Information and Macroeconomic Expectations: Global Evidence

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Macroeconomic Expectations' Importance: Aggregate...

Inflation expectations are terribly important.
We spend a lot of time watching them.

Jerome Powell (2021)

Interest rate decisions will be based on our assessment of inflation outlook
.

Christine Lagarde (2025)

... And Individual Choices

- Key variable for economic decisions: perceived real interest rate

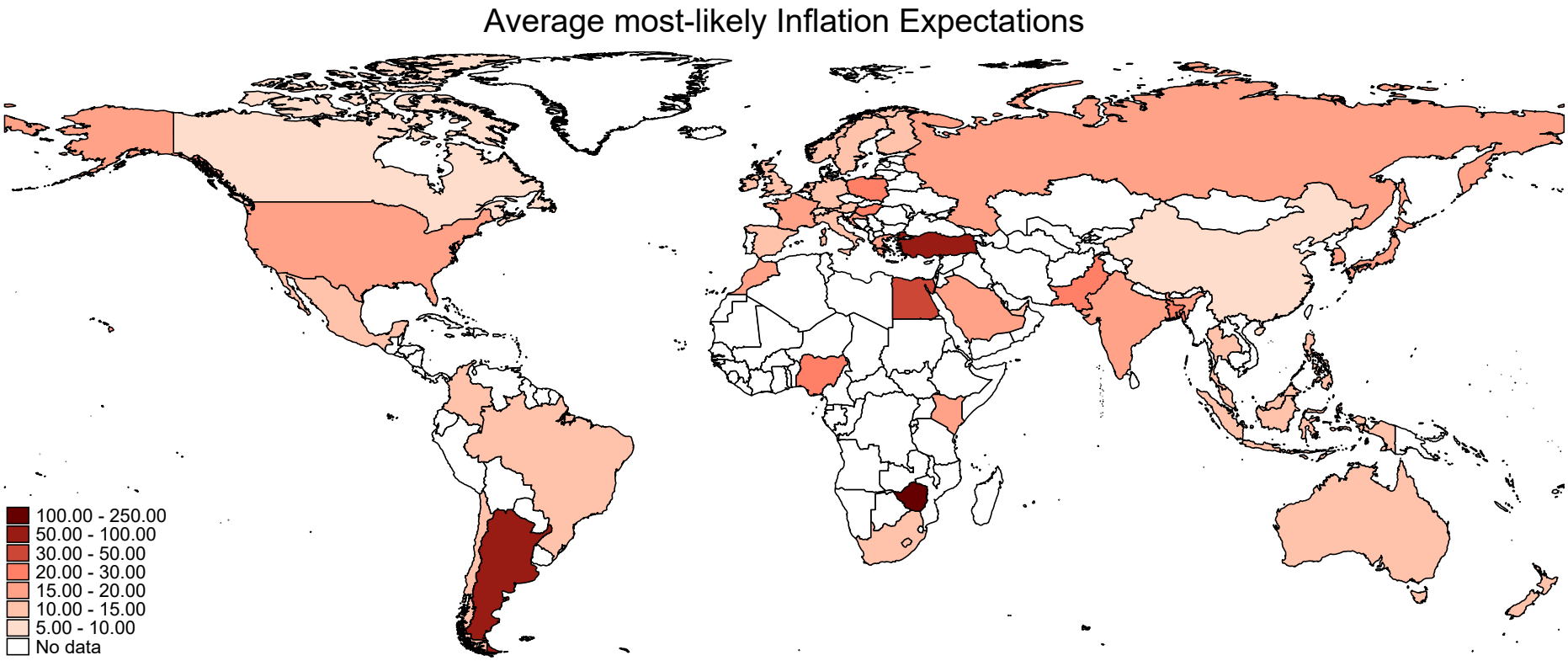
$$r_t^i = i_t - \mathbb{E}_t^i \pi_{t+1}$$

- Most **households'** choices depend on inflation expectations
  - Consumption/saving choices (D'Acunto, Hoang, and Weber, 2018)
  - Mortgage Uptaking, Type (Malmendier and Steiny, 2024)
  - Stock Market Participation (Das, Kuhnen, et al, 2019)
  - Wage bargaining

- Normal times: $\Delta i_t \longrightarrow \Delta r_t$ if expectations anchored

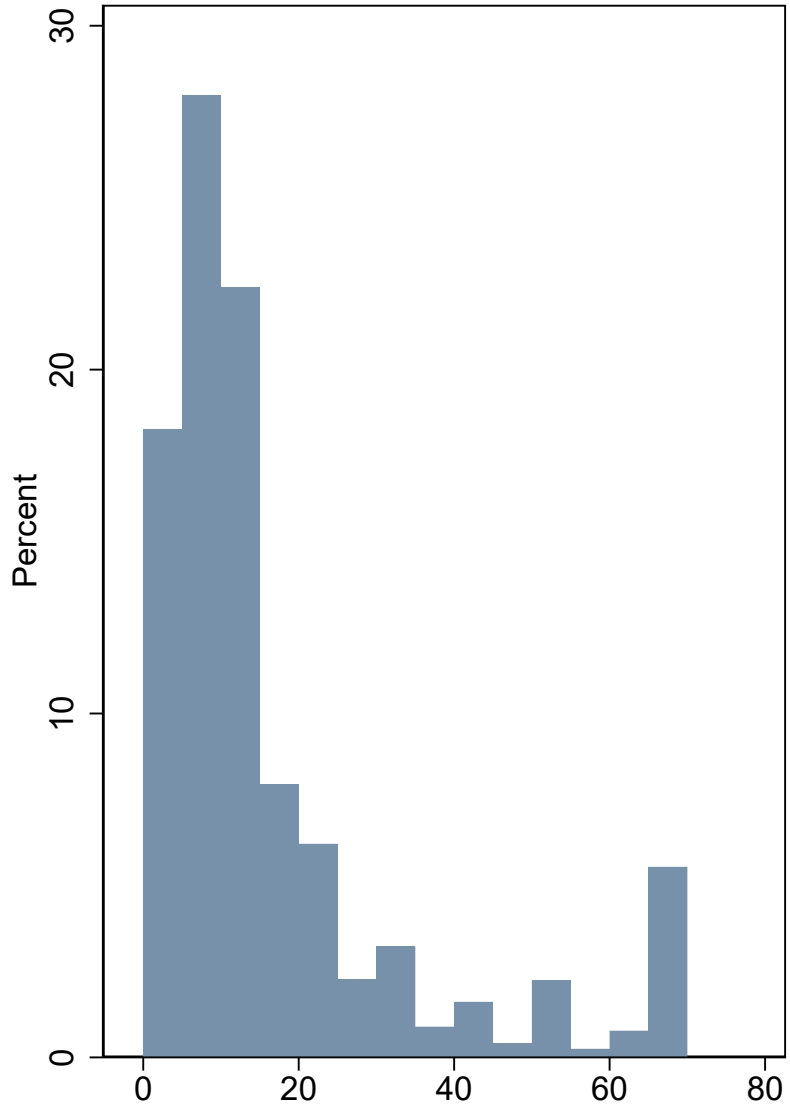
- **Especially important when nominal rates low!**
  (Coibion, Gorodnichenko, Kumar, and Pedemonte, 2018)
  - Policy needs to manage households' expectations
  - Examples: Unconventional Fiscal Policy, Forward Guidance

...but They Vary Dramatically Across and Within Countries



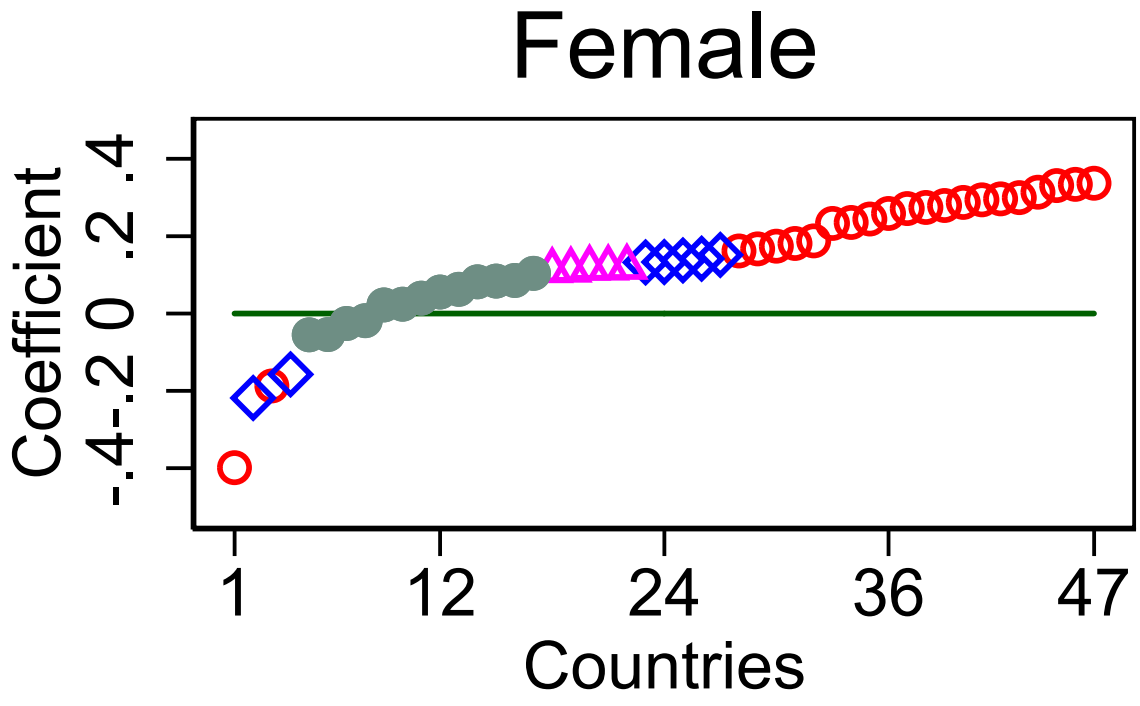
- This paper: Large heterogeneity for both high- and low-inflation countries

