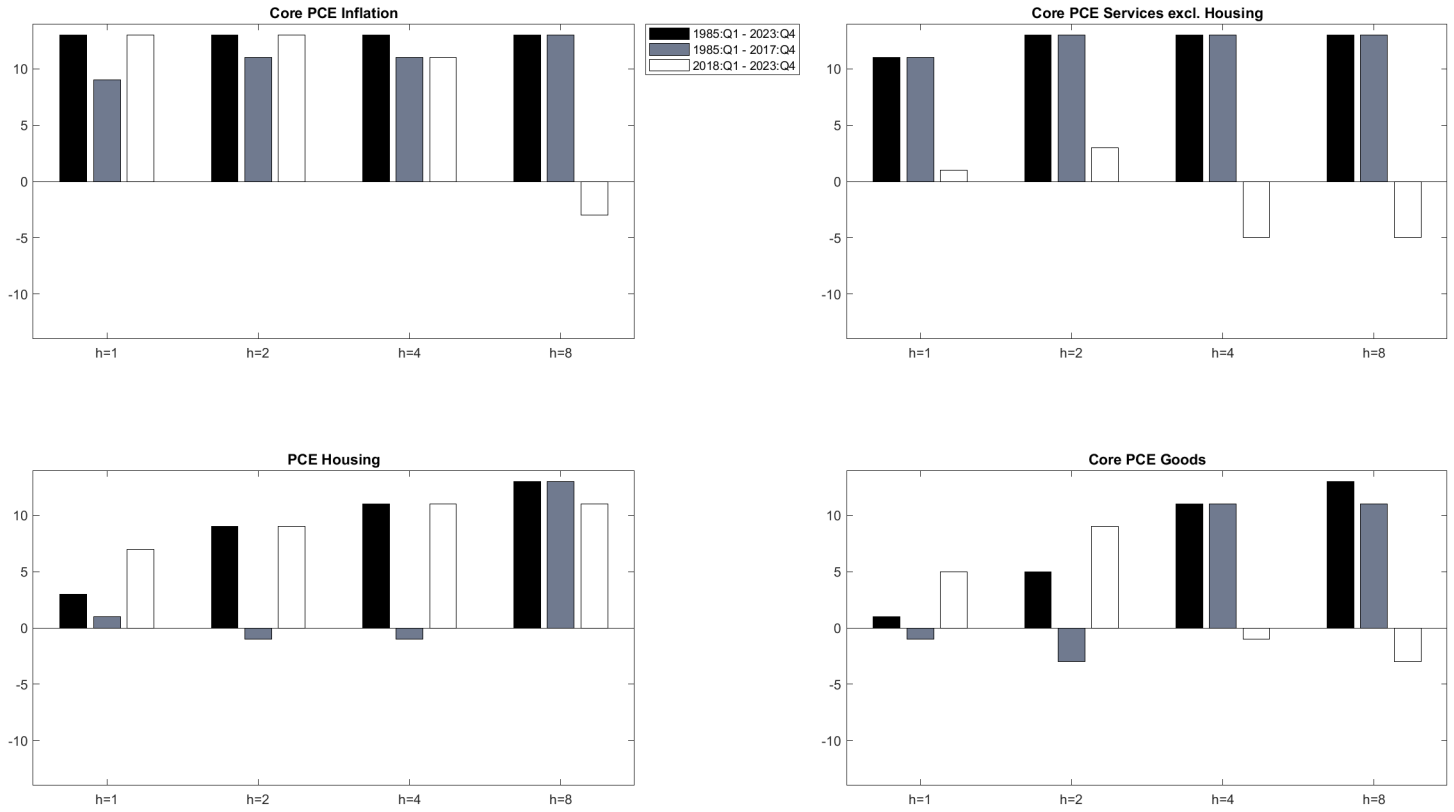
Ratios are calculated so that values below 1 indicate improvement over an AM-BVAR-SV model without core intermediate PPI inflation. Diffusion indexes are calculated such that we take the counts of ratios less than 1 and subtract it from the count of ratios greater than 1, for each horizon, application, and evaluation window.

