

What people believe about public finance and what we can('t) do about it

Evidence from a large-scale multi-country survey experiment

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ASSA 2023 Conference

Information & Acknowledgments

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- This project has received ethical approval by the **Ethics Committee Economics and Business at the University of Amsterdam**, under project number EB-46 and can be found on the **AEA-RCT registry** under project number **AEARCTR-0008819**.
- The views expressed in this presentation are those of the authors and do not necessarily reflect those of the Bank of Canada.

Outline of the presentation

- 1 Introduction
- 2 Survey and experimental design
- 3 Findings: What do people know?
- 4 Findings: What do people think?
- 5 Findings: Can we change their minds?
- 6 Conclusions

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Context of the research

- Importance of CB communication for the ‘management of expectations’ but challenges:
 - Perceived complexity of monetary policy, limited macroeconomic literacy;
 - 2008-2019: Persistently low inflation at the ELB;
 - Since 2020: Macroeconomic volatility, strong complementarities in the policy-mix response to COVID-19 and **contradicting narratives**.

⇒ groundbreaking options such as **monetary finance**:
fiscal expenses funded by the expansion of the monetary base that
increase the net nominal income of some private agents
[Reis and Tenreyro, 2022].
≈ ‘helicopter money’; ‘money creation’; ‘cancellation of public
debt held by the CB’

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Monetary finance in the EU public debate

The viral narrative around monetary finance

Political leaders asking for it

Et si la BCE prêtait directement aux Etats?



REUTERS

FINANCIAL MARKETS NEWS, 19:15, 17/03/2020, 17:15, 17/03/2020, 17:15, 17/03/2020, 17:15

5-Star, League want ECB to forgive 250 bln euros of Italy debt –draft

By Sarah-Jane

4 MIN READ

HELICOPTER MONEY: A SIMPLE AND FAIR SOLUTION TO THE NEXT CRISIS

by Positive Money Europe | Mar 4, 2019 | 2 comments



NGOs lobbying for it (EU parliament)



Academics pushing for it

VOX^{EU} CEPR

2020 in review

Helicopter money: The time is now
Jordi Gali
17 March 2020

More than 1,150 columns & 11.5 million pageviews in 2020

Helicopter money as a last resort contingent policy

Philippe Martin, Erik Markus, Yusef Mouta, Thomas Ruchel / 8 Jul 2021

VOXEU COLUMN MACROECONOMIC POLICY MONETARY POLICY

Combatting Eurozone deflation: QE for the people

John Muellbauer / 23 Dec 2014

Eurozone deflation is likely to become reality when the annual inflation figure for 2014 is announced in January. This column argues that the ECB should develop a strategy that works in the Eurozone's unique financial setting, instead of following the Fed's lead. The author proposes that the ECB should pursue 'quantitative easing for the people', such as sending each adult citizen a €500 cheque.

AUTHORS

John Muellbauer
Professor of Economics,
Department of Economics,
University of Oxford; Senior Fellow,
Institute for New Economic
Thinking; Senior Research Fellow,
Hertford College

Stephanie Kelton: quando i soldi finiscono si stampano

di Riccardo Stagione



Che il deficit non debba essere più un tabù, gli economisti della Mint (teoria monetaria moderna) lo dicono da tempo.

Monetary finance in the EU public debate

And contradictory messages

DeNederlandscheBank

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Moderne Monetaire Theorie biedt geen oplossing - Opiniebijdrage aan de ESB

19 april 2021 | Algemeen

Lees voor



Lawrence H. Summers
@LHSummers

I am sorry to see the @nytimes taking MMT seriously as an intellectual movement. It is the equivalent of publicizing fad diets, quack cancer cures or creationist theories.