...and Are Systematically Upward Biased



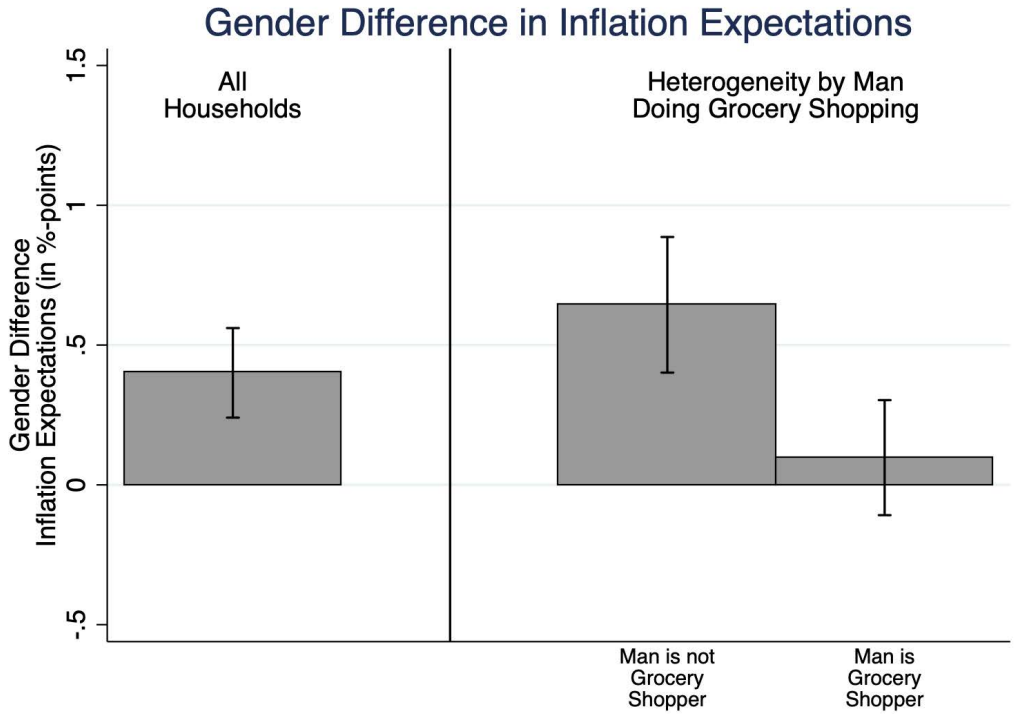
- This paper: Large heterogeneity & systematic upward bias globally

Bias Correlates with Demographics (e.g., Gender Gap)



- This paper: Gender gap in inflation expectations truly global phenomenon
  - Exceptions: Argentina, Egypt, Turkey, Zimbabwe
- This paper: Persists after partialling out Fin. Literacy, Education, Age, Income

Why Are Women (More) Biased? They Do the Groceries!



D'Acunto, Malmendier, Weber (2021):
Gender Roles Produce Divergent Economics Expectations (PNAS)

- Large difference in inflation expectations by gender *within* household
- Difference due to grocery shopping→Different signals about inflation

Theory: Can "Rational" Frameworks Explain This?

- Full-information Rational Expectations (FIRE)
  - NO. Can't explain either heterogeneity or systematic bias
  - Invalidated in many settings in economics and finance
- Rational Inattention
  - Agents only access economic info when benefits higher than costs
  - Can explain heterogeneity but not persistent systematic bias
- Any other parsimonious explanations?
  - e.g., Realistic adaptations of rational inattention framework?

This Paper — I

- First global survey of subjective macroeconomic expectations
  - 47 countries, 47K consumers & 90% world GDP
  - Homogeneous elicitation in April 2023
  - Inflation, Nominal interest rate & House-price expectations
  - Country-level representative samples (*Morning Consult*)

- Assess which facts are robust/consistent across and within countries
  - So far, inconsistent facts across settings (single-country surveys)
  - Hard to inform theory on what features should be captured
  - Three striking regularities:
    - Substantial heterogeneity within and across countries
    - Systematic upward bias in macroeconomic expectations
    - Several demographics predict bias (fin. literacy, gender, age, income)

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This Paper — II

- What helps explain these robust global facts?
  - Crucial driver: Sorting into different sources of economic information
  - As in rational inattention, households get info if higher benefits...
  - ...BUT, many access biased information sources
    = not representative of aggregate prices
    - More access to info leads to more systematically biased expectations
  - Demographics drive sorting into sources but not processing of information conditional on sorting
  - Higher trust in economic institutions (central bank & governments) leads to more sorting into unbiased sources

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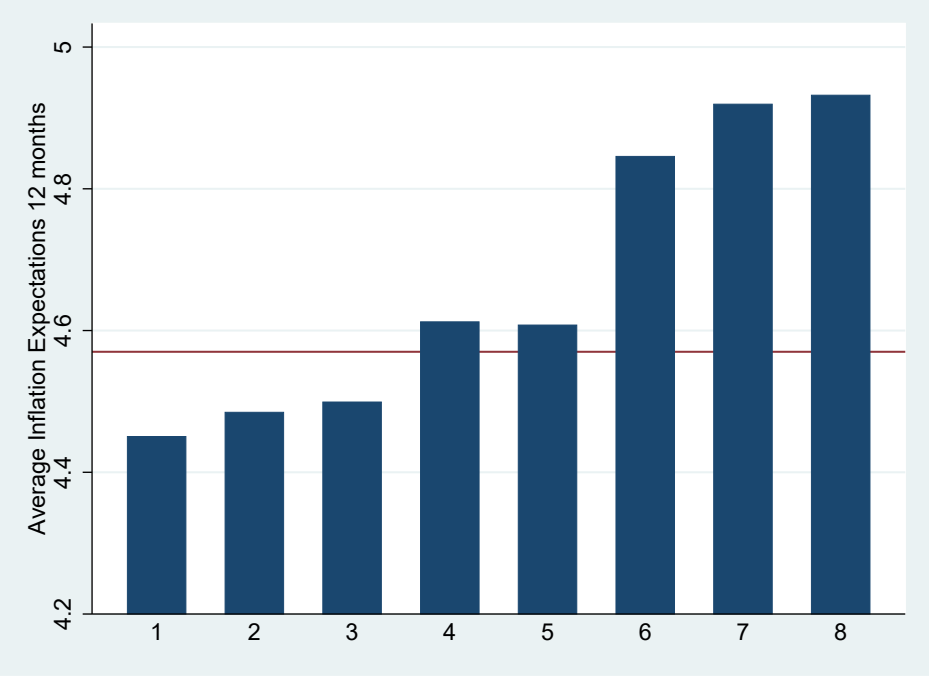
Two Sources of Signals: Local vs. Aggregate Economy

- When forming expectations, two non-exclusive sources of signals:
  - Local Economy Sources:
    - Like in Lucas (1975)'s islands: info from local economic environments
    - Examples: Shopping activities, Family & friends, Work, Social Media...
    - Different from Lucas (1975), these sources are biased predictors of aggregate variables (see D'Acunto, Ospina, Malmendier, Weber, JPE 2021)

Variation in Households' Bundles → Inflation Expectations



Source: D'Acunto, Malmendier, Ospina, Weber, JPE (2021):
"Exposure to Grocery Prices and Inflation Expectations"

- Sort households into bins by realized inflation in grocery bundles
- High-low portfolio: difference in expected inflation of 0.5 percentage points
- Economically sizeable given inflation target of 2%
- **Higher weight on positive prices changes of frequently purchased goods**