Figure 4: Diffusion index of CRPS ratios for PCE: core intermediate PPI models



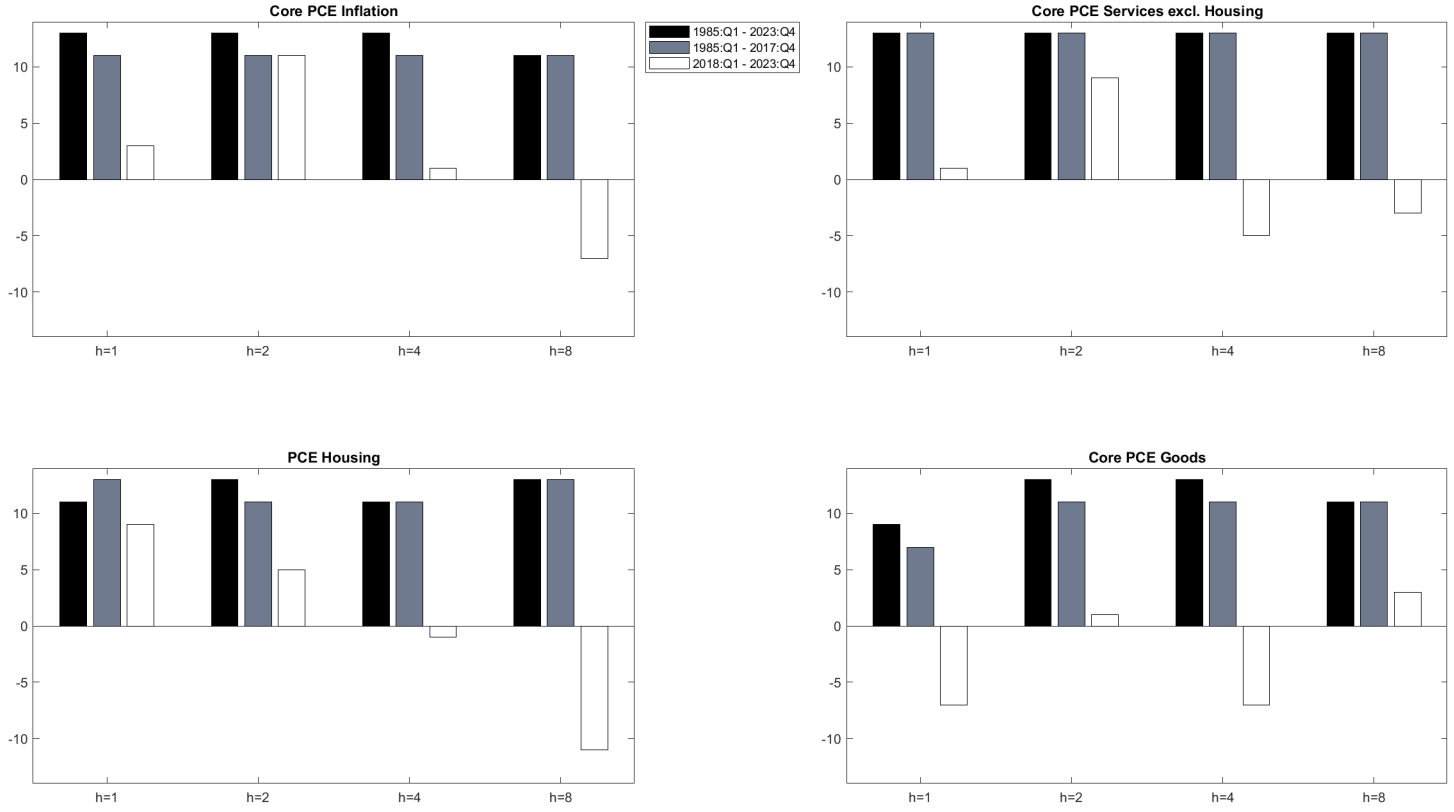
Ratios are calculated so that values below 1 indicate improvement over an AM-BVAR-SV model without core intermediate PPI inflation. Diffusion indexes are calculated such that we take the counts of ratios less than 1 and subtract it from the count of ratios greater than 1, for each horizon, application, and evaluation window.