The New York Times
Is This What Winning Looks Like?
nytimes.com



2:14 | 54%

Que la BCE annule la dette des pays européens ? "Inenvisageable", répond Christine Lagarde

Par latribune.fr | 07/02/2021, 10:31 | 623 mots



(Crédits : FRANCOIS LENOIR)

Alors que 100 économistes ont demandé vendredi l'annulation des dettes publiques détenues par la

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LIBERTÉ, ÉGALITÉ, FRATERNITÉ

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Travaux parlementaires > Commissions > Finances > Comptes rendus

COMPTES RENDUS DE LA COMMISSION DES FINANCES

- Mardi 16 février 2021
Soutenabilité de la dette publique - Audition de M. Olivier Blanchard, économiste au Peterson Institute, Mme Jézabel Coupey-Soubeyran, professeur à l'École d'économie de Paris et maître de conférences à l'Université Paris 1 Panthéon-Sorbonne, MM. François Ecalte, président de l'Association « Finances publiques et économie » (FPE) et chargé d'enseignement à l'Université Paris 1 Panthéon-Sorbonne, Anthony Requins, directeur général de l'Agence France Trésor et Mme Amélie Vénier, directrice du budget

Mercredi 10 février 2021

Présidence de M. Claude Barraud, président
La réunion est ouverte à 10 h 30.

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The terms of the debate among 'experts'

- Among 'experts':
 - Inflationary bias, CB credibility and anchoring of expectations;
 - + No Ricardian equivalence and larger fiscal multiplier, on an exceptional basis (pandemic);
 - Undermining support for budget discipline, tax collection and CB independence.

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 - Undermining support for budget discipline, tax collection and CB independence.
- **Where does the public stand in this debate?**
- **What do people know** about the risks and advantages associated to debt issuance vs. monetary finance?
- Do they relate these to a rationale for **fiscal consolidation or CB independence**?
- **Can targeted communication shift their opinions?** Does it depend on their macroeconomic literacy or prior opinions?
What is the effect of **contradictory** policy proposals?

Related literature

Selected/non-exhaustive list

- **Information-provision survey experiments** [Haaland et al., 2021]:
 - Expectations (inflation) and CB communication [Bholat et al., 2019, Kryvtsov and Petersen, 2021, Coibion et al., 2022b];
 - Transmission mechanisms [Carvalho and Nechio, 2014, Coibion et al., 2022a, Andre et al., 2022];
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- Theory of monetary finance [Benigno and Nisticò, 2020, Galí, 2020].

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Three innovative aspects

- 1 Public finance, in particular monetary finance;
- 2 Expectations, support for CB independence and fiscal discipline;
- 3 Innovative RCT to emulate the tone of the public debate.

Main take-aways of the paper

Macroeconomic literacy

- Average knowledge score $\simeq 40\%$, lower about monetary finance than debt issuance, large disparities (gender gap $> 10\%$).
- More knowledgeable people support more CB independence and fiscal discipline, less monetary-financed proposals and expect more inflation if these proposals were to be implemented.

Main take-aways of the paper

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Effects of CB communication

- CB communication (with educational content) can persistently shift respondents' opinions in these directions.
- Contradictory information is polarizing rather than convincing.
- Information shifts inflation and tax expectations, which results in changes in support for policy options.

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2 Survey and experimental design

3 Findings: What do people know?

4 Findings: What do people think?

5 Findings: Can we change their minds?

6 Conclusions

Data collection

- Online and device-agnostic survey using the Kantar Profiles proprietary panels.
- Representative households in **France, Italy** and the **Netherlands** in terms of **gender, age, region** and, as much as possible **education** and **income**. [▶ To table](#)

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 - Main 8,601** respondents, **Jan. 14 – Feb. 17, 2022;**
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- Main wave: \simeq 14 minutes (median) for about 45 questions.

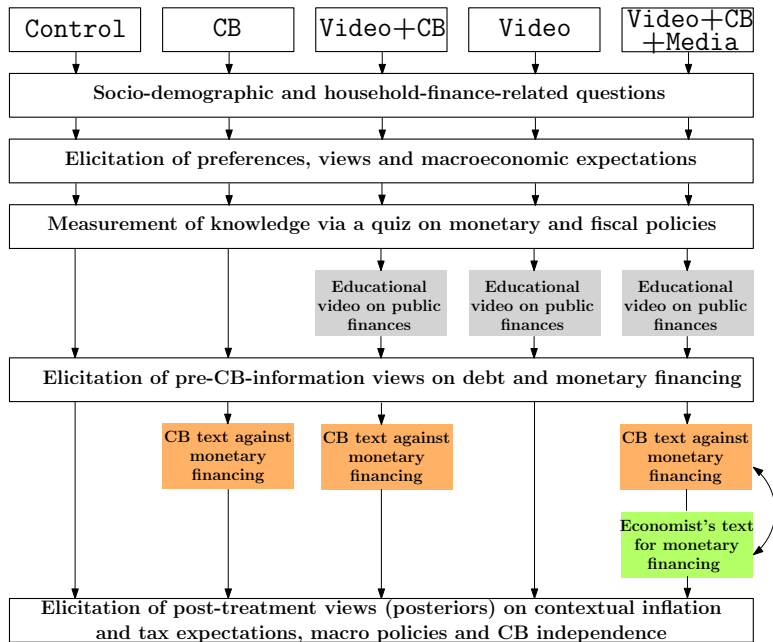
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- **Five information-provision treatments** (1,700 respondents per treatment). [▶ To CB communication](#) [▶ To De Grauwe's piece](#) [▶ More on the video](#)

