Discussion

Of

Who Bears the Costs of Inflation?

Euro Area Households and the 2021-2023 Shock

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IMF Conference: Advances in Monetary Economics

September 19, 2024

*The views expressed here are my own and do not necessarily reflect those of the Federal Reserve Bank of New York or the Federal Reserve System. In compliance with FOMC policy on External Communications during blackout periods, during the presentation I will refrain from expressing my views or providing analysis to members of the public about current or prospective monetary policy issues.

How costly is inflation?

- Very large literature on the welfare costs of inflation
- Typically, welfare costs analyzed in frameworks with representative agents
- There are now many macro models incorporating agent heterogeneity
  - Hence, similar type of welfare analysis can be applied in general equilibrium models with heterogeneous agents
- This paper offers a different approach
  - Starts with a simple theoretical framework to provide a disciplined approach to measure the costs of the high inflation episode of 2021-23
  - Its aim is to assess the importance of different channels of wealth redistribution

Plan of the discussion

- Briefly review the paper's objective and results
  - Compare with other evidence on inflation heterogeneity and wealth redistribution

- Offer few comments
  - Can the analysis of a 3-year inflation spike be reduced to the effect of a single unanticipated shock?
  - Does it suffice to limit the analysis to first-order effects of the shock?

The paper objective

- Document *heterogeneity* in the effects of the inflation shock of 2021-23
  - Across different countries in the Euro Area
  - Across different households in the same country (by age and income)

- Disentangle importance of 4 channels through which wealth distribution may be affected

  - *Direct component*: captures inflation impact *before* any government intervention
    - *Heterogeneity* derives from different consumption baskets and asset holdings

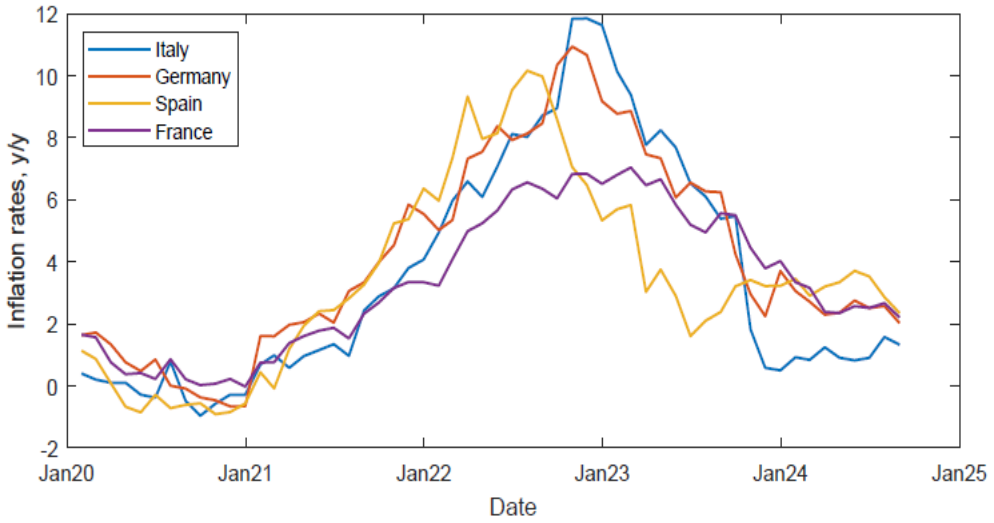
  - *Unconventional fiscal policy*: captures welfare changes associated to fiscal interventions
    - *Heterogeneity* derives from exposure to subsidized intervention

  - *Indirect effect*: captures effects of the shock on different incomes sources
    - *Heterogeneity* derives from different market structures (e.g. stickiness, indexation)