Figure 5: Diffusion index of RMSE ratios for PCE: large-scale models



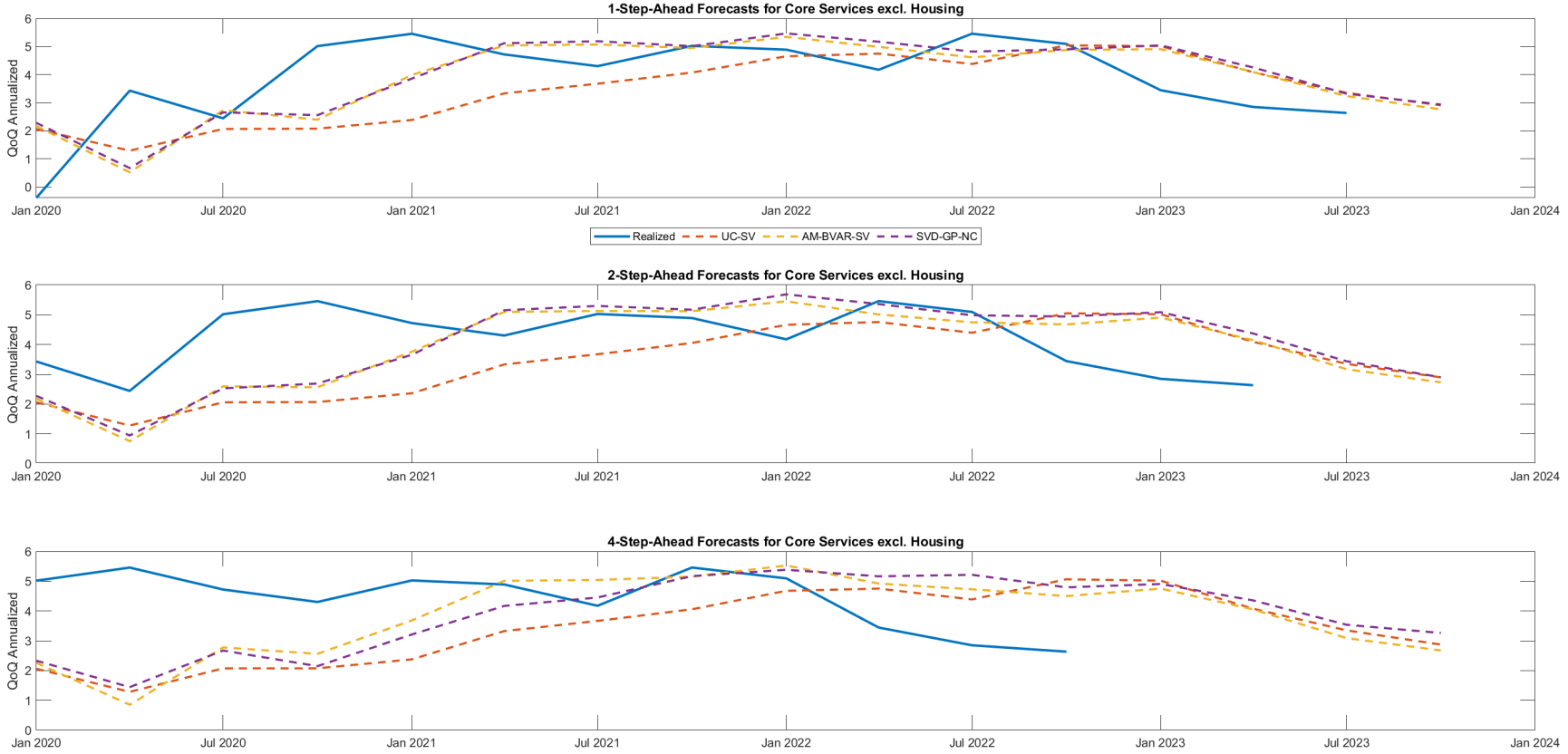
Ratios are calculated so that values below 1 indicate improvement over the AM-BVAR-SV model from the main paper. Diffusion indexes are calculated such that we take the counts of ratios less than 1 and subtract it from the count of ratios greater than 1, for each horizon, application, and evaluation window.