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The survey structure in the five experimental treatments



1 Introduction

2 Survey and experimental design

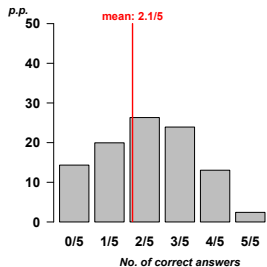
3 Findings: What do people know?

4 Findings: What do people think?

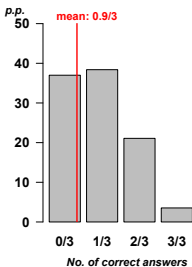
5 Findings: Can we change their minds?

6 Conclusions

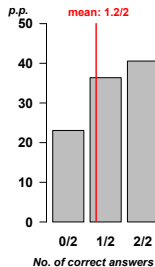
A 'macroeconomic literacy' score [▶ Details](#)



(a) Total score

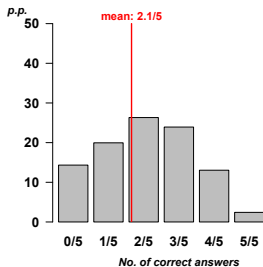


(b) Monetary-policy score

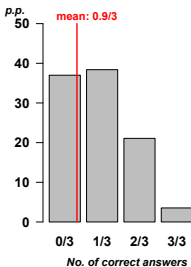


(c) Fiscal-policy score

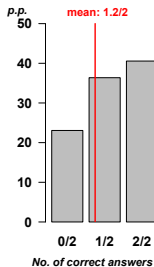
A 'macroeconomic literacy' score [▶ Details](#)



(d) Total score



(e) Monetary-policy score



(f) Fiscal-policy score

- Knowledge is low:** average of 2.1/5, less than 5% of the respondents obtain 5/5.
- People know **more about fiscal policy than about monetary policy:** is fiscal policy 'closer' to people?

Determinants of macroeconomic literacy

- **Gender:** men perform significantly better than women:
 - < 10% of women score at least 4/5 (0.9% score 5/5) vs. 21.4% and 4% of the male respondents [▶ To gender plot](#)
 - Minimum average gender macro-literacy gap about 0.3/5.
 - Applies in all countries.

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 - ⊥ 'traditional' rankings on financial literacy, numeracy and knowledge (OECD-PISA ranking).

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⊥ 'traditional' rankings on financial literacy, numeracy and knowledge (OECD-PISA ranking).
- Readers of newspapers and respondents who often watch TV have the highest score while the least knowledgeable households tend to use **social media** more frequently: up to 0.7/5 gap.

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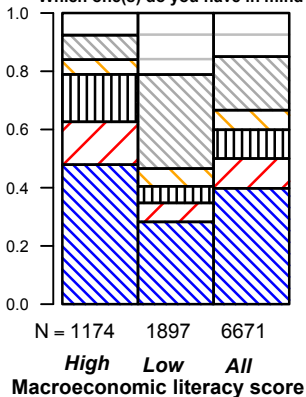
OE answers on risks by macroeconomic-literacy score

▶ Advantages

▶ Debt-financing priors (OE)

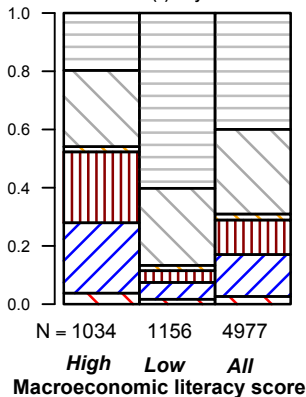
▶ Money-financing priors (OE)

'You said funding public expenses by issuing debt poses risks. Which one(s) do you have in mind?'