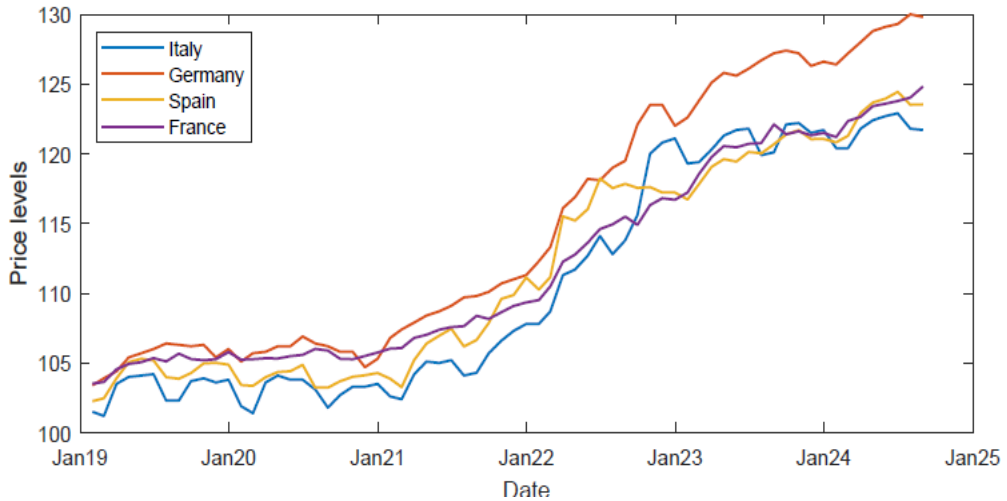
  - *Long-run adjustment component* – reflects realignment of relative prices

