

Appendix: Predicting PCE Using the Richmond Fed Price Measure

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For our analysis, we first examine the relationship between month-to-month change in the year-over-year PCE price index and month-to-month change in the Richmond Fed price measure. To be precise, because businesses are only asked about year-over-year growth in prices, inflation in period t (π_t) is inflation over the last 12 months and $\Delta\pi_t$ is the change in that YoY price growth from last month, or $\pi_t - \pi_{t-1}$. Similarly, π_t^{FRBR} is the Richmond Fed survey measure of prices, or the weighted average of the year-over-year price growth reported by survey panelists. The relationship between these two variables (π_t and π_t^{FRBR}) is displayed in Figure 2.

We find a positive relationship between the change in PCE and the change in the Richmond Fed measure. We also find that the correlation between the change in inflation and the change in the Richmond Fed price measure is highest in the same month, suggesting that the Richmond Fed price measure is most likely to add value in nowcasting the same month of PCE release. (Based on our findings in Figure 3, it is also possible that the Richmond Fed price measure has value for forecasting one or two periods ahead.)

To study whether the Richmond Fed price measure can improve an inflation forecast that relies on observed past inflation changes, we add both contemporaneous and past inflation changes implied by the Richmond Fed surveys to a univariate benchmark model of the kind that Atkeson and Ohanian (2001) and Stock and Watson (2007 and 2008) find to outperform other types of inflation forecasts.

We evaluate the performance of the Richmond Fed price measure against a benchmark random walk model of inflation, $\pi_t = \pi_{t-1} + \varepsilon_t$, where π_t denotes YoY PCE inflation at time t . We compare the random walk forecast to a forecast of inflation that incorporates the Richmond Fed survey measure of prices, which we call the “Richmond Fed forecast.”

$$\Delta\pi_t = \alpha + \delta_1\Delta\pi_{t-1} + \delta_2\Delta\pi_{t-2} + \beta_0\pi_t^{FRBR} + \beta_1\Delta\pi_{t-1}^{FRBR} + \beta_2\Delta\pi_{t-2}^{FRBR} + \varepsilon_t$$

Here, π_t^{FRBR} denotes the year-over-year change in the Richmond Fed price measure, $\Delta\pi_{t-1}$ denotes the change in the year-over-year inflation rate from month $t-2$ to month $t-1$, and $\Delta\pi_t^{FRBR}$ denotes the change in the year-over-year Richmond Fed price measure from month $t-1$ to month t . Figure 4 shows the forecast errors for an in-sample forecast using all available data from January 2011 through August 2025, and Tables 1-3 show regression statistics.