(g) Risks of debt issuance

'You said funding public expenses by having the central bank create money poses risks. Which one(s) do you have in mind?'



(h) Risks of monetary finance

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Analysis of the information-provision treatment effects

- Cross-sectional OLS estimation

$$Y_i = \alpha + \beta_1 \cdot \text{Tr}_{\text{CB},i} + \beta_2 \cdot \text{Tr}_{\text{Video}+\text{CB},i} + \beta_3 \cdot \text{Tr}_{\text{Video},i} + \beta_4 \cdot \text{Tr}_{\text{Video}+\text{CB}+\text{Media},i} + \gamma X_i + \epsilon_i \quad (1)$$

Y_i the Likert items measuring post-treatment beliefs, dummies representing the four treatments, and X a vector of controls, incl. **macroeconomic literacy**, medium-run **expectations**, and **prior** beliefs. Errors ϵ are CESEs.

(The treatments effects are robust to the use of ordered-logit models)

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- **Heterogeneous-treatment effects** analyzed with interaction terms. (robust to sub-sampling)

Dependent variable: Support for monetary financing

[▶ Full table](#)

	Permanent		Exceptional	
	all respondents	'CB text is clear' only	all respondents	'CB text is clear' only
CB	-0.08**	-0.21***	-0.12***	-0.18**
Video+CB	-0.11***	0.04	-0.12***	0.02
<i>Video</i>	-0.02	0.01	0.04	0.06
<i>Video+CB+Media</i>	-0.03	0.14**	0.03	0.35***
<i>Inflation expectations</i>	0.06***	0.05***	0.01	0.01
<i>Negative prior</i>	-0.61***	-0.60***	-0.62***	-0.58***
<i>Macro lit. score</i>	-0.12***	-0.12***	-0.01	-0.02
<i>CB × negative prior</i>		-0.02		0.003
<i>Video+CB × negative prior</i>		-0.33***		-0.29***
<i>Video × negative prior</i>		-0.08		-0.06
<i>Video+CB+Media × negative prior</i>		-0.30***		-0.5***
Constant	2.90***	2.98***	3.09***	3.01***
Demo, habits, prefs	YES	YES	YES	YES
Financial variables	YES	YES	YES	YES
Nb. Obs.	8,289	4,686	8,289	4,686
-log-Lik.	10,829.5	6,229.0	11,136.6	6,413.8

* p<0.1; ** p<0.05; *** p<0.01.

Dependent variable: Support for monetary financing

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Dependent variable: Support for CB independence

[▶ Full table](#)

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Video+CB+Media	-0.18***	-0.12***	0.15*
<i>Inflation expectations</i>	0.06***	0.06***	0.05**
<i>Negative prior</i>	-0.25***	-0.14***	-0.13**
<i>Macro lit. score</i>	-0.11***	-0.11***	-0.12***
<i>CB × negative prior</i>		0.10	-0.06
<i>Video+CB × negative prior</i>		-0.19**	-0.30***
<i>Video × negative prior</i>		-0.33***	-0.33***
<i>Video+CB+Media × negative prior</i>		-0.15**	-0.43***
Constant	3.00***	3.07***	3.09***
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Financial variables	YES	NO	YES
Nb. Obs.	8,289	8,289	4,686
-log-Lik.	12,321.9	9,255	7,063.5

* p<0.1; ** p<0.05; *** p<0.01.

Dependent variable: Support for CB independence

[▶ Full table](#)

	<i>All respondents</i>		<i>'CB text is clear' only</i>
<i>CB</i>	0.06*	0.02	0.14
Video+CB	-0.20***	-0.12**	0.004
Video	-0.29***	-0.14***	-0.14***
Video+CB+Media	-0.18***	-0.12***	0.15*
<i>Inflation expectations</i>	0.06***	0.06***	0.05**
Negative prior	-0.25***	-0.14***	-0.13**
<i>Macro lit. score</i>	-0.11***	-0.11***	-0.12***
<i>CB × negative prior</i>		0.10	-0.06
Video+CB × negative prior		-0.19**	-0.30***
Video × negative prior		-0.33***	-0.33***
Video+CB+Media × negative prior		-0.15**	-0.43***
Constant	3.00***	3.07***	3.09***
Demo, habits, prefs	YES	YES	YES
Financial variables	YES	NO	YES
Nb. Obs.	8,289	8,289	4,686
-log-Lik.	12,321.9	9,255	7,063.5

* p<0.1; ** p<0.05; *** p<0.01.