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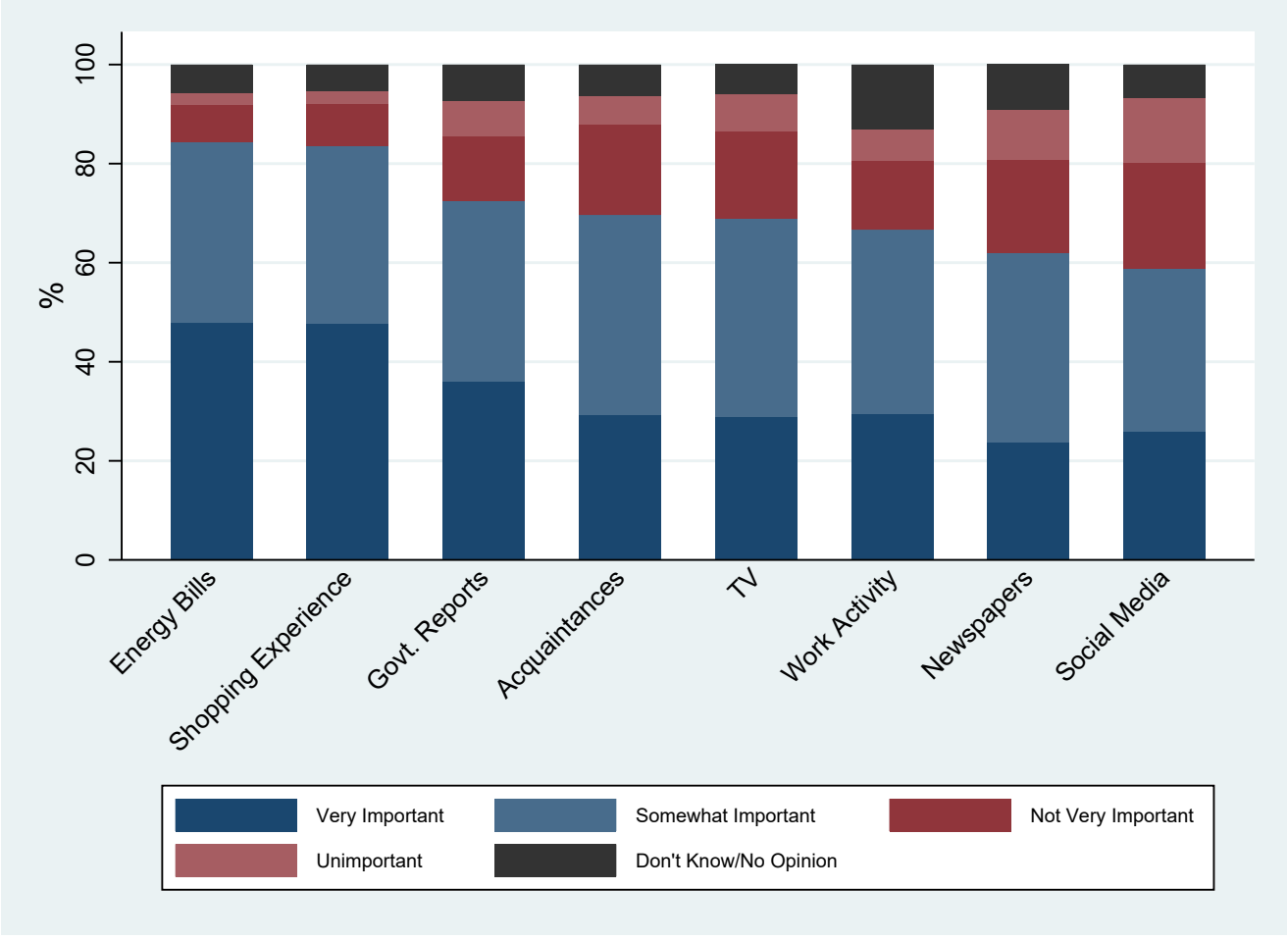
  - Aggregate Economy Sources:
    - Sources covering signals based on the aggregate economy
    - Examples: Gov't reports, Central bank communication, newspapers...

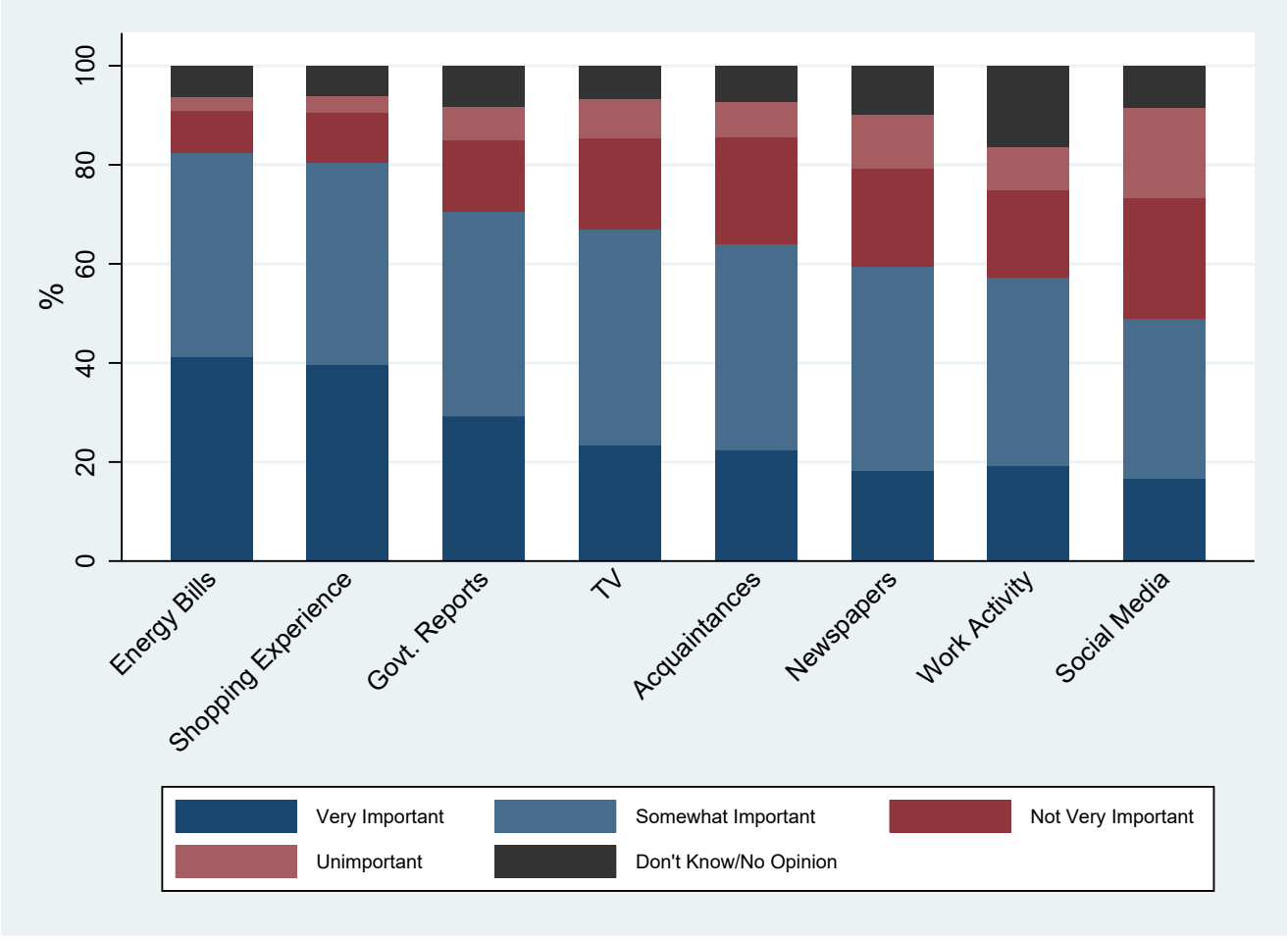
Source: D'Acunto and Weber, Annual Review of Economics (2024): *"Why Survey-based Expectations are Meaningful and Important"*

Heterogeneous Access to Information Sources ...



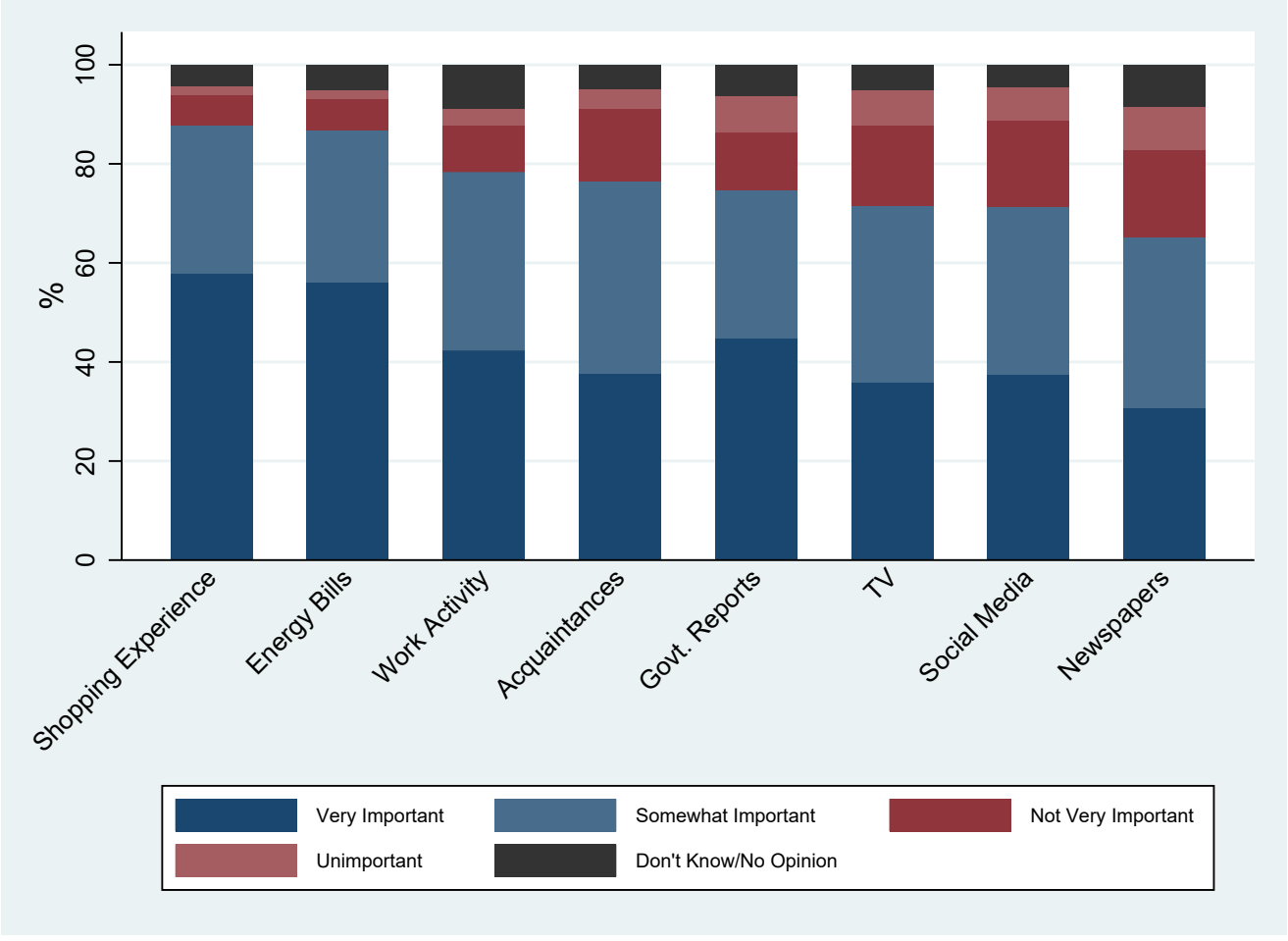
- Globally heterogeneous sorting into local vs. aggregate sources
- Shopping important for inflation expectations globally

. . . in Low . . .