Figure 6: Diffusion index of CRPS ratios for PCE: large-scale models



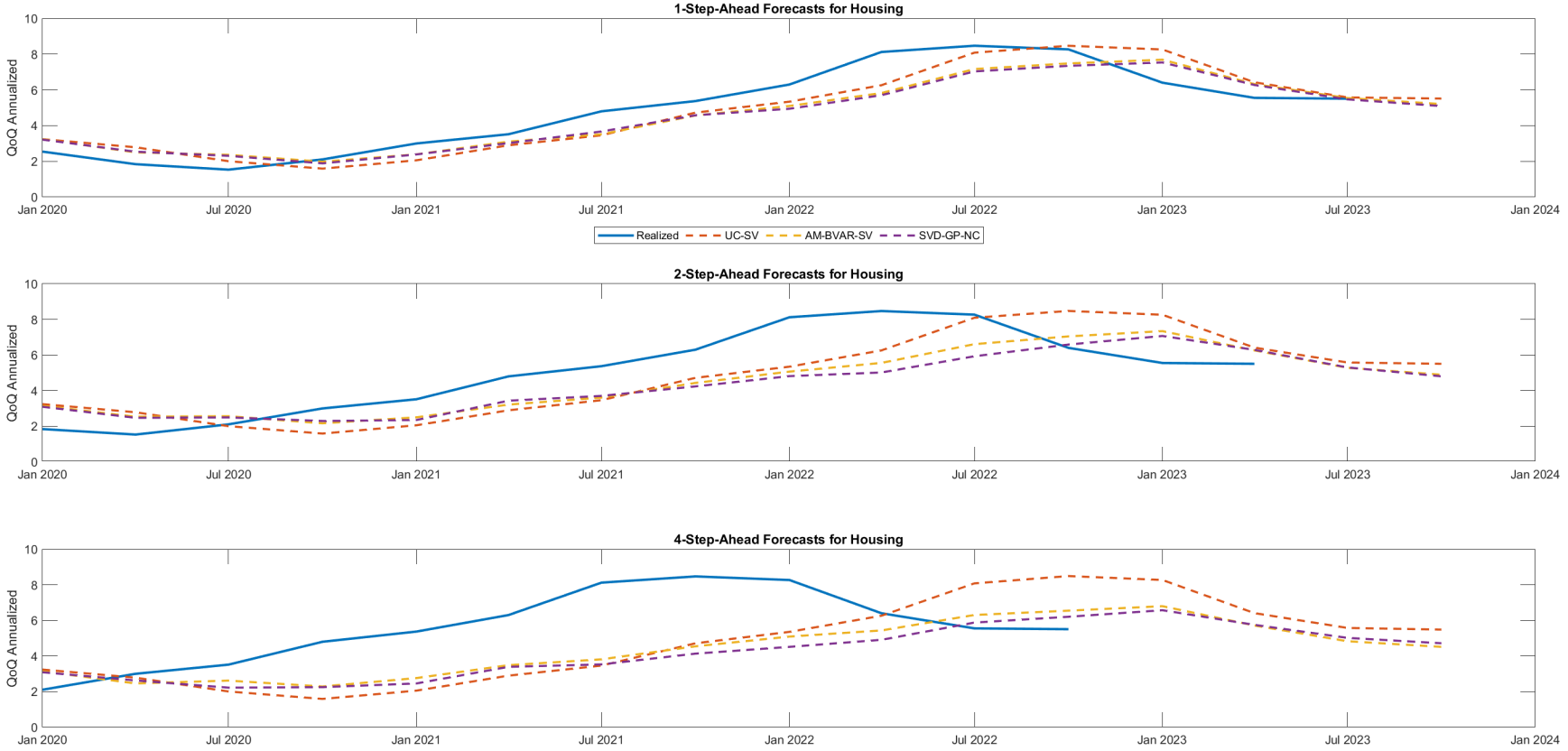
Ratios are calculated so that values below 1 indicate improvement over the AM-BVAR-SV model from the main paper. Diffusion indexes are calculated such that we take the counts of ratios less than 1 and subtract it from the count of ratios greater than 1, for each horizon, application, and evaluation window.