Dependent variable: Support for CB independence

[▶ Full table](#)

	<i>All respondents</i>		'CB text is clear' only
<i>CB</i>	0.06*	0.02	0.14
<i>Video+CB</i>	-0.20***	-0.12**	0.004
Video	-0.29***	-0.14***	-0.14***
Video+CB+Media	-0.18***	-0.12***	0.15*
<i>Inflation expectations</i>	0.06***	0.06***	0.05**
Negative prior	-0.25***	-0.14***	-0.13**
<i>Macro lit. score</i>	-0.11***	-0.11***	-0.12***
<i>CB × negative prior</i>		0.10	-0.06
Video+CB × negative prior		-0.19**	-0.30***
Video × negative prior		-0.33***	-0.33***
Video+CB+Media × negative prior		-0.15**	-0.43***
Constant	3.00***	3.07***	3.09***
Demo, habits, prefs	YES	YES	YES
Financial variables	YES	NO	YES
Nb. Obs.	8,289	8,289	4,686
-log-Lik.	12,321.9	9,255	7,063.5

* p<0.1; ** p<0.05; *** p<0.01.

Dependent variable: Support for fiscal discipline

[▶ Full table](#)

	Budget cuts		Tax increase	
	all respondents	'CB text is clear' only	all respondents	'CB text is clear' only
CB	-0.02	0.22***	0.08**	0.24***
Video+CB	0.02	0.24***	0.10**	0.24***
Video	-0.001	0.07*	0.06	0.07
Video+CB+Media	-0.01	0.23***	0.10***	0.37**
<i>Inflation expectations</i>	-0.04***	-0.05**	0.08***	0.07***
Negative prior	0.03	0.14**	-0.16***	-0.13**
<i>Macro lit. score</i>	0.09***	0.08***	-0.003	-0.01
<i>CB × negative prior</i>		-0.12		-0.18
Video+CB × negative prior		-0.18*		-0.16
Video × negative prior		-0.16**		-0.03
Video+CB+Media × negative prior		-0.17*		-0.34***
Constant	2.54***	2.58***	2.84***	2.87***
Demo, habits, prefs, fi.	YES	YES	YES	YES
Nb. Obs.	8,289	4,345	8,289	4,345
-logLik	10,580.8	6,078.4	11,484.2	6,592.6

* p<0.1; ** p<0.05; *** p<0.01.

Dependent variable: Support for fiscal discipline [▶ Full table](#)

	<i>Budget cuts</i>		<i>Tax increase</i>	
	all respondents	'CB text is clear' only	all respondents	'CB text is clear' only
CB	-0.02	0.22***	0.08**	0.24***
Video+CB	0.02	0.24***	0.10**	0.24***
<i>Video</i>	-0.001	0.07*	0.06	0.07
Video+CB+Media	-0.01	0.23***	0.10***	0.37**
<i>Inflation expectations</i>	-0.04***	-0.05**	0.08***	0.07***
Negative prior	0.03	0.14**	-0.16***	-0.13**
<i>Macro lit. score</i>	0.09***	0.08***	-0.003	-0.01
<i>CB × negative prior</i>		-0.12		-0.18
<i>Video+CB × negative prior</i>		-0.18*		-0.16
<i>Video × negative prior</i>		-0.16**		-0.03
Video+CB+Media × negative prior		-0.17*		-0.34***
Constant	2.54***	2.58***	2.84***	2.87***
Demo, habits, prefs, fi.	YES	YES	YES	YES
Nb. Obs.	8,289	4,345	8,289	4,345
-logLik	10,580.8	6,078.4	11,484.2	6,592.6

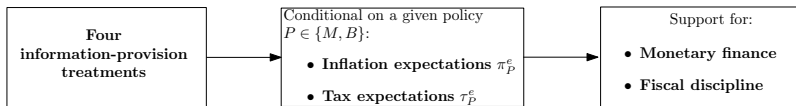
* p<0.1; ** p<0.05; *** p<0.01.