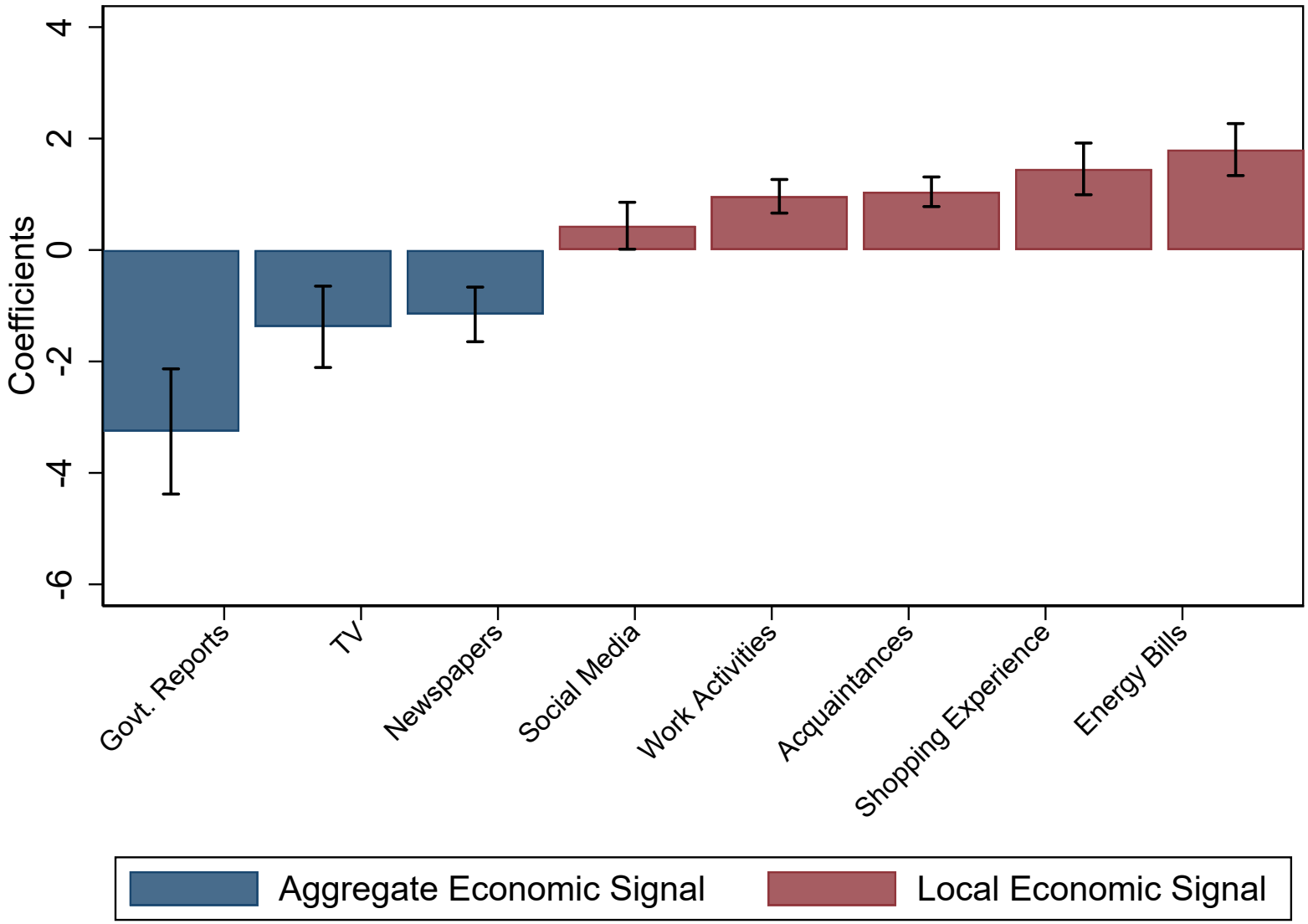
- In countries with historically low inflation
- Examples: Canada, Germany, Japan, Switzerland

. . . and in High Inflation Countries . . .



- Shopping even more important in high inflation countries
- Examples: Argentina, Brazil, Turkey, Zimbabwe
- In general more attention to all information sources

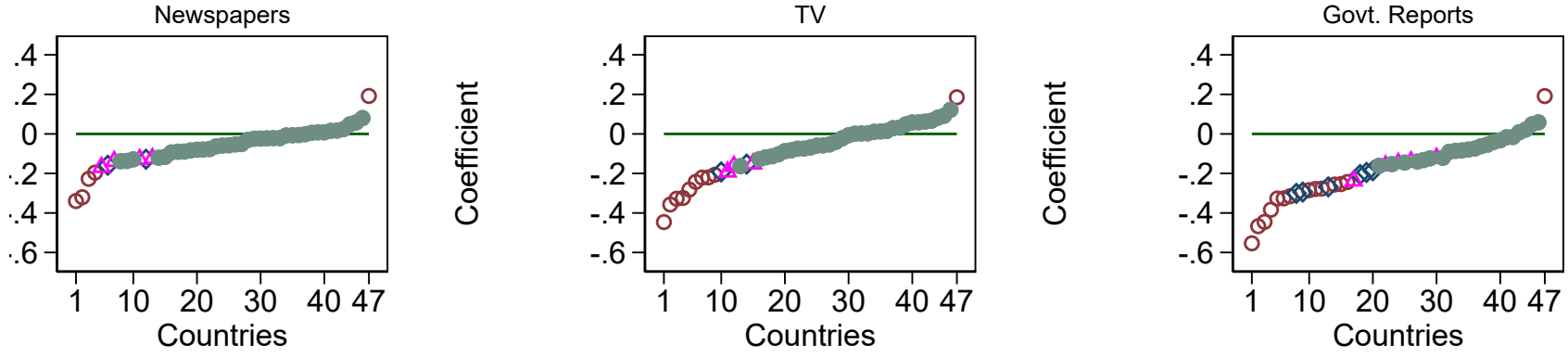
Inflation Expectations Vary Systematically by Sources



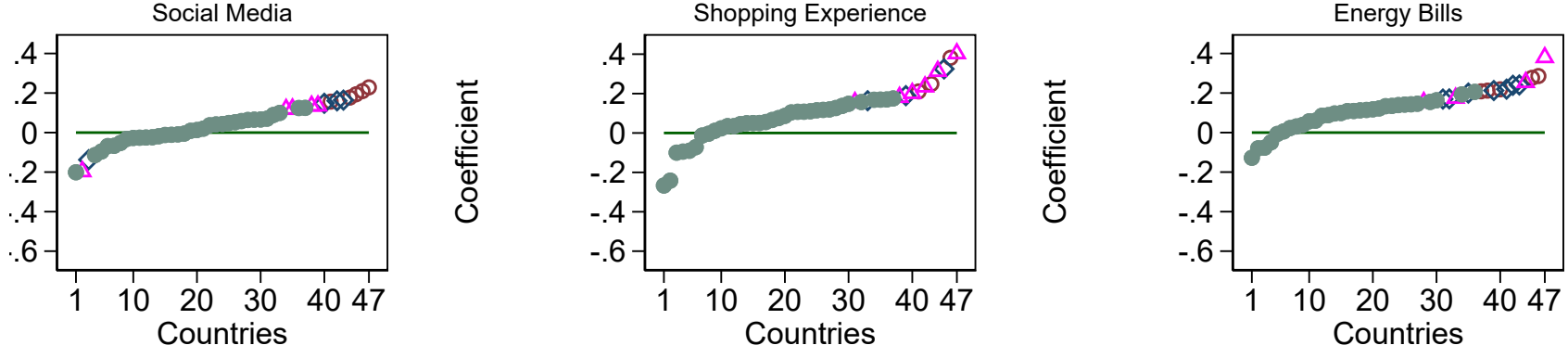
- Regression of $\mathbb{E}(\pi)$ on sources and country FE and demographic controls
- Reliance on local information sources $\rightarrow$ higher inflation expectations