Post-pandemic inflation dynamics across countries

HICP Inflation, y/y



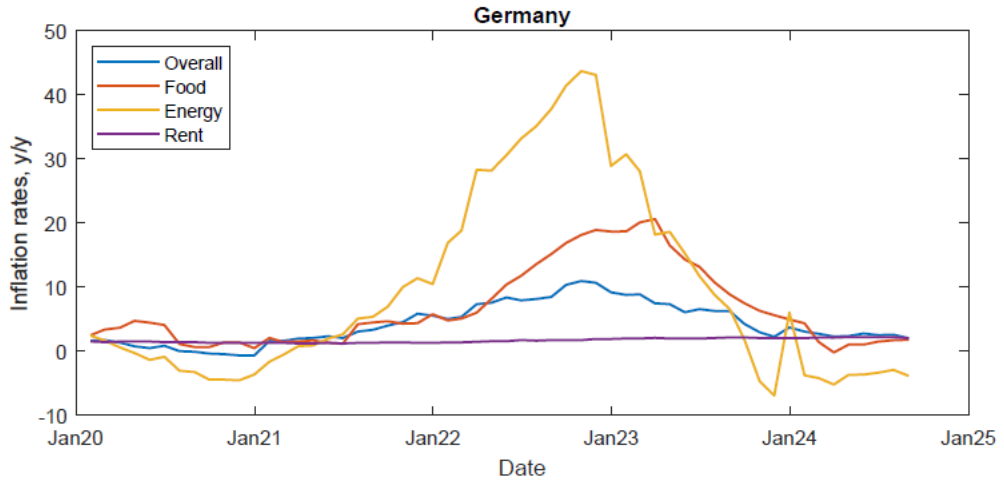
HICP Price Levels

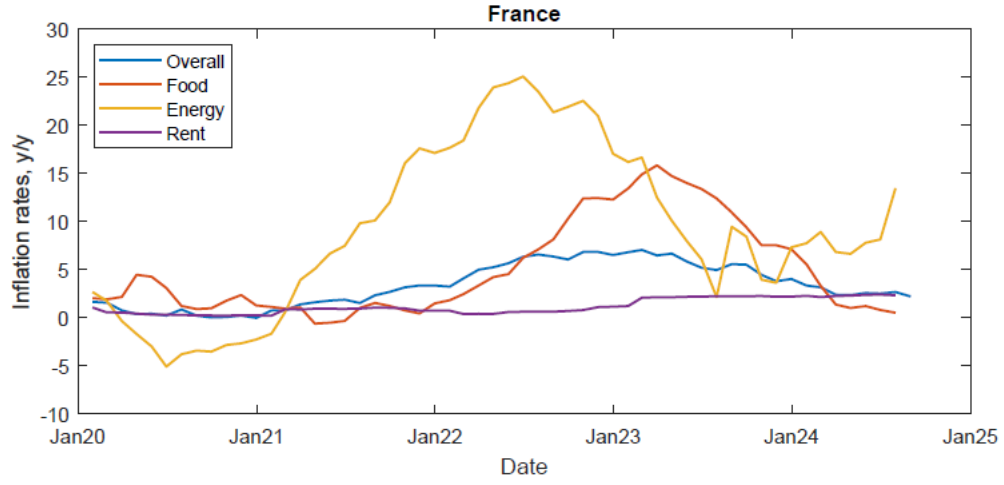


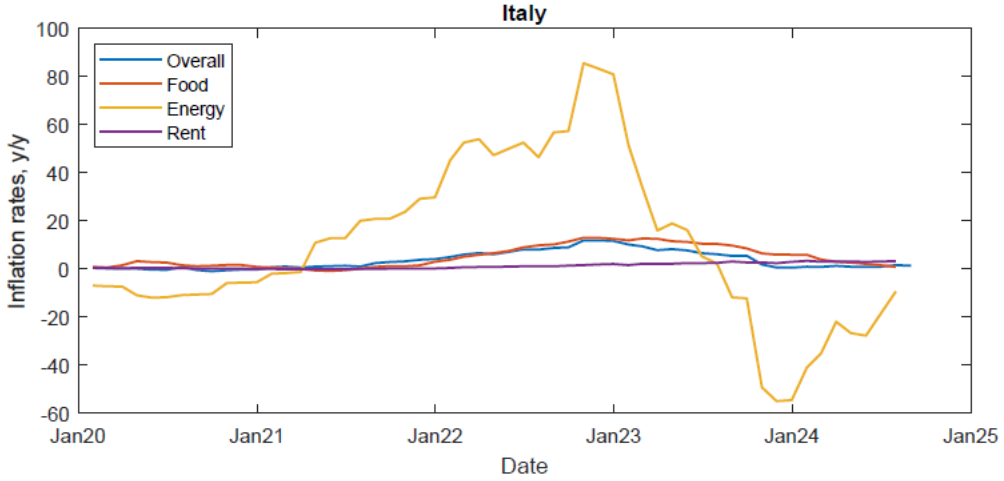
- Different speed of inflation pick-up
- More subdued initially in France
- Highest and more persistent in Italy

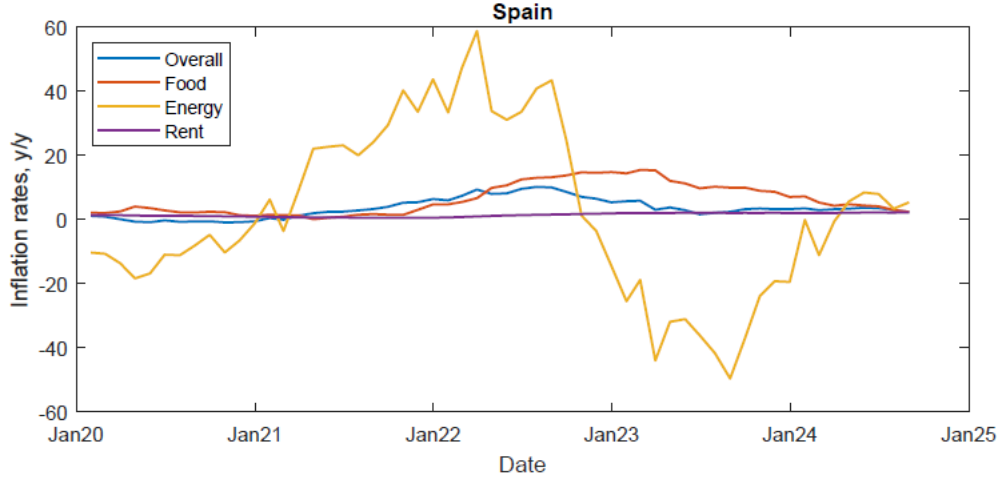
- Cumulative 3-y aggregate inflation
  Germany 20% Italy 18%
  France 15% Spain 16%