Main treatment effects

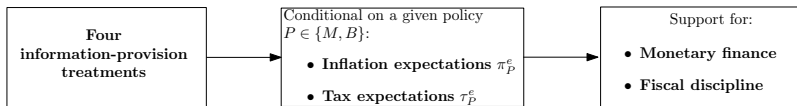
Fiscal consolidation

- 1 The **CB communication**, with or without the video, increases the opposition to monetary finance and the support for fiscal discipline, but more so among those who had a negative prior and found the communication (very) clear.
- 2 Providing contradictory information tend to have a **polarizing** effect rather than a **convincing effect**.
- 3 The link between CB independence and the opposition to monetary finance is not obvious in the absence of the video.

Estimating the expectation channel using 2SLS models



Estimating the expectation channel using 2SLS models

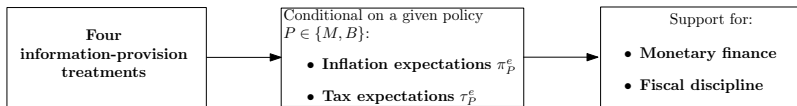


Dependent variable:	Support for monetary finance				Support for budget cuts		Support for tax increases	
	(permanent)		(exceptional)		'CB text is clear' only		'CB text is clear' only	
	All data	All data	All data	All data				
π_M^e	-0.53***	-0.37***	-1.01***	-0.87***	0.53***	-	0.42***	-
τ_B^e	0.40	-	0.36	-	-	1.07***	-	0.84**
Constant	3.36***	4.07***	5.18***	5.81***	0.93**	-0.85	2.56***	0.06
Weak-instrument test π_M^e	17.78***	17.78***	17.78***	17.78***	18.49***	-	18.49***	-
Weak-instrument test τ_B^e	5.66***	-	5.66***	-	-	3.73***	-	3.73***
DWH F-stat	4.61***	7.16***	22.95***	44.50***	14.40***	13.49***	7.17***	6.13**
Sargan test (J-stat.)	$\chi(2) = 3.83$	$\chi(3) = 6.23$	$\chi(2) = 0.67$	$\chi(3) = 1.62$	$\chi(3) = 5.06$	$\chi(3) = 4.72$	$\chi(3) = 11.41***$	$\chi(3) = 10.18**$
Wald test	54.95***	65.38***	27.19***	29.92***	18.24***	11.69***	15.81***	12.47***
Demographic variables	YES	YES	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES	YES	YES
Financial variables	YES	YES	YES	YES	YES	YES	YES	YES
Nb. Obs.	7,911	7,911	7,911	7,911	4,498	4,498	4,498	4,498

* To full table

*p<0.1; **p<0.05; ***p<0.01

Estimating the expectation channel using 2SLS models

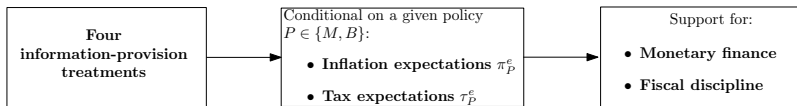


Dependent variable:	Support for monetary finance				Support for budget cuts		Support for tax increases	
	(permanent)		(exceptional)		'CB text is clear' only		'CB text is clear' only	
	All data	All data	All data	All data				
π_M^e	-0.53***	-0.37***	-1.01***	-0.87***	0.53***	-	0.42***	-
τ_B^e	0.40	-	0.36	-	-	1.07***	-	0.84**
Constant	3.36***	4.07***	5.18***	5.81***	0.93**	-0.85	2.56***	0.06
Weak-instrument test π_M^e	17.78***	17.78***	17.78***	17.78***	18.49***	-	18.49***	-
Weak-instrument test τ_B^e	5.66***	-	5.66***	-	-	3.73***	-	3.73***
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Wald test	54.95***	65.38***	27.19***	29.92***	18.24***	11.69***	15.81***	12.47***
Demographic variables	YES	YES	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES	YES	YES
Financial variables	YES	YES	YES	YES	YES	YES	YES	YES
Nb. Obs.	7,911	7,911	7,911	7,911	4,498	4,498	4,498	4,498