Same Result Country by Country

Aggregate Economy Sources



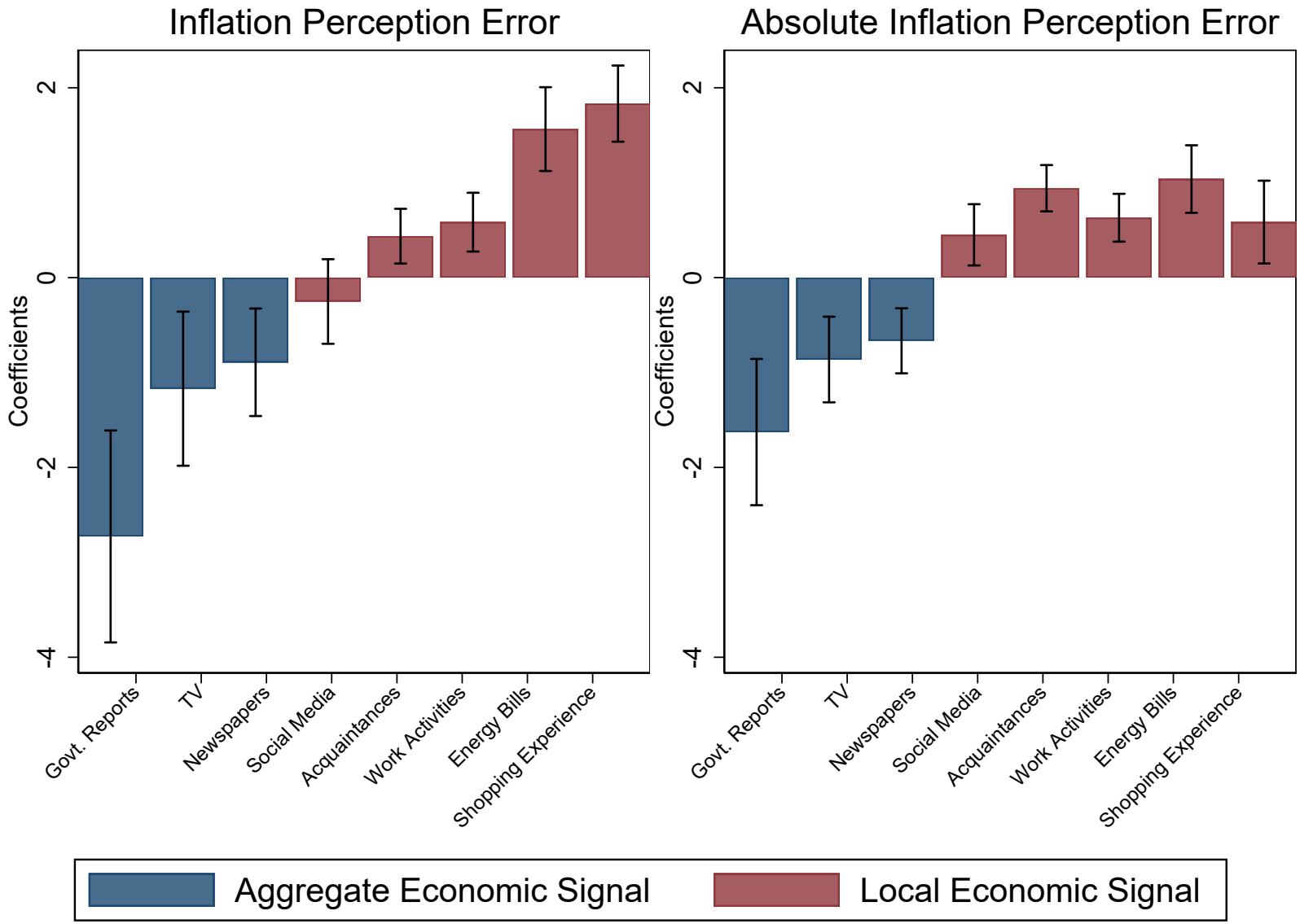
Local Economy Sources



- By country, regress std inflation expectations on dummy for high use source
- Higher Sorting into aggregate sources

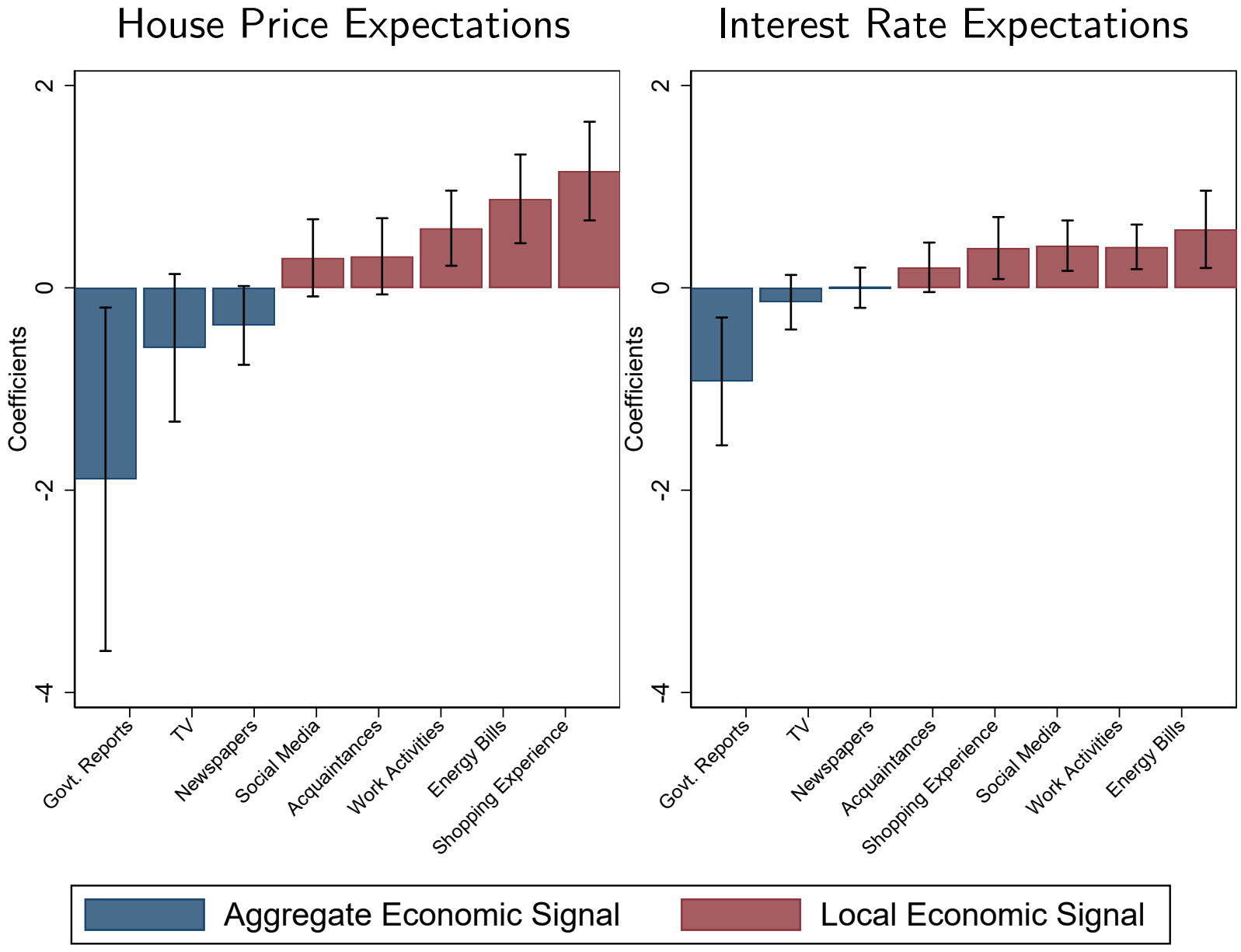
$\rightarrow$ Lower expectations biases

Why? Sources Produce Biases in Inflation Perceptions



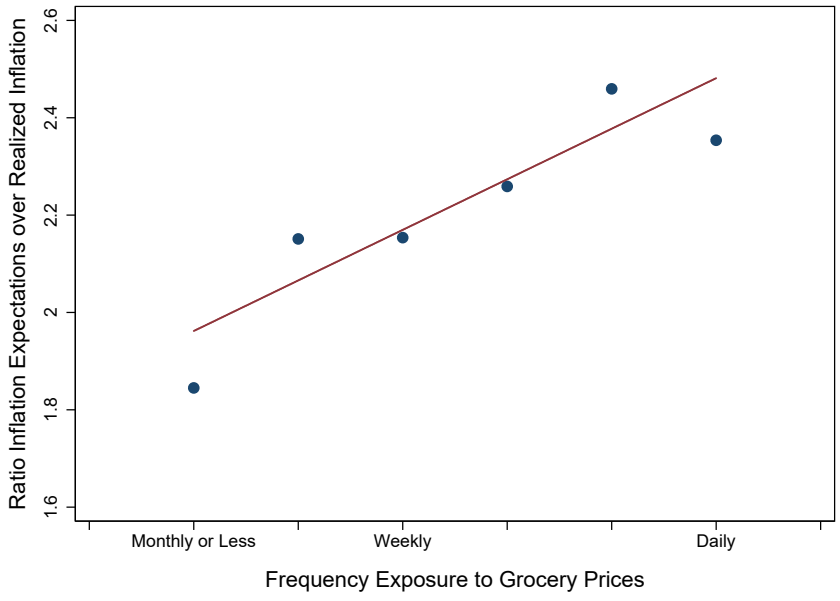
- Regression of errors on sources and country FE and demographic controls
- Reliance on local information sources $\rightarrow$ upward-biased inflation perceptions