Post-pandemic inflation dynamics across good types









- Inflation dominated by energy price dynamics

Heterogeneity of experienced inflation

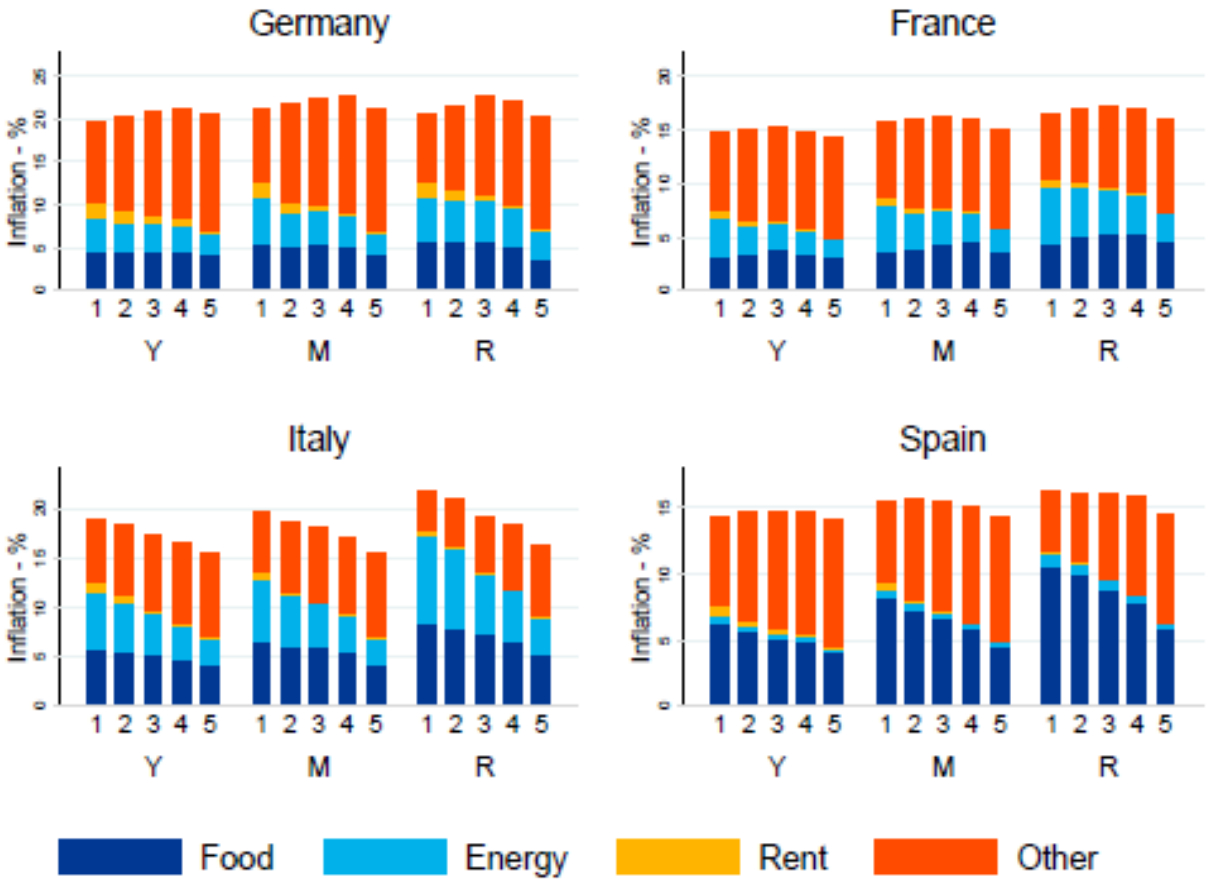


Figure 1: Decomposition of household-level inflation rates in pp by age classes and nondurable consumption quintiles within each age class, 2021–2023, cumulative 3-year rates in percent

- Cumulative 3-y aggregate inflation:

  Germany 20% Italy 18%
  France 15% Spain 16%

- Sliced by age groups and income quintiles reveals
  - Heterogeneity across countries
  - Heterogeneity within country, by age, income and expenditure items

- Direct component will result from the impact of this inflation heterogeneity on the nominal items in the budget constraint Y, NNP, D+K

$$\left[\underbrace{W_{i0} - T_{i0}}_{\text{net income } (Y)} + \underbrace{B_{i,S0} + (1 + Q_{L0}\delta)\, B_{i,L0}}_{\text{net nominal position } (NNP)} + \underbrace{\sum_{k=1}^{K} D_{k0} a_{i,k0} + \sum_{k=1}^{K} Q_{k0}\,(a_{i,0k} - a_{i,1k})}_{\text{dividends + capital gains } (K)}\right].$$

