



Post-Pandemic Price Flexibility in the US: Evidence and Implications for Sticky Price Models

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Abstract

Using the micro data underlying the U.S. CPI, we document several findings about firm price-setting behavior during and following the Covid-19 pandemic, a period with the highest levels of inflation seen in around forty years. 1) The frequency of price change increased substantially as inflation took off, and has declined markedly as inflation has receded. 2) The average size of price changes also increased as price increases became more common, while the absolute value changed little. 3) The dispersion of price changes did not fall, contrary to the prediction of state-dependent models 4) A menu cost model fitted on pre-pandemic pricing data has more difficulty matching the increase in the frequency of price changes post-pandemic, compared to the high inflation period of the 1980s. A re-calibrated menu cost model with smaller menu costs and larger idiosyncratic shocks can match the elevated frequency seen in the post-pandemic period, but not the movements in the dispersion of price changes. Such a model also implies a faster pass-through of shocks to inflation than the model fitted to pre-pandemic data.

Data and Methods

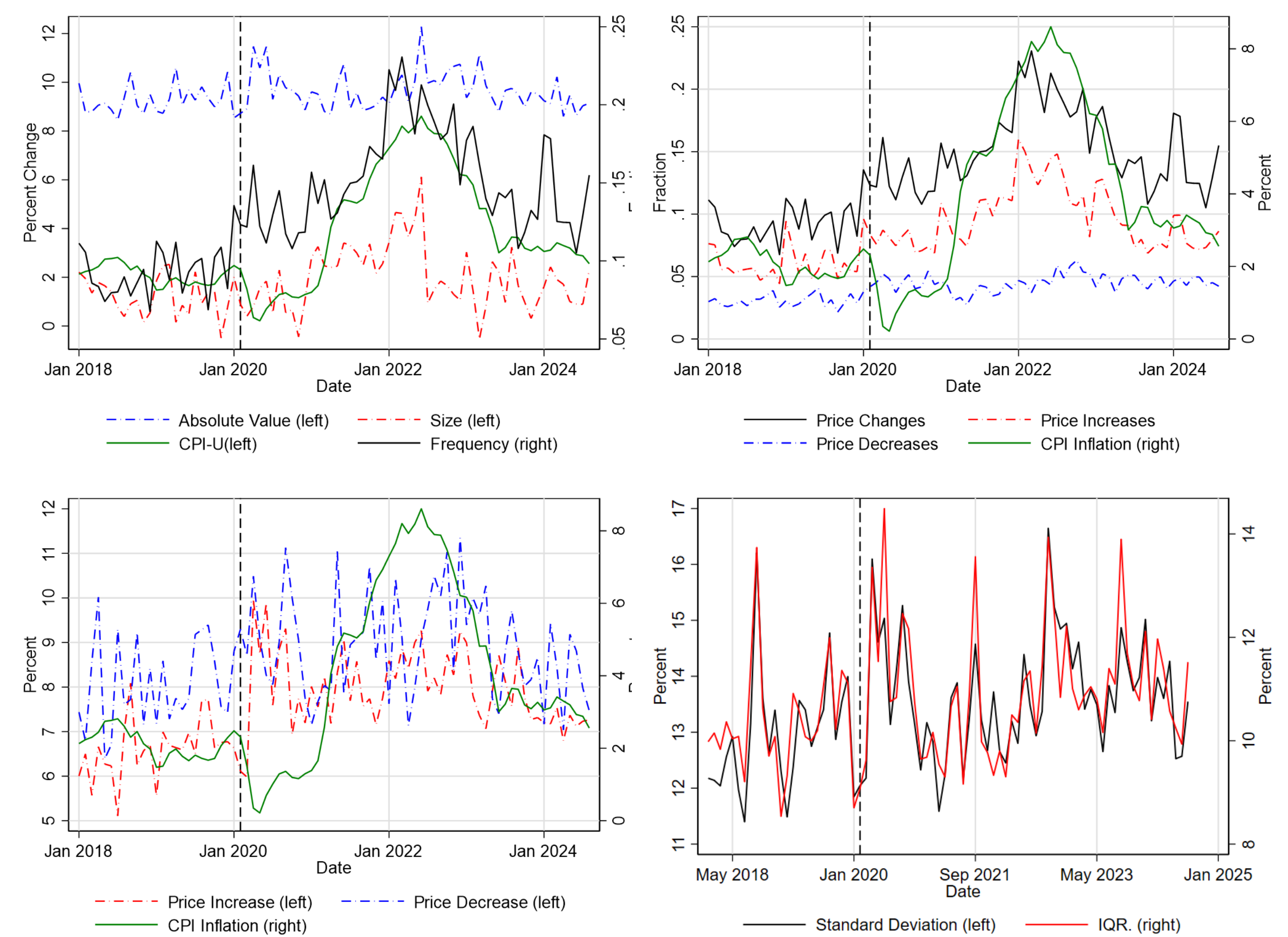
Data:

- Individual prices underlying U.S. CPI: all categories ex. shelter.
- 1978-August 2024, about 90k observations every month.
- BLS agents measure the price of the same item, same outlet, over time. Enables us to observe individual price changes.
- Items classified into Entry Level Items (ELIs), around 300 ELIs

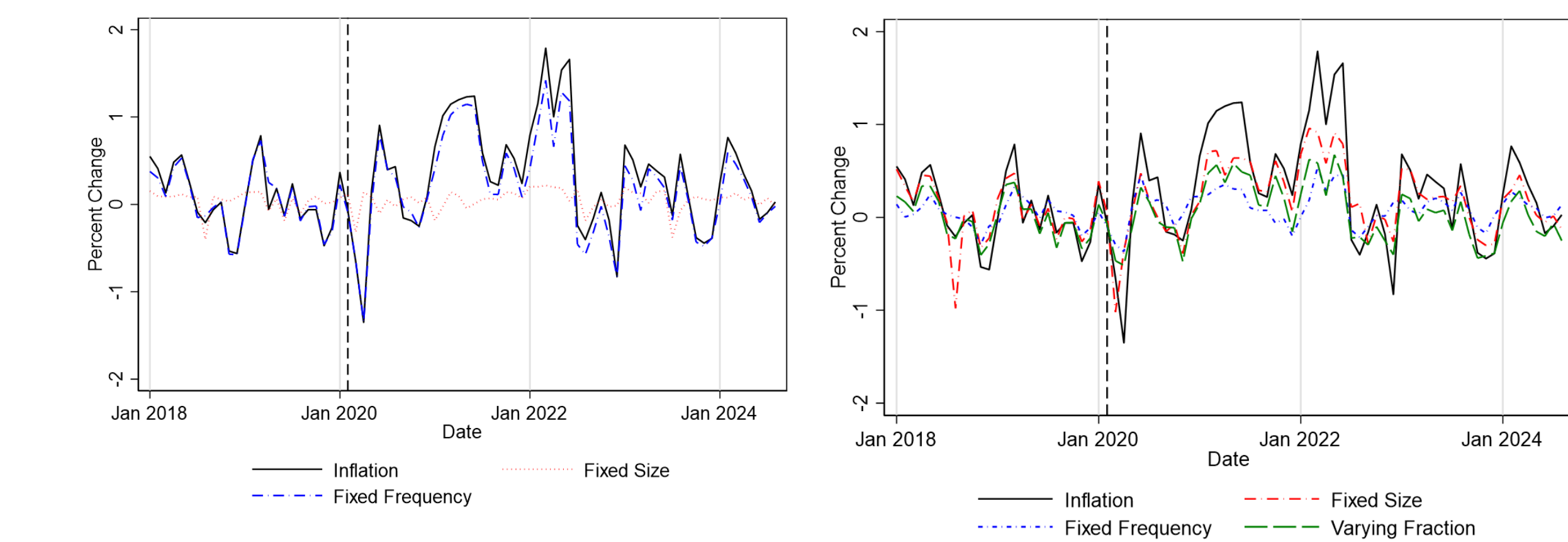
Methods:

- Calculate most statistics by ELI-month, then aggregate (median) within month using expenditure weights. Results in time series of aggregated statistics.
- Statistics:
 - Frequency: fraction of items with a non-zero price change.
 - Size: average price change among non-zero changes (pos and neg together).
 - Size and frequency also separated into price increases and decreases.
 - Absolute Value: average of absolute value of non-zero price changes.
 - Dispersion: std. deviation or inter-quartile range of non-zero price changes.