Same for other Macroeconomic Expectations

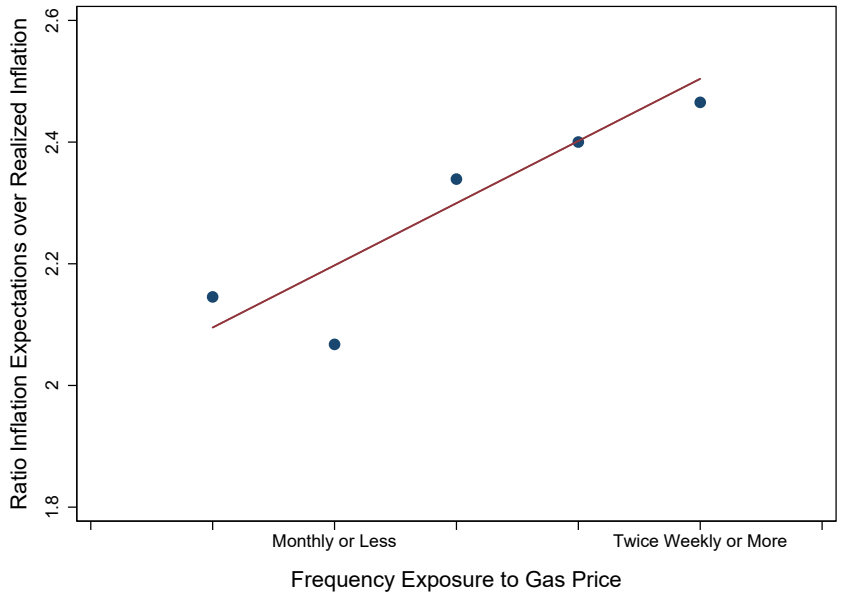


Intensive Margin of Information Sources

Grocery Exposure



Gas Station Exposure



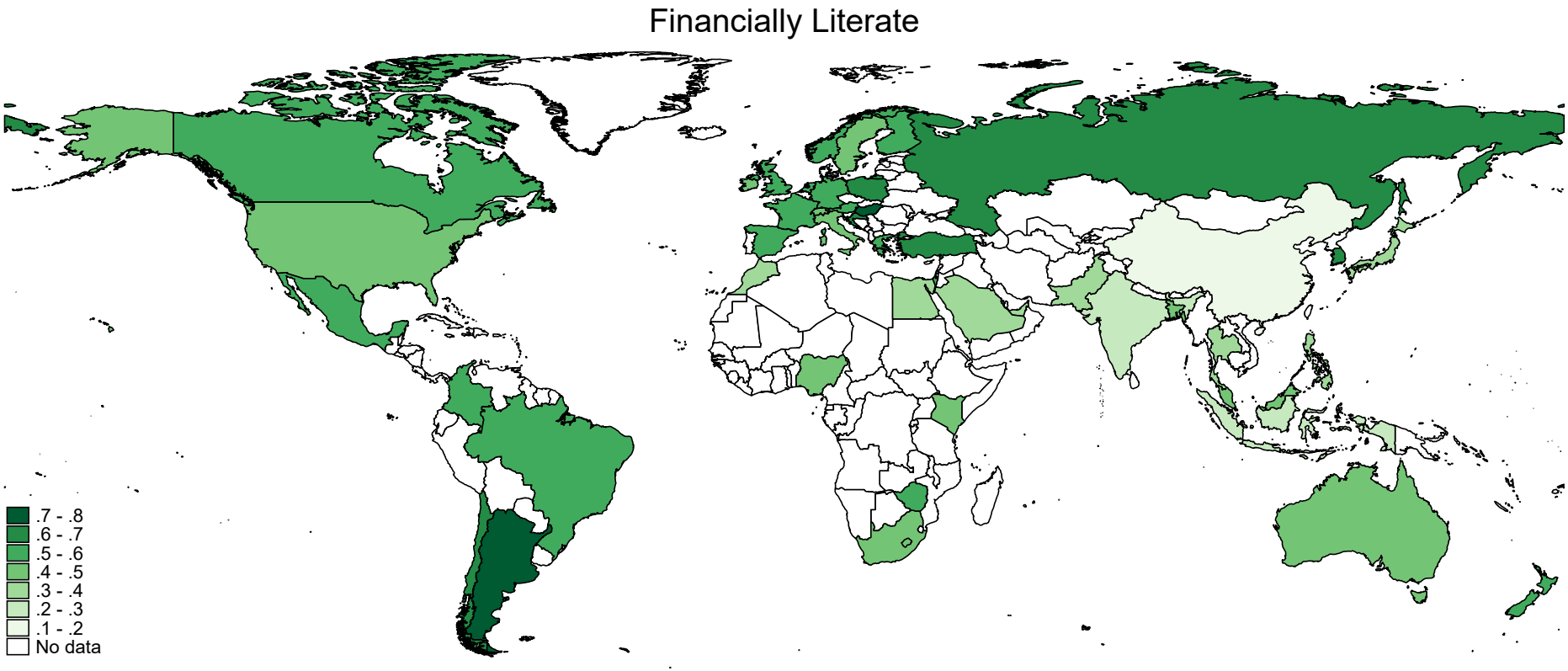
- Many unobservables can drive sorting into information sources
- Condition on source and exploit frequency of exposure
- More frequent attendance to grocery and gas prices $\rightarrow$ more biased expectations

Why Do Demographics Relate to Expectations Biases?

- These demographics relate to expectations biases within countries:
  - Financial Literacy
  - Sophistication (IQ, formal education)
  - Age
  - Gender
  - Income
  - Financial Constraints
  - Homeownership status

- We find they all matter for sorting into local vs. aggregate sources...
- ...BUT conditional on sorting, they barely matter at all
- i.e., demo groups process the same economic information similarly

Financial Literacy Around the Globe



- % respondents answering at least 2 of the Big 3 Lusardi-Mitchell questions correctly

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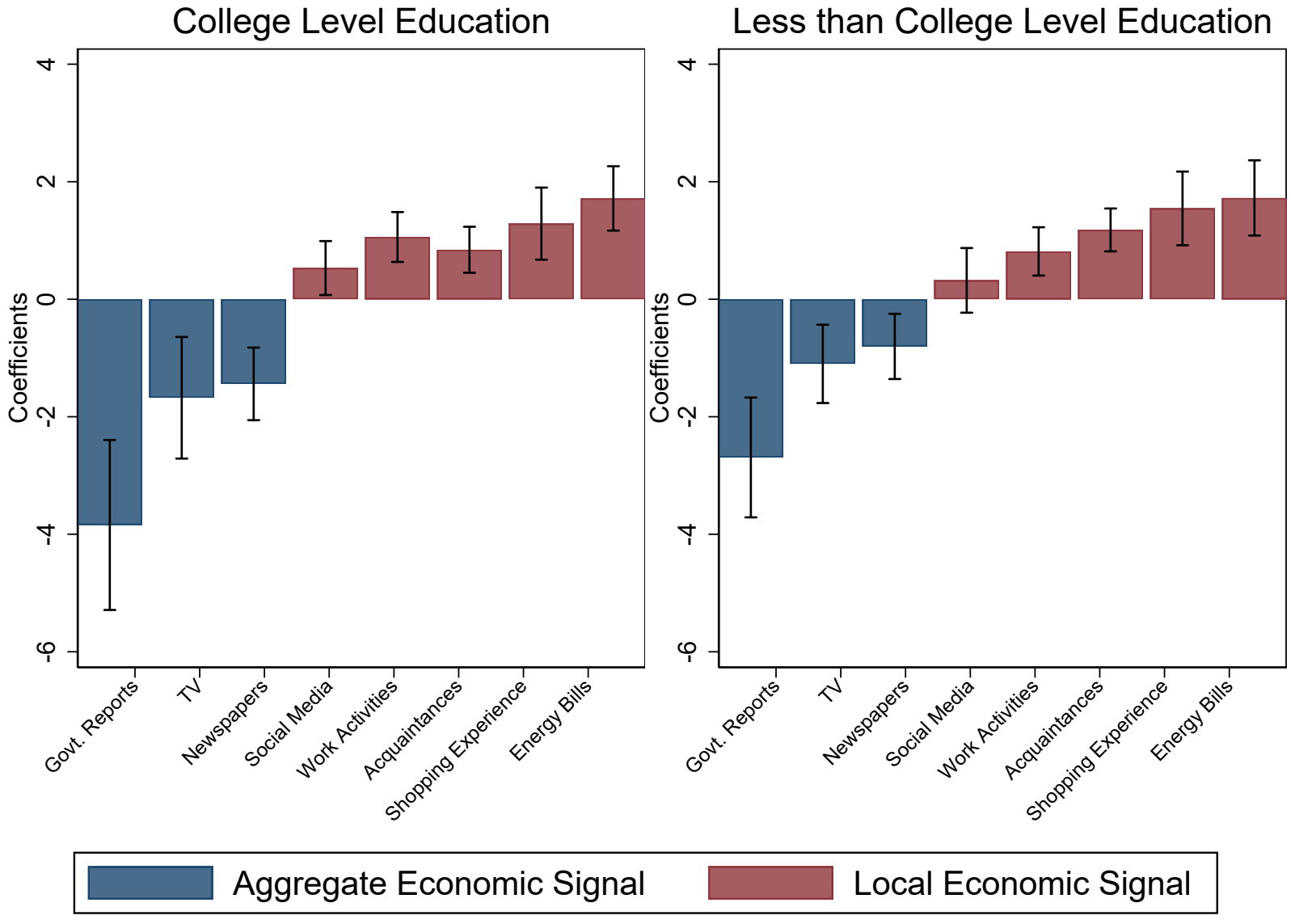
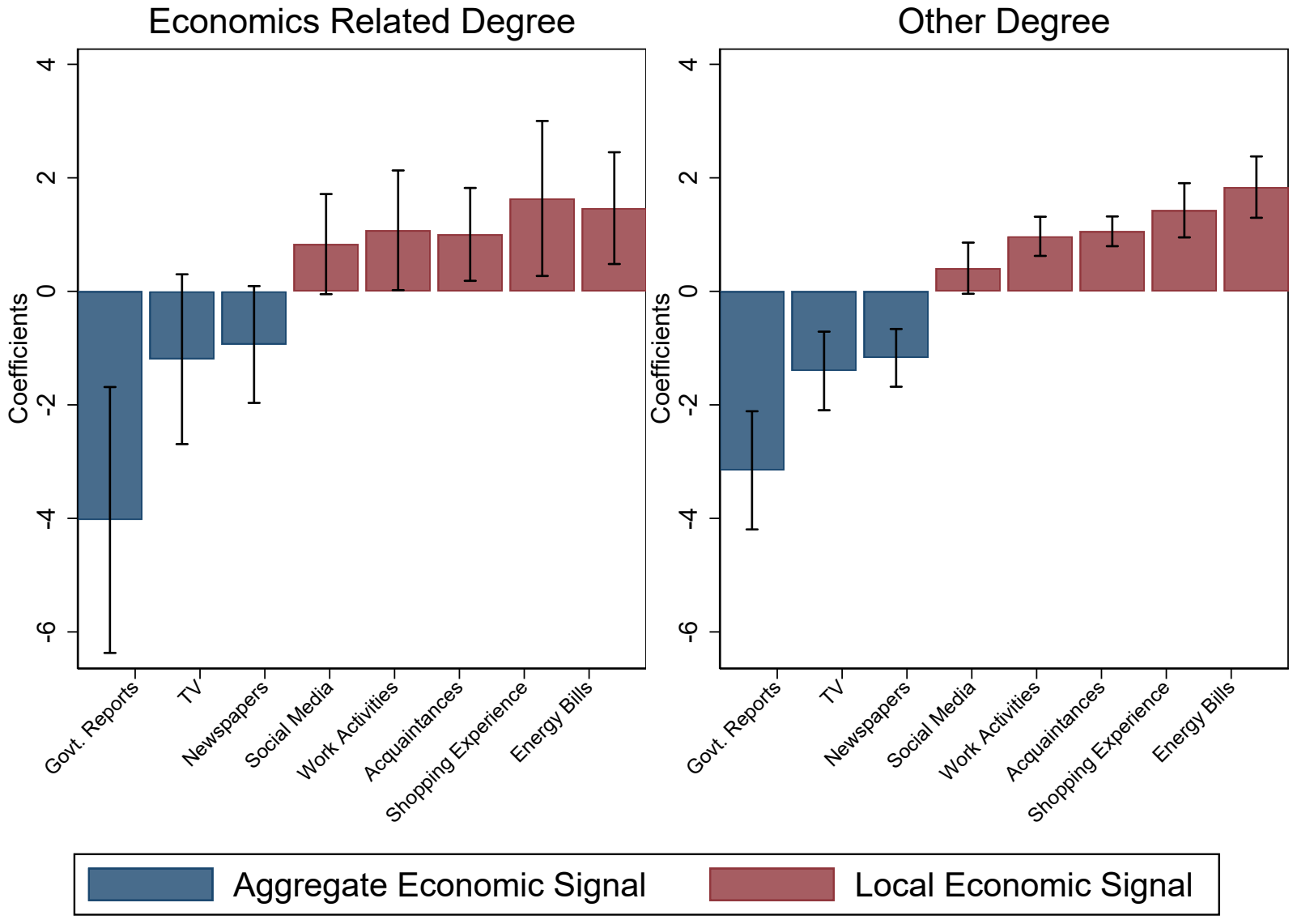
Sophistication Does not Matter Beyond Sorting into Sources