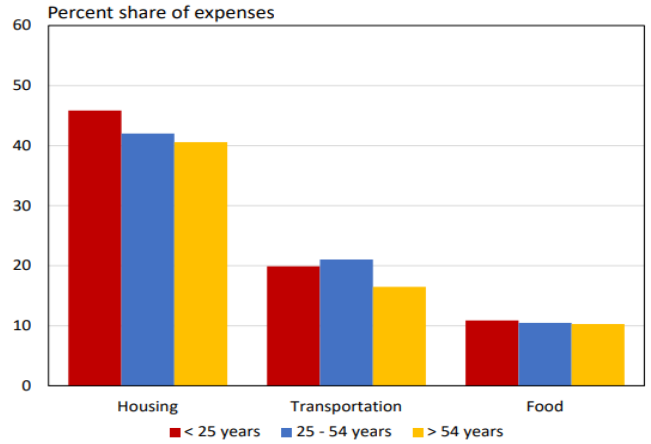
Heterogeneity of U.S. inflation

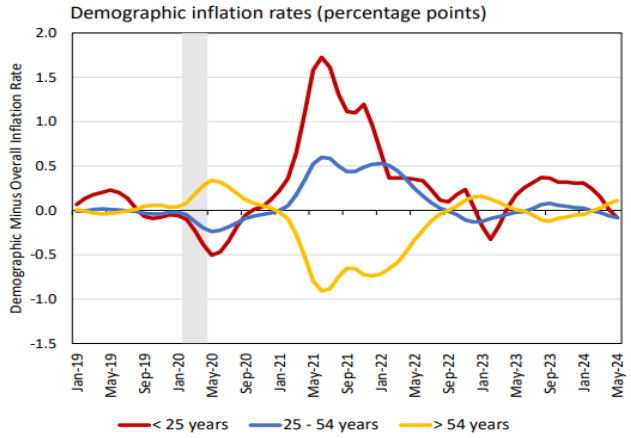
by ages →

and

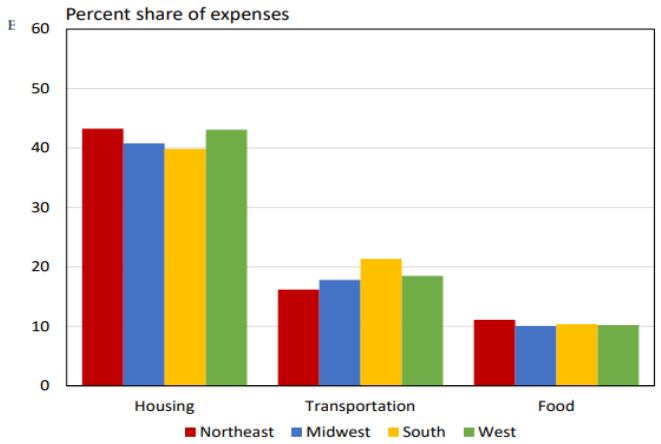
across regions →

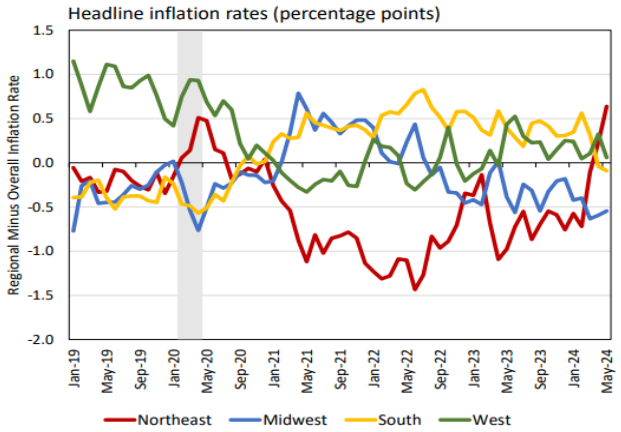
Demographic Inflation by Age





Demographic Inflation by U.S. Region





Sources: BLS Consumer Expenditure Survey microdata; BLS Consumer Price Indexes.
Notes: Expenditure shares use 2021 CEX microdata. Shaded region indicates the COVID-19 recession.

