

Effective Policy Communication: Targets versus Instruments

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Motivation

“[T]he esoteric nature of [central banking] is (...) revealed by an inherent impossibility to articulate its insights in explicit and intelligible words and sentences.”

Karl Brunner, 1981

“Since I’ve become a central banker, I’ve learned to mumble with great incoherence. If I seem unduly clear to you, you must have misunderstood what I said.”

Alan Greenspan, 1987

“The ECB needs to be understood by the markets that transmit its policy, but it also needs to be understood by the people whom it ultimately serves. People need to know that it is their central bank, and it is making policy with their interests at heart.”

Christine Lagarde, 2019

Subjective Expectations → Firm and Household Decisions

- Key variable for economic decisions: perceived real interest rate

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

- Most **household** decisions depend on inflation expectations
 - Consumption/saving choices (D'Acunto, Hoang, and Weber, RFS 2021)
 - Mortgage uptaking, type
 - Wage bargaining
- Firm investment and price setting decisions
- New Keynesian Phillips Curve: expectations determine actual inflation
- Normal times: $\Delta i_t \rightarrow \Delta r_t$ if expectations anchored
- **Especially important when nominal rates low!**
 - Policy needs to manage expectations directly

Research Question

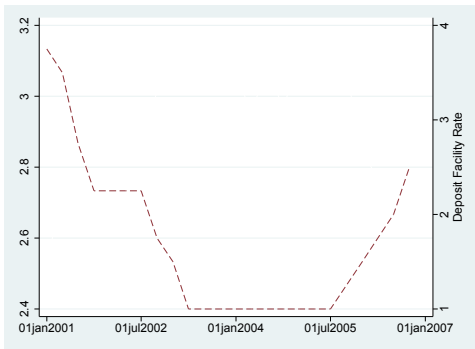
How can central bank communication reach the general public?

- Idea: economic agents change decisions based on long-term rates
- **BUT** large fraction of households do not

D'Acunto, Hoang, Paloviita, & Weber (2021):

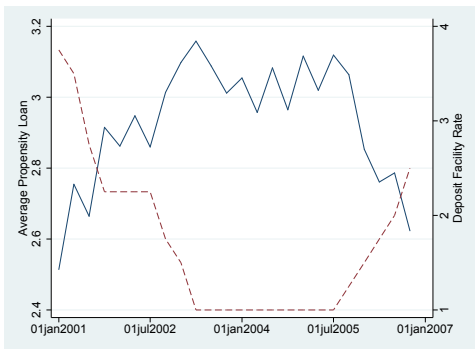
Human Frictions to the Transmission of Economic Policy

Deposit Facility Rate: Beginning of Quarter



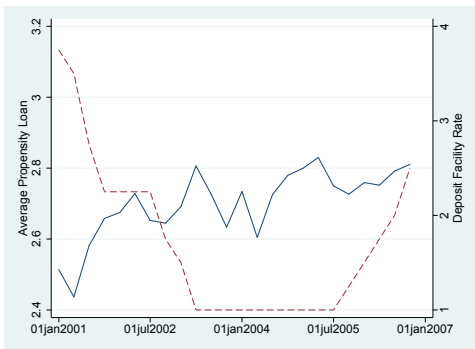
- Study propensity to take out loan by IQ
- Both for increase and decrease in rates
- Till end 2001: rate falls from 3.75% to 2.25%
- Trough of 1% in June 2003
- December 2005 rates start increasing; 2.5% end of 2006

Propensity to take out Loan: High IQ



- Early 2001: average propensity to take out loans of around 2.5
- Next 2.5 years: rates fall and propensities increase to more than 3
- Till mid 2005: rates and propensities flat
- Afterwards: rates increase, propensities fall

Propensity to take out Loan: Low IQ



- Early 2001: average propensity to take out loans of around 2.6
- Next 6 years: propensities hover around 2.8

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D'Acunto, Hoang, Paloviita, & Weber (Restud 2021)
- For households, focus is on anchoring expectations
- **BUT** large upward bias and little knowledge of monetary policy

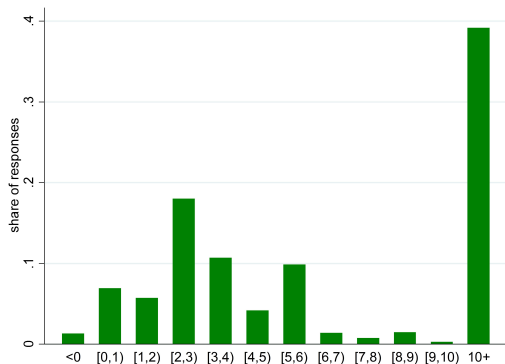
Why Are Women (More) Biased? They Do the Groceries!