- Conditional on sorting, similar biases in expectations

Same for Economic Sophistication!



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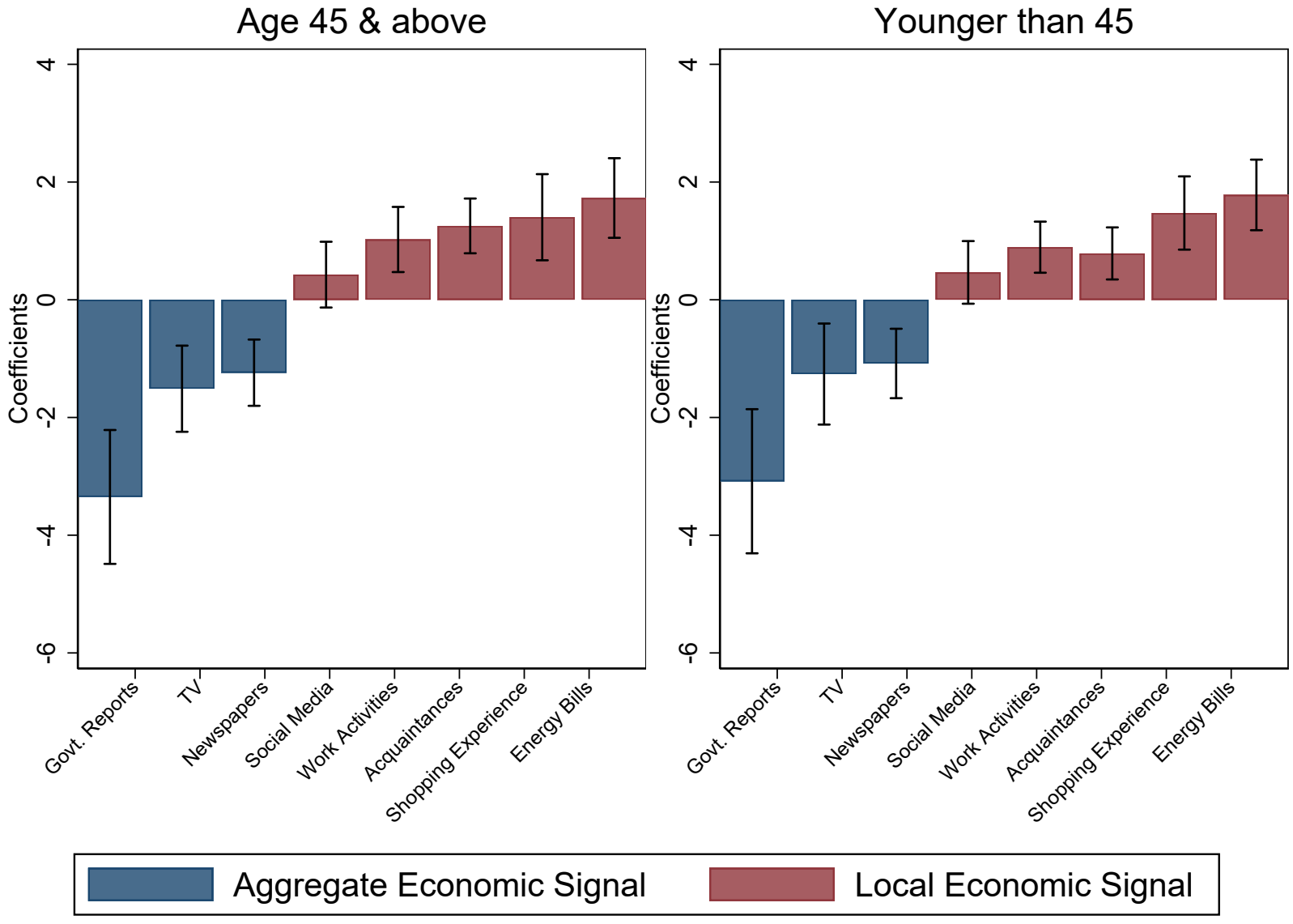
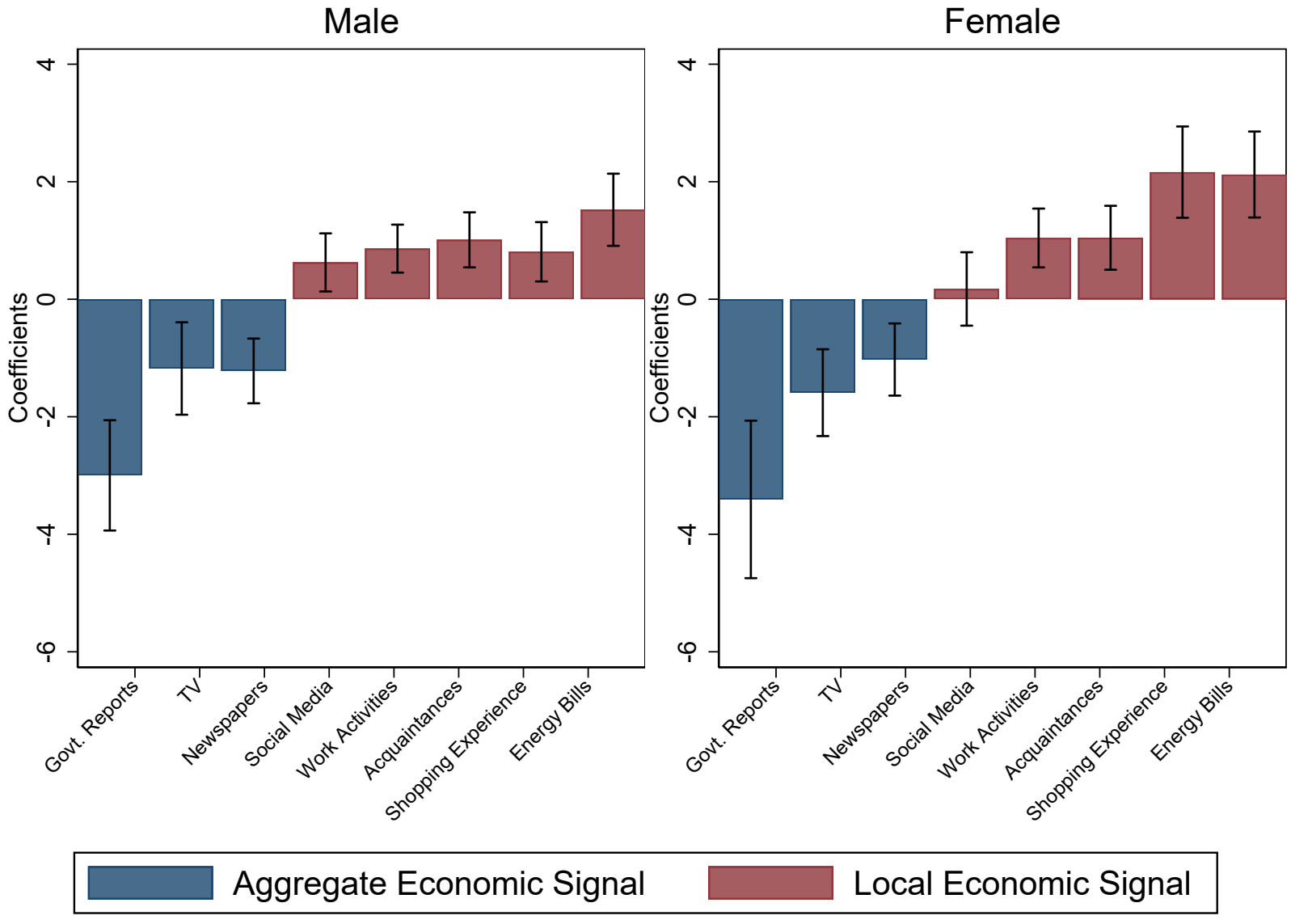
Age Does not Matter Beyond Sorting into Sources...



