

# ECB FORUM ON CENTRAL BANKING

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**BELIEF DISAGREEMENT  
AND BUSINESS CYCLES**



EUROPEAN CENTRAL BANK

EUROSYSTEM

## Belief Disagreement

- **Expectations** are central to Macroeconomics – recent explosion in work using survey evidence.
- However, the literature focuses on **average** expectations, with heterogeneity mostly ignored...
- **This paper:** The origins of heterogeneous expectations matter for macro-outcomes.

## Heterogeneous Attention to the Macroeconomy

### Theory: Rational inattention model

- Consumption-savings problem: people need to predict future income, interest rates, inflation...

#### Central trade-off:

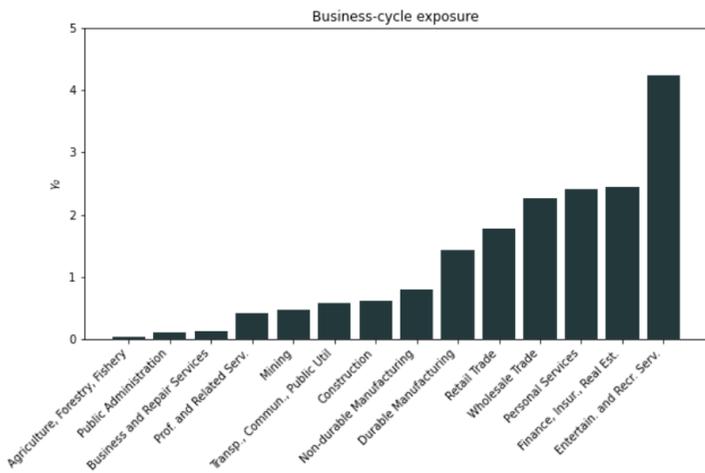
- + Better forecasts lead to better decisions.
- Better forecasting incurs larger cognitive costs.

#### Conclusion:

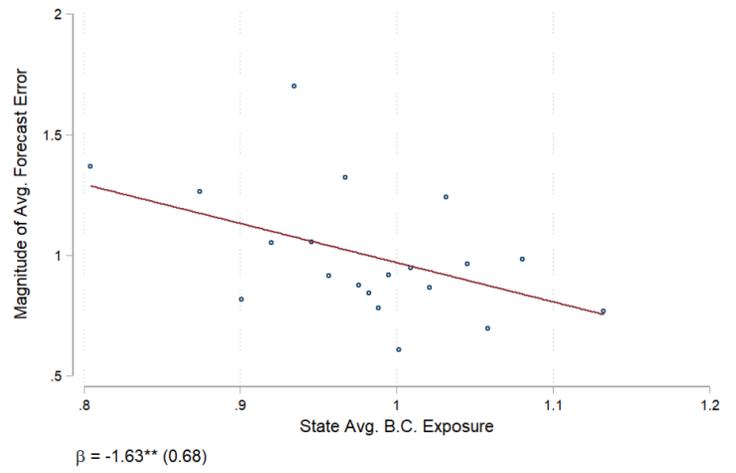
- Benefits of good forecasts increase individual exposure to business cycles. Why?

$$Var(y_{i,t}) = \gamma_g^2 Var(Y_t)$$

- E.g., workers in finance pay more attention than Professional services



### Empirics: Accuracy of forecasts



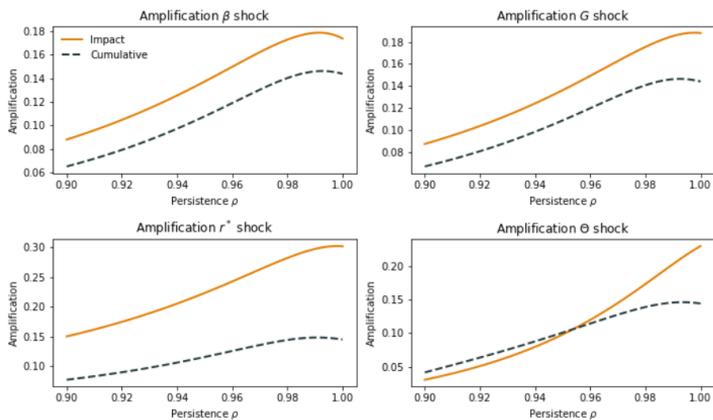
- Forecasts and forecast errors from Survey of Consumer Expectations.

### Novel statistic: Correlated disagreement

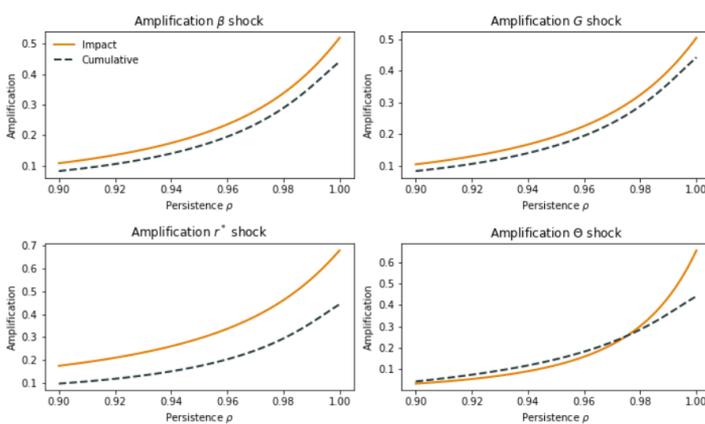
- Captures the correlation between attention and exposure.
- **Sufficient statistic** macroeconomic propagation.
- Correlated disagreement increases the effective MPC and so increases the response of aggregate demand to economy-wide disturbances.

## Amplification of Business Cycles

### Amplification of Business Cycles



### Low Monetary Policy Response



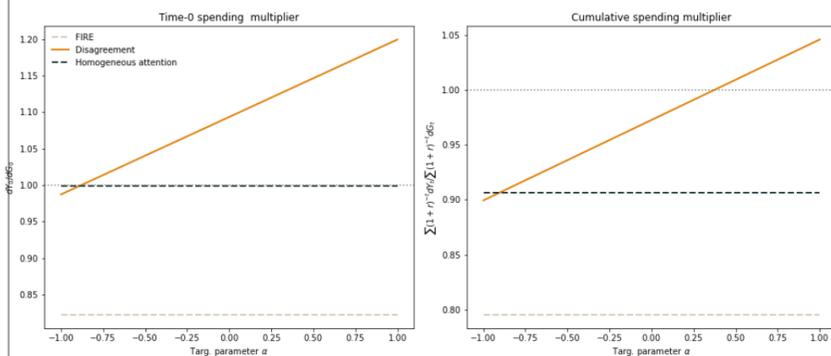
**Disagreement increases the volatility** of business cycles

- Quantification based on state-of-the-art **HANK model** with **endogenous inattention**.
- Four standard shocks: discount factor, spending, interest rate, and productivity shocks.
- Computation: Sequence-space solution methods with arbitrary expectations.
- Find more substantial amplification the more persistent the shock – expectations are more important.
- Calibrated **oil shock** features a 17% larger output response, i.e., the recession is 17% deeper.

### On Monetary Policy:

- If the **response** of monetary policy to **inflation is weaker**, then disagreement leads to **more severe recessions...**
- Same oil shock now features a 33% deeper recession in terms of output.

## Spending Multipliers



### The composition of spending matters:

- **Sectoral heterogeneity** in **attention** implies that the **composition of spending** matters.
- Spending on **most cyclical** sectors has **higher multipliers**.
- Effects are more substantial if monetary policy is less reactive to inflation (e.g., ZLB).