* To full table

*p<0.1; **p<0.05; ***p<0.01

Estimating the expectation channel using 2SLS models

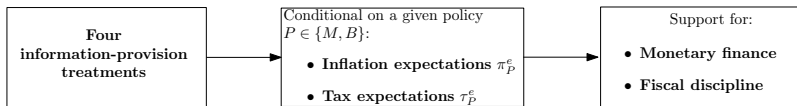


Dependent variable:	Support for monetary finance				Support for budget cuts	Support for tax increases		
	All data	All data	All data	All data	'CB text is clear' only	'CB text is clear' only		
	(permanent)		(exceptional)					
π_M^e	-0.53***	-0.37***	-1.01***	-0.87***	0.53***	-	0.42***	-
τ_B^e	0.40	-	0.36	-	-	1.07***	-	0.84**
Constant	3.36***	4.07***	5.18***	5.81***	0.93**	-0.85	2.56***	0.06
Weak-instrument test π_M^e	17.78***	17.78***	17.78***	17.78***	18.49***	-	18.49***	-
Weak-instrument test τ_B^e	5.66***	-	5.66***	-	-	3.73***	-	3.73***
DWH F-stat	4.61***	7.16***	22.95***	44.50***	14.40***	13.49***	7.17***	6.13**
Sargan test (J-stat.)	$\chi(2) = 3.83$	$\chi(3) = 6.23$	$\chi(2) = 0.67$	$\chi(3) = 1.62$	$\chi(3) = 5.06$	$\chi(3) = 4.72$	$\chi(3) = 11.41***$	$\chi(3) = 10.18**$
Wald test	54.95***	65.38***	27.19***	29.92***	18.24***	11.69***	15.81***	12.47***
Demographic variables	YES	YES	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES	YES	YES
Financial variables	YES	YES	YES	YES	YES	YES	YES	YES
Nb. Obs.	7,911	7,911	7,911	7,911	4,498	4,498	4,498	4,498

* To full table

*p<0.1; **p<0.05; ***p<0.01

Estimating the expectation channel using 2SLS models

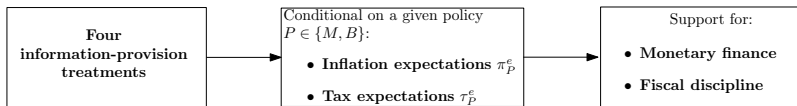


Dependent variable:	Support for monetary finance				Support for budget cuts		Support for tax increases	
	All data	All data (permanent)	All data (exceptional)	All data	'CB text is clear' only	'CB text is clear' only		
π_M^e	-0.53***	-0.37***	-1.01***	-0.87***	0.53***	-	0.42***	-
τ_B^e	0.40	-	0.36	-	-	1.07***	-	0.84**
Constant	3.36***	4.07***	5.18***	5.81***	0.93**	-0.85	2.56***	0.06
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Weak-instrument test τ_B^e	5.66***	-	5.66***	-	-	3.73***	-	3.73***
DWH F-stat	4.61***	7.16***	22.95***	44.50***	14.40***	13.49***	7.17***	6.13**
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Wald test	54.95***	65.38***	27.19***	29.92***	18.24***	11.69***	15.81***	12.47***
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Habits and opinions	YES	YES	YES	YES	YES	YES	YES	YES
Financial variables	YES	YES	YES	YES	YES	YES	YES	YES
Nb. Obs.	7,911	7,911	7,911	7,911	4,498	4,498	4,498	4,498

* To full table

*p<0.1; **p<0.05; ***p<0.01

Estimating the expectation channel using 2SLS models



Dependent variable:	Support for monetary finance				Support for budget cuts		Support for tax increases	
	(permanent)		(exceptional)		'CB text is clear' only		'CB text is clear' only	
	All data	All data	All data	All data				
π_M^e	-0.53***	-0.37***	-1.01***	-0.87***	0.53***	-	0.42***	-
τ_B^e	0.40	-	0.36	-	-	1.07***	-	0.84**
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Weak-instrument test τ_B^e	5.66***	-	5.66***	-	-	3.73***	-	3.73***
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Demographic variables	YES	YES	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES	YES	YES
Financial variables	YES	YES	YES	YES	YES	YES	YES	YES
Nb. Obs.	7,911	7,911	7,911	7,911	4,498	4,498	4,498	4,498

* To full table

*p<0.1; **p<0.05; ***p<0.01

- Higher inflation (and tax) expectations result in less support for monetary finance and more for fiscal discipline.