- Conditional on sorting, similar biases in expectations

...Not Even Gender Matters Beyond Sorting into Sources

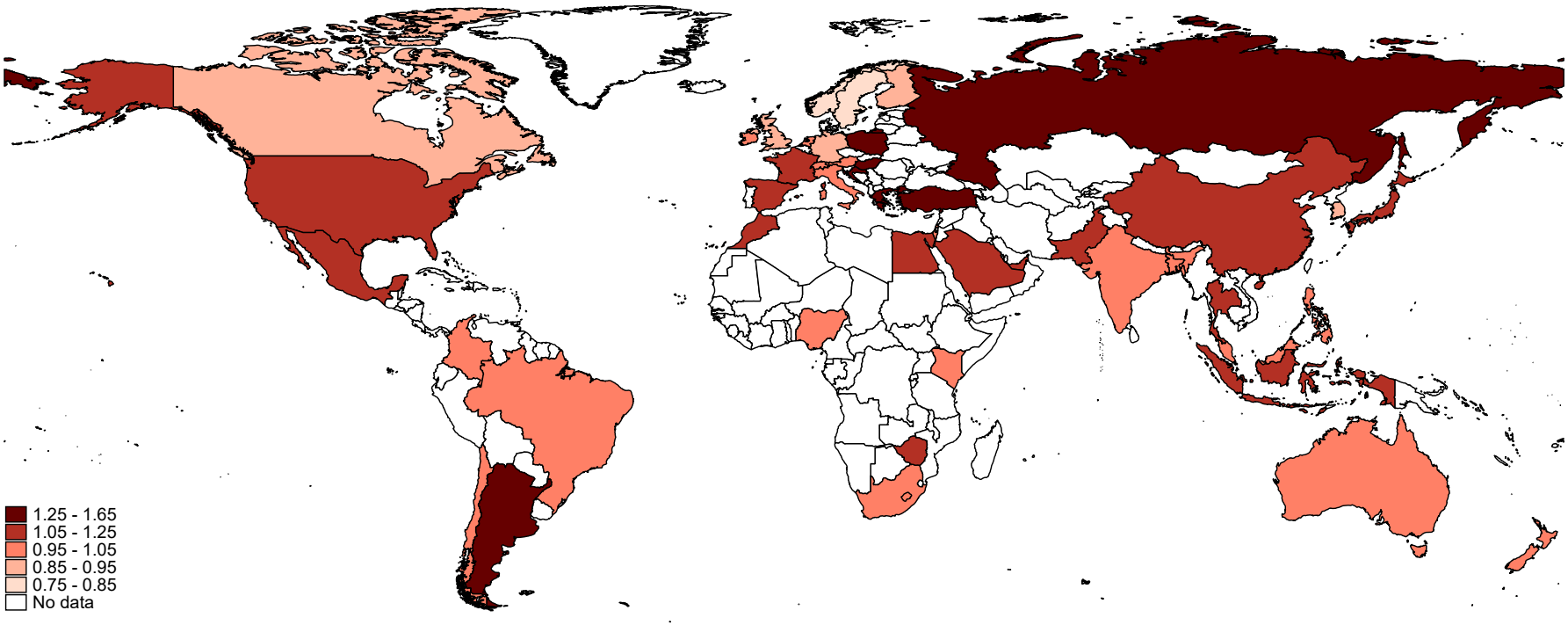


- Conditional on sorting, similar biases in expectations

What Explains Sorting into Information Sources?

- Within countries, demographics help explain sorting hence biases
- Why do different demographics sort systematically into different sources of economic information?
- Is there any higher-level characteristic that explains sorting?
- Let's move from a within-country to a global perspective...
-

Sorting Into Economic Information Sources by Country



- Ratio of average usage of local vs. aggregate sources by country
- Darker countries: higher use local sources, lower use aggregate sources

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- Within-country, demographics help explain sorting hence biases
- Why do different demographics sort systematically into different sources of economic information?
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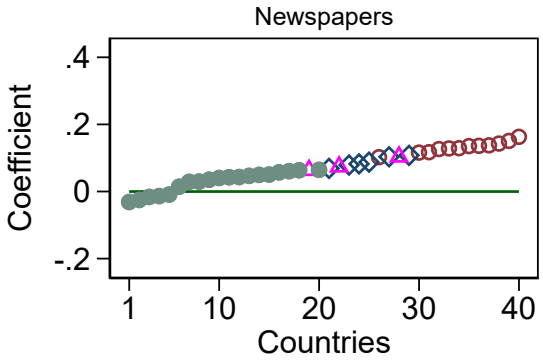
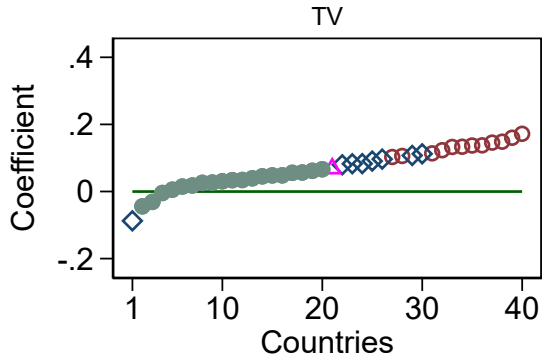
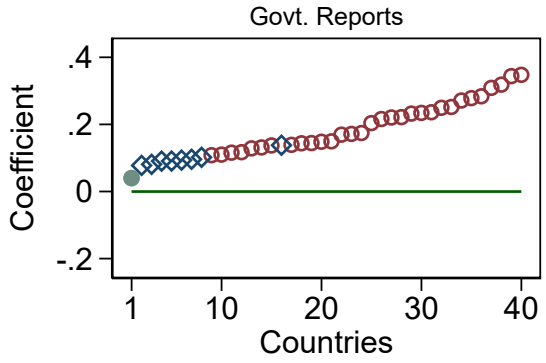
- Let's move from a within-country to a global perspective...
- We find that Trust in economic institutions (central banks & governments), i.e. the producers of aggregate economic information, is a crucial driver

Trust in Economic Institutions and Information Sources

Aggregate Economy Sources







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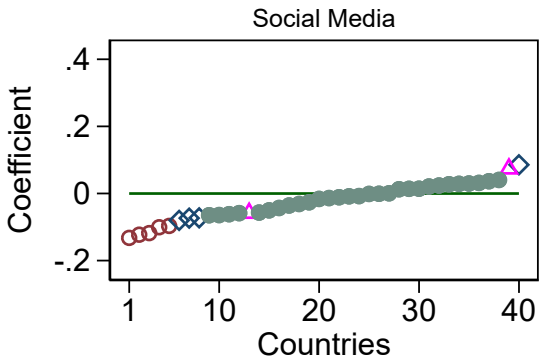

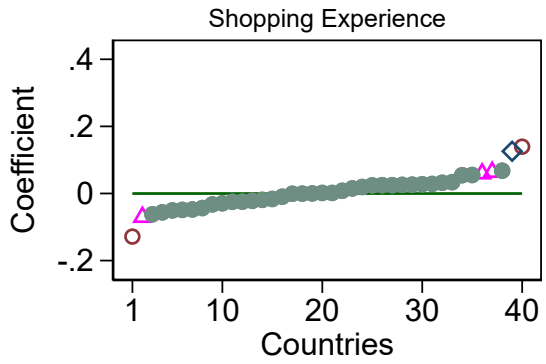

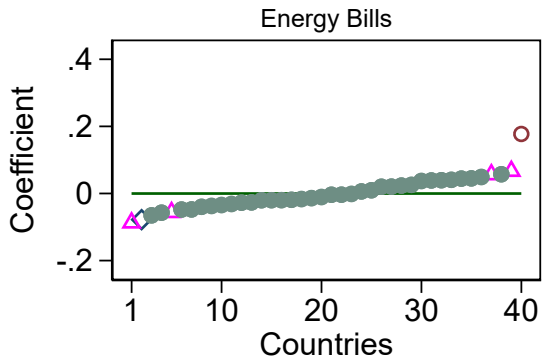

- By country, regress dummy for high use source on trust in economic institutions
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Conclusions

First global evidence on subjective macroeconomic expectations

- We confirm heterogeneity and systematic upward bias
- Sorting into aggregate vs. local sources of economic information drives biases in perceptions and expectations of macro variables
  - Obtaining more information does not reduce biases
- Trust in economic institutions (=producer of information) important driver of sorting into aggregate vs. local sources
- Implications and open questions:
  - Rational inattention framework needs quality information sources
  - Important role of building trust by central banks
  - Do expectations biases grow with the diffusion of social media?
  - Do expectations biases grow with polarization of political discourse? (e.g., Trump vs. Powell, Modi vs. Rajan, Germany vs. Lagarde)

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Recent Reviews of This Literature

- "Why Survey-based Subjective Expectations Are Meaningful and Important"
  D'Acunto and Weber
  Annual Review of Economics (2024)

- "The Subjective Inflation Expectations of Households and Firms: Measurement, Determinants, and Implications"
  Weber, D'Acunto, Gorodnichenko, Coibion
  Journal of Economic Perspectives (2022)

- "What Do the Data Tell Us About Inflation Expectations?"
  D'Acunto, Malmendier, Weber
  Handbook of Subjective Expectations (2023)

- "The Expected, Perceived, and Realized Inflation of U.S. Households before and during the COVID19 Pandemic"
  Weber, Gorodnichenko, Coibion
  IMF Economic Review (2023)