Source: D'Acunto, Malmendier, Weber (PNAS, 2021)
D'Acunto, Malmendier, Ospina Weber (JPE, 2021)

- General upward bias in inflation expectations
- Large difference in inflation expectations by gender *within* household
- Unconditional difference driven by differences in grocery shopping

Fed Inflation Target



Source: Coibion, Gorodnichenko, Weber (JPE, 2021)

- Only 50% think inflation target between 0% and 5%
- 40% thinks Fed has inflation target $\geq 10\%$

Research Question

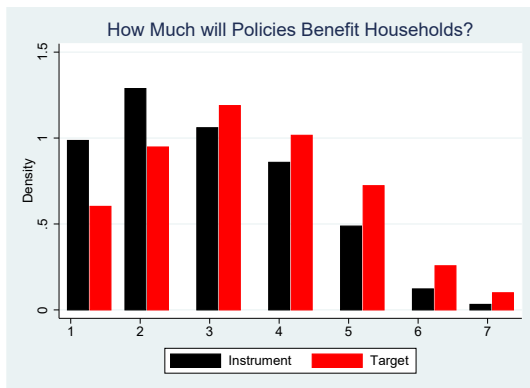
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- Idea: economic agents change decisions based on long-term rates
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- For households, focus is on anchoring expectations
- **BUT** large upward bias and little knowledge of monetary policy
- Sign of success? Households worry little?
- **BUT** not innocuous: communication policies cannot be effective

This Paper

- Field large-scale survey on Finnish men with IQ data
- Randomize pieces of information to individuals
- Target vs instrument communication to reach ordinary people?
Angeletos & Saastry (2019), Angeletos (2020)
 - Target communication: specifies aims of policy
The European Central Bank will do whatever is necessary to minimize the financial damage to citizens caused by the corona crisis
 - Instrument communication: details implemented measures
New EUR750 billion Pandemic Emergency Programme (PEPP) launched by the European Central Bank

Overview of Results



- Households higher level of trust in ECB for target than instrument communication

Customized Survey in Finland

- Survey design in cooperation with Statistics Finland in Spring of 2020
- Sample: all men in Finland with IQ data
- Stratified by age and education to ensure large overlap with IQ data
- Fielded in June 2020

Customized Survey in Finland

- Survey consisted of three parts
- First: elicitation of financial constraints, portfolios, income in 2019
- Prior expectation on average monthly change in gross income in 2020
- Second part: experimental stage
- Third part: identical for all subjects
- Posterior income expectations
- Financial literacy and shopping duties

Information Provision Experiment

- Angeletos & Saastry (2019): target vs. instrument communication?
- Randomize type of communication
- Imitate ideal setup in laboratory
- Keep constant sender: Olli Rehn
- Keep constant medium: twitter
- Control group receives also tweet of crisis time unrelated to policy
- Intro text before information to reduce concerns of demand effects

Target Communication



- “The European Central Bank will do whatever is necessary to minimize the financial damage to citizens caused by the corona crisis”
- No jargon, no number, no instrument just target
- “Simple, crisp, and constructively imprecise” (Angeletos, 2020)
- Survey did not include last sentence and link

Instrument Communication



- “New EUR750 billion Pandemic Emergency Programme (PEPP) launched by the European Central Bank”
- Only reference to policy instrument
- Large amount likely to both expert and non-expert
- Survey did not include last sentence and link

Control Treatment



- “The January engagement created the spirit of Winter War 80 years ago. Memories do not live, but they do”
- Control group also discusses period of crisis but no relation to monetary policy
- Within-subject design allows purging potential “crisis” priming effect
- Survey did not include last sentence, link, and picture

Cognitive Ability Data

- Mandatory military service in Finland: Finnish Armed Forces (FAF)
- Around age 19, 120 questions to measure cognitive abilities
- FAF aggregates scores into a composite: IQ
- FAF standardizes IQ to follow a stanine distribution
 - 9 points to approximate normal
 - Lowest 4% of scores at least 1.75 std from mean: standardized IQ of 1
 - 4% with highest test scores: standardized IQ of 9

Additional Data

- Administrative data on household income, debt holding, etc.
- Data on received and paid income transfers
- Information on basic demographics
- Registry data on education, occupation, etc.

Running Sample

- 2,627 survey responses matched to registry data
- 141 observations dropped b/c Δ (survey, registry income) $>$ 100,000
- 868 in control arm, 799 in target arm, 819 in instrument arm

Descriptive Statistics

- Average monthly income: EUR 4,900
- Prior expected loss in monthly income: EUR 90
- Average age: 40
- 46% college educated
- Policy awareness: 28%
- Observables balanced across treatment arms

Empirical Specification

- Regress forecast revision on treatment dummy & controls \forall treatment

$$(\mathbb{E}_{posterior}^i - \mathbb{E}_{prior}^i)\Delta income = \alpha + \beta_j \times Treatment_j + B \times X + \varepsilon_i,$$