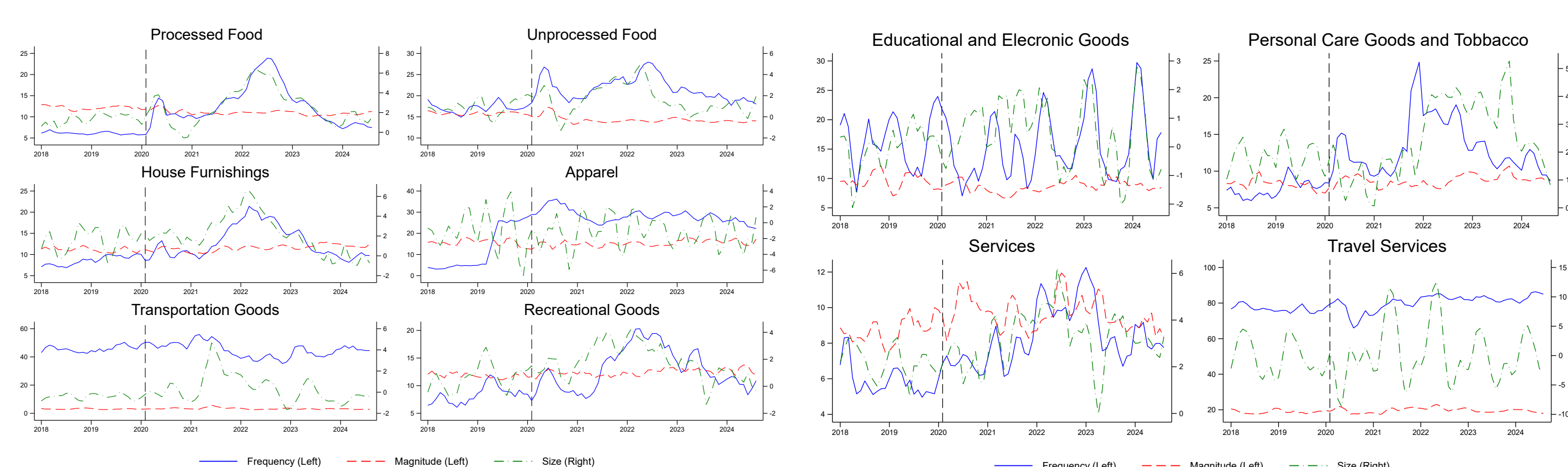
Results



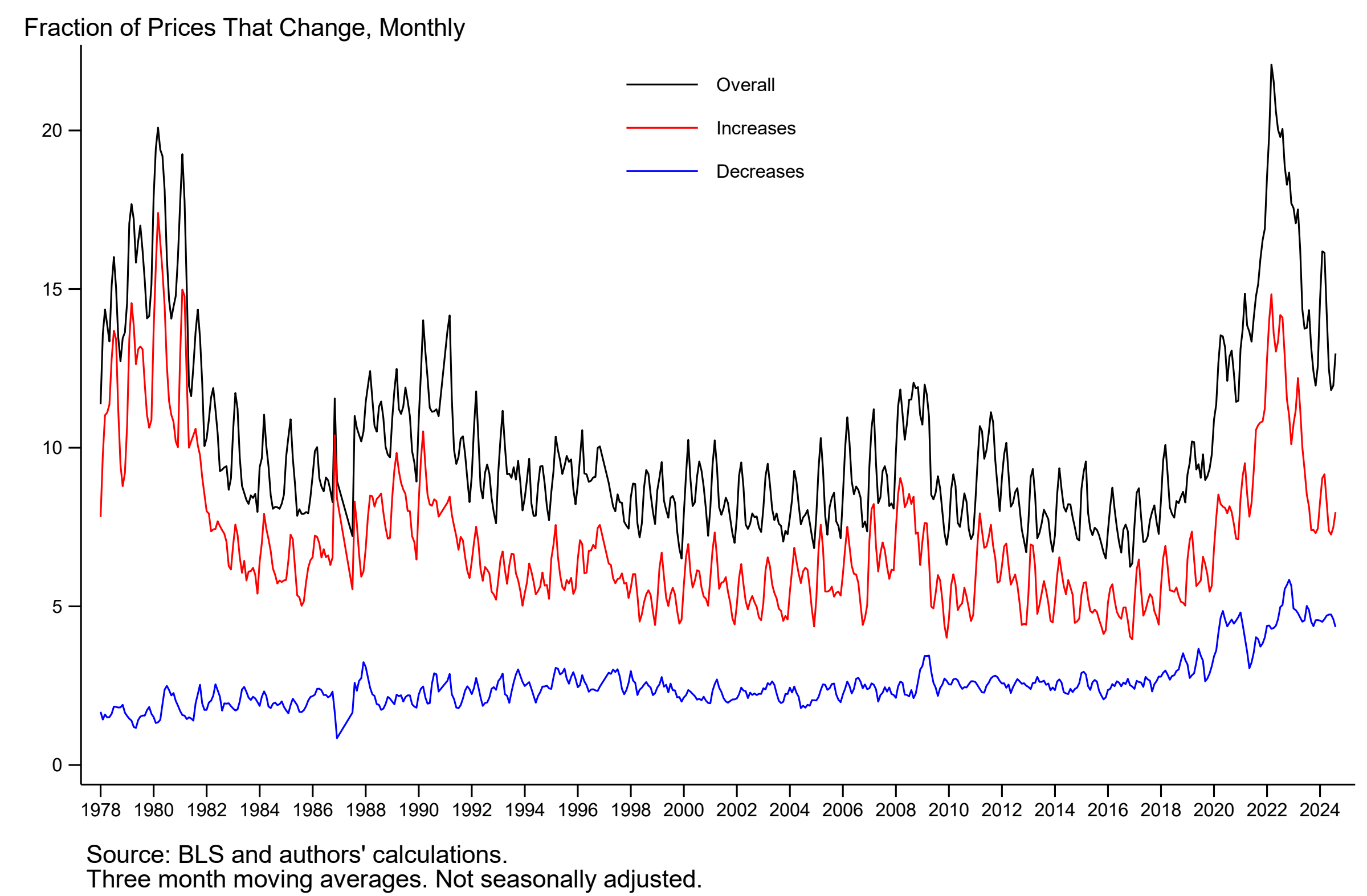
Inflation Decompositions



By sector

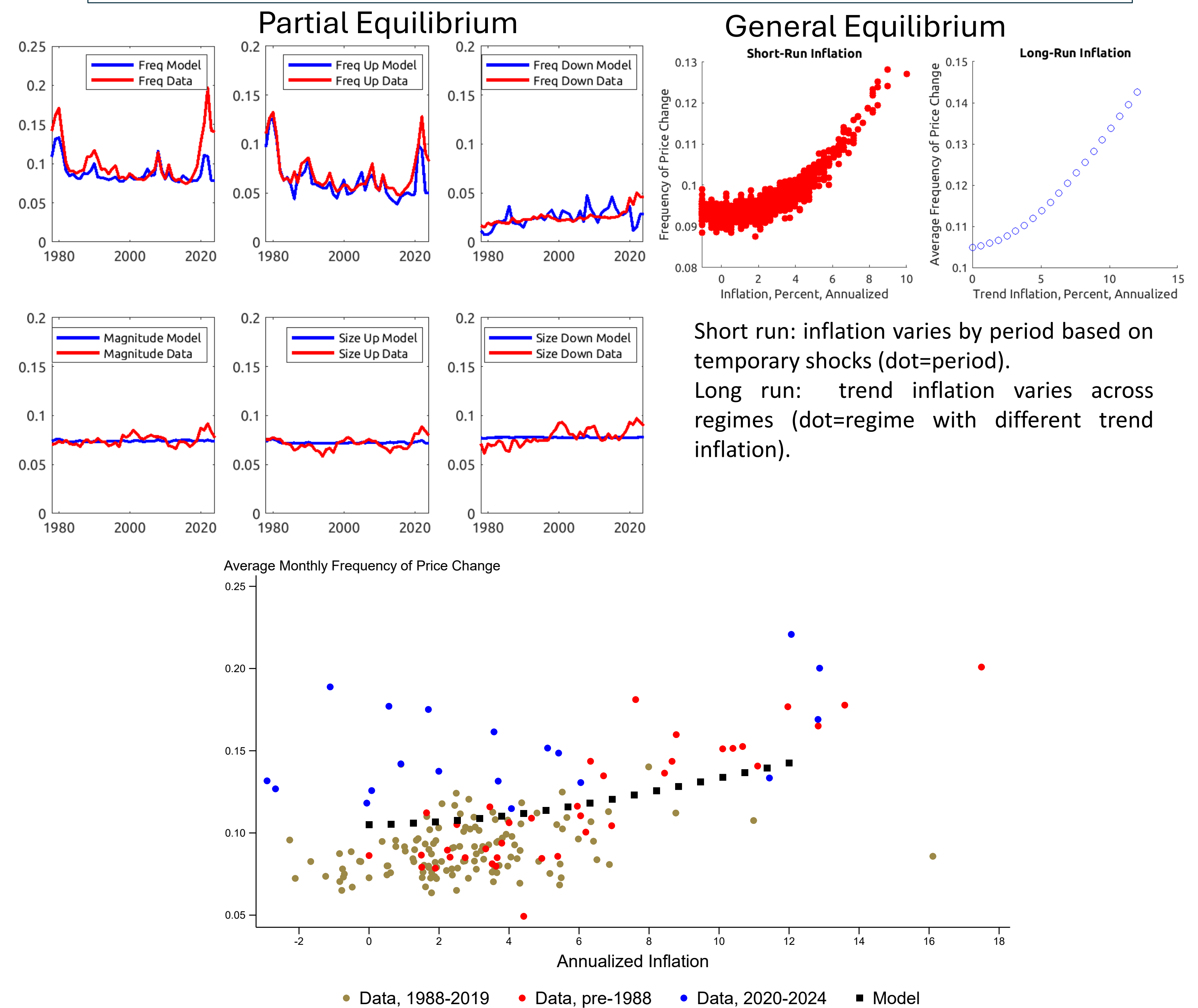


Frequency of Price Change, 19789-2024



Model Comparisons

- Solve and simulate a menu cost model as in Golosov and Lucas (2007): CES demand, price adjustment cost, idiosyncratic shocks, aggregate demand shocks drive inflation.
- Calibrate the model to match pre-pandemic frequency and absolute value.
- Partial Equilibrium model has exogenous inflation: takes in empirical inflation series, predicts path for price change statistics.
- The model cannot match the magnitude of the increase in frequency.
- Much larger discrepancy between data and model than in the 1980s.



- The model can match the average frequency over the post-pandemic period with different parameters: smaller menu cost and larger idiosyncratic shocks.
- Still does not match fluctuations in frequency, flat dispersion of price changes.
- Interpretation: price adjustment became easier, or less costly, shocks larger.
- Possible reasons: scale of disruptions may have made it easier for firms to know when to change prices, customers more understanding.
- Implications: Under the post-pandemic calibration, model implies that inflation is more responsive to shocks than under pre-pandemic calibration. This is consistent with evidence on the Phillips curve having steepened.

Post-Pandemic Calibration