Figure 7: Time series of forecasts of Core PCE Services excl. Housing inflation: main paper models



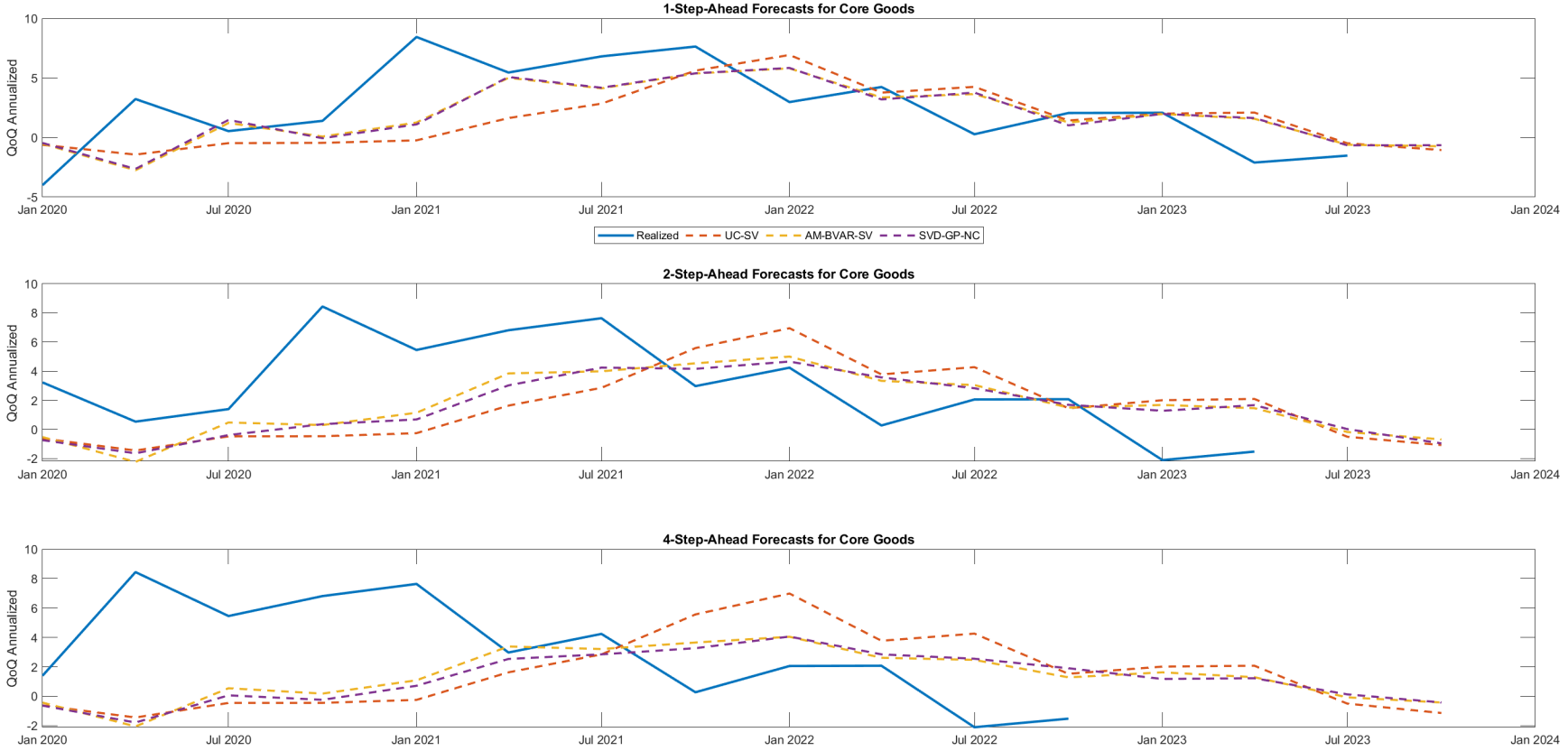
Dates on the x-axis represent the date of each forecast origin, t. Realized and forecasted values represent the n-step-ahead value from that given forecast origin.

Figure 8: Time series of forecasts of PCE Housing inflation: main paper models



Dates on the x-axis represent the date of each forecast origin, t. Realized and forecasted values represent the n-step-ahead value from that given forecast origin.

Figure 9: Time series of forecasts of Core PCE Goods inflation: main paper models



Dates on the x-axis represent the date of each forecast origin, t. Realized and forecasted values represent the n-step-ahead value from that given forecast origin.