- $(\mathbb{E}_{posterior}^i - \mathbb{E}_{prior}^i)\Delta income$: within-individual quantitative income forecast revision from before to after the information treatment
- $Treatment_j$: dummy for whether subject is in target- or instrument-communication treatment relative to control
- X : vector of controls
 - Age, square of age, marital status, log of income, employment status, urban-rural, a dummy for Helsinki, a college dummy, a dummy for grocery shopping, risk preferences, liquidity constraints, and financial literacy

Forecast Revisions: Full Sample

$$(\mathbb{E}_{posterior}^i - \mathbb{E}_{prior}^i)\Delta income = \alpha + \beta_j \times Treatment_j + B \times X + \varepsilon_i,$$

	Target Communication		Instrument Communication	
	(1)	(2)	(3)	(4)
Treated with Communication	75.0* (40.9)	82.7* (45.1)	62.5 (40.4)	39.2 (45.8)
Controls		X		X
R ²	1,633	1,166	1,660	1,191
Nobs	0.002	0.022	0.001	0.015

- Target communication causally increase income expectations by EUR 80 per month
- Instrument communication does not move expectations

Heterogeneity by IQ

- Low IQ men

D'Acunto, Hoang, Paloviita, Weber (Restud, 2021)

- More pessimistic expectations on average

- Also lower level of informedness

- React less to policy interventions

- Does reaction differ by IQ?

Forecast Revisions: Split by IQ

$$(\mathbb{E}_{posterior}^i - \mathbb{E}_{prior}^i)\Delta income = \alpha + \beta_j \times Treatment_j + B \times X + \varepsilon_i,$$

	Target Communication <u>Below-Median IQ</u>		Target Communication <u>Above-Median IQ</u>	
	(1)	(2)	(3)	(4)
Treated with Communication	95.0* (50.8)	163.6*** (63.6)	63.4 (47.1)	53.4 (51.0)
Controls	X	X	X	X
R ²	0.002	0.030	0.001	0.026
Nobs	1,156	792	1,330	974

- Target comm increase income expectations by EUR 95 -165 for low IQ men
- Muted reaction among high IQ men

Heterogeneity by Awareness

- Households react less to instrument communication
- PEPP big number, maybe everyone already aware?
- Does reaction differ by awareness?
- Does awareness mediate differential reaction by IQ?
- Elicit awareness within survey

Forecast Revisions: Split by Awareness

$$(\mathbb{E}_{posterior}^i - \mathbb{E}_{prior}^i)\Delta income = \alpha + \beta_j \times Treatment_j + B \times X + \varepsilon_i,$$

	Target Communication		Instrument Communication	
		Unaware of Policy		
	(1)	(2)	(3)	(4)
Treated with Communication	102.7 ** (42.5)	112.2 ** (41.4)	47.0 (48.0)	24.9 (56.7)
Controls		X		X
R ²	0.004	0.027	0.001	0.020
Nobs	1,426	1,005	1,275	896

- Target comm increase income expectations by EUR 100 per month among unaware
- Instrument communication does not move expectations

Forecast Revisions: Split by Awareness & IQ

$$(\mathbb{E}_{posterior}^i - \mathbb{E}_{prior}^i)\Delta income = \alpha + \beta_j \times Treatment_j + B \times X + \varepsilon_i,$$

	Target Communication		Instrument Communication	
	Unaware & Below-Median IQ			
	(1)	(2)	(3)	(4)
Treated with Communication	97.9* (50.3)	147.8** (57.2)	41.8 (59.0)	46.6 (67.5)
Controls		X		X
R ²	0.002	0.031	0.000	0.030
Nobs	1,092	746	1,044	721

- Target comm increase income expectations by > EUR 100 per month among unaware low IQ men
- Instrument communication does not move expectations

Heterogeneity by Prior Expectations

- Expectations-based policy aim to induce optimism
- Target especially those with most negative priors
- Concern: size and scope of measure might signal bad state
- Does target communication work on those with most negative priors?
- Does target communication put off those with optimistic priors?

Forecast Revisions: Split by Prior & IQ

$$(\mathbb{E}_{posterior}^i - \mathbb{E}_{prior}^i)\Delta income = \alpha + \beta_j \times Treatment_j + B \times X + \varepsilon_i,$$

	Target Communication <u>Low Prior &</u> <u>Below-Median IQ</u>		Target Communication <u>High Prior &</u> <u>Below-Median IQ</u>	
	(1)	(2)	(3)	(4)
Treated with Communication	143.5** (53.9)	232.1*** (66.4)	-129.0 (98.6)	-165.8 (126.4)
Controls	X	X	X	X
R ²	0.005	0.038	0.001	0.033
Nobs	1,102	756	907	636

- Target communication increase income expectations for those with low priors
- Does not offset those with optimistic priors

Conclusion

- Direct communication to public can have large effects on expectations
- Type of communication crucial
- Target communication “simple, crisp, and constructively imprecise”
- Especially stimulative for least sophisticated and unaware men
- Work needed to understand through which channels to communicate
- Which styles and rhetoric to use to effectively manage expectations?