Who bears the cost? Direct impact on wealth

- Net income → *largest contributor to losses*, all ages
- Net Nominal Positions → *largest contributor to* ***heterogeneity***
  - Penalizes retirees in all countries
  - Helps young in some countries
- Dividend and Capital gains → largely benefit the young
- Results align with intuition
  - Nominal asset holders suffer more
  - Retiree hold more nominal assets

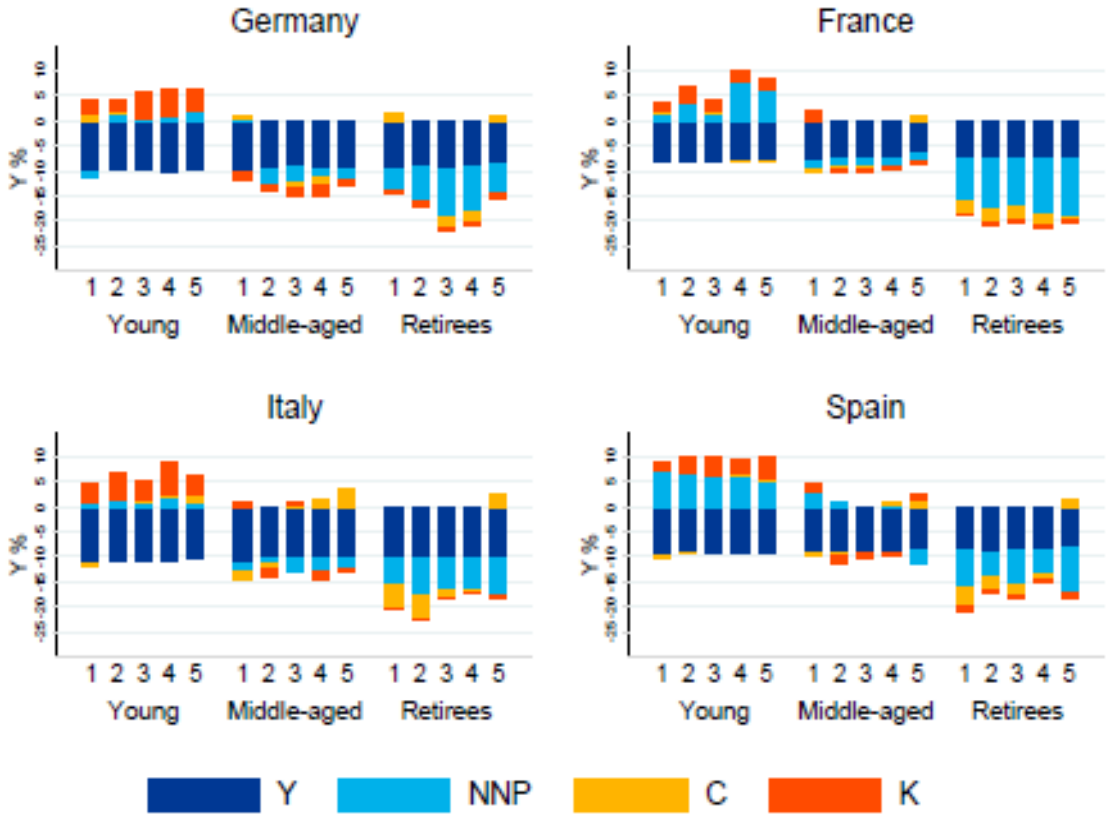


Figure 3: Gains from the inflation shock, in percent of triennial disposable income, by age class and nondurable consumption quintile: decomposition of the direct effect into its components.

Who bears the costs? Other channels

- Unconventional fiscal policy
  - Welfare effect of price subsidies and transfers on budget components Y, NN, D+K
  - Reduces negative direct impact on average across countries and household types, especially for retirees
- Indirect component
  - Welfare effects of adjustment in nominal asset prices, wages and pensions
  - Generally positive effects, very heterogeneous in most countries

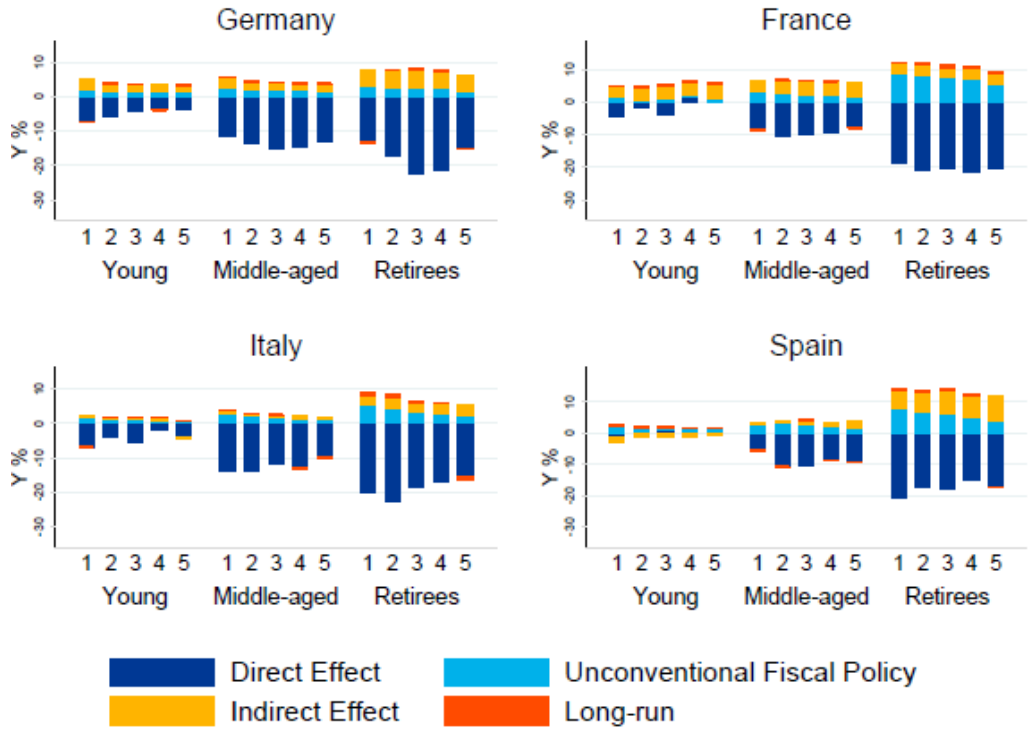


Figure 5: Gains from the inflation shock, in percent of triennial disposable income, by age class and nondurable consumption quintile: effect from four components.

Does the source of the inflation shock matter?

- Del Canto et al. (2023) analyze U.S. data with a very similar approach
  - Find oil supply shocks and monetary policy shocks have different re-distributive effects
    - because they affect asset prices in opposite ways
- Other papers analyze distributional effects of inflation in HANK models
  - Lee (2024) finds that the effects of inflationary cost-push shocks fall disproportionately on the poor
    - stickiness of nominal wages leads to depressed real wages
    - while lower labor costs and profit increases benefit the wealthy

Discussion

- Very interesting paper
  - Tries to get to the many nuances of how inflation causes wealth redistribution
  - Builds on several important contributions, especially
    - Doepke and Schneider (2006) analysis for the US
    - Show that redistribution effects of inflation depend on how quickly households adjust to it
      - not only the size of the nominal positions, but also the maturity structure of assets and liabilities matters
    - Adam and Zhou (2016) in an analysis of the Euro Area also discuss wealth redistribution through the changing value of nominal assets

- Covering the recent post-pandemic inflation episode, this paper also offers insights about the effects of offsetting fiscal interventions
  - But do their methods suffice for a welfare analysis of these interventions?

Discussion, cont.

Main question

- The authors' calculations are simplified by abstracting from:

  1. Effects of the shock (and the policies) on **expectations**
     - They assume the shock is **unexpected** and **transitory**

  2. **Substitution** in behavior in response to the shock
     - Irrelevant for welfare by the envelope theorem: if only computing **first-order** effect

- Can we really abstract from these in a welfare calculation?

Discussion, cont.

- Analyses of welfare effects of inflation can focus on
  a. Effects *of expected* inflation
  b. Effects of *surprise* inflation

- Effects of *expected* inflation: abstracted from in their analysis
- But to what extent is inflation still unanticipated in 2nd and 3rd year?
  - Authors use Consensus expectations: why not household surveys?
  - Inflation expectation in the ECB surveys certainly evolved as inflation took over
  - Both a year and 3 year ahead inflation expectations start soaring in 2021 (see below)

Discussion, cont.

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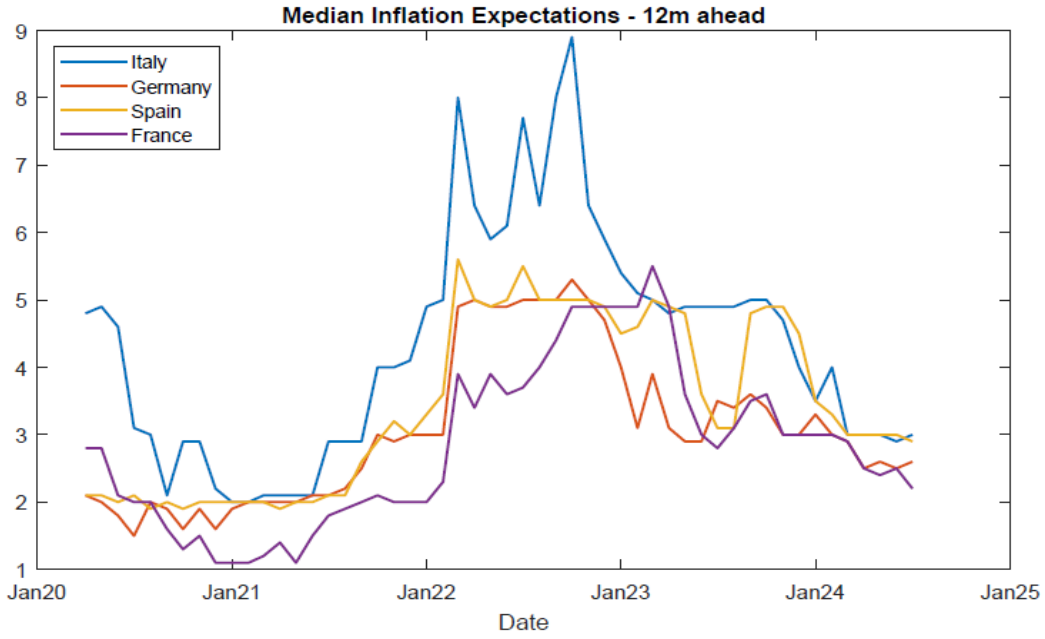
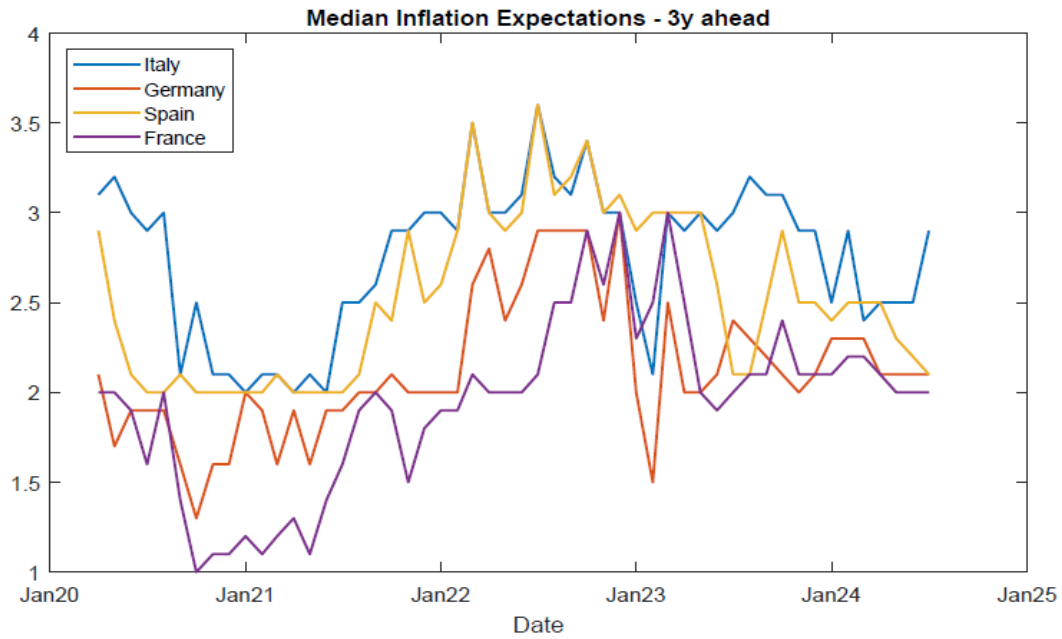
Evolution of survey expectations





Source: ECB Consumer Expectation Survey, July 2024

Discussion, cont.

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  b. Effects of *surprise* inflation

- Effects of *surprise* inflation: require a second-order calculation
  - first-order effect on welfare is zero because unanticipated shocks are zero on average
  - in a second-order calculation, substitution effects matter

Thank You