Persistent treatment effects in the recontact wave

Dependent variables (Wave 2)	Support for CB independence		Support for permanent monetary finance		Support for fiscal consolidation (budget cuts) (tax increase)	
	All respondents		Readers only		Readers only	Readers only
	CB text	video+CB text	CB text	video +CB text	CB text	video +CB text
Info provision in Wave 1	-0.07**	0.11**	-0.11**	-0.17***	-0.01	0.06
Constant	2.78*** (0.18)	2.99*** (0.22)	3.61*** (0.23)	3.60*** (0.23)	2.69*** (0.22)	2.71*** (0.32)
Demographic variables	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES
Financial variables	NO	NO	NO	NO	YES	YES
Nb. Obs.	2,707	2,707	1,643	1,643	1,643	1,643
-logLik.	3,578.3	3,578.6	2,279.9	2,278.3	1,914.8	3,144.5

We pool together the pieces of information ($\simeq 550$ respondents per treatment), * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Persistent treatment effects in the recontact wave

Dependent variables (Wave 2)	Support for CB independence		Support for permanent monetary finance		Support for fiscal consolidation (budget cuts) (tax increase)	
	All respondents		Readers only		Readers only	Readers only
	CB text	video+CB text	CB text	video +CB text	CB text	video +CB text
Info provision in Wave 1	-0.07**	0.11**	-0.11**	-0.17***	-0.01	0.06
Constant	2.78*** (0.18)	2.99*** (0.22)	3.61*** (0.23)	3.60*** (0.23)	2.69*** (0.22)	2.71*** (0.32)
Demographic variables	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES
Financial variables	NO	NO	NO	NO	YES	YES
Nb. Obs.	2,707	2,707	1,643	1,643	1,643	1,643
-logLik.	3,578.3	3,578.6	2,279.9	2,278.3	1,914.8	3,144.5

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Dependent variables (Wave 2)	Support for CB independence		Support for permanent monetary finance		Support for fiscal consolidation (budget cuts) (tax increase)	
	All respondents		Readers only		Readers only	Readers only
	CB text	video+CB text	CB text	video +CB text	CB text	video +CB text
Info provision in Wave 1	-0.07**	0.11**	-0.11**	-0.17***	-0.01	0.06
Constant	2.78*** (0.18)	2.99*** (0.22)	3.61*** (0.23)	3.60*** (0.23)	2.69*** (0.22)	2.71*** (0.32)
Demographic variables	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES
Financial variables	NO	NO	NO	NO	YES	YES
Nb. Obs.	2,707	2,707	1,643	1,643	1,643	1,643
-logLik.	3,578.3	3,578.6	2,279.9	2,278.3	1,914.8	3,144.5

We pool together the pieces of information ($\simeq 550$ respondents per treatment), * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Persistent treatment effects in the recontact wave

Dependent variables (Wave 2)	Support for CB independence		Support for permanent monetary finance		Support for fiscal consolidation	
					(budget cuts)	(tax increase)
	All respondents		Readers only		Readers only	Readers only
Being exposed to the...	CB text	video+CB text	CB text	video +CB text	CB text	video +CB text
Info provision in Wave 1	-0.07**	0.11**	-0.11**	-0.17***	-0.01	0.06
Constant	2.78*** (0.18)	2.99*** (0.22)	3.61*** (0.23)	3.60*** (0.23)	2.69*** (0.22)	2.71*** (0.32)
Demographic variables	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES
Financial variables	NO	NO	NO	NO	YES	YES
Nb. Obs.	2,707	2,707	1,643	1,643	1,643	1,643
-logLik.	3,578.3	3,578.6	2,279.9	2,278.3	1,914.8	3,144.5

We pool together the pieces of information ($\simeq 550$ respondents per treatment), * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Persistent treatment effects in the recontact wave

Dependent variables (Wave 2)	Support for CB independence		Support for permanent monetary finance		Support for fiscal consolidation (budget cuts) (tax increase)	
	All respondents		Readers only		Readers only	Readers only
	CB text	video+CB text	CB text	video +CB text	CB text	video +CB text
<i>Info provision in Wave 1</i>	-0.07**	0.11**	-0.11**	-0.17***	-0.01	0.06
Constant	2.78*** (0.18)	2.99*** (0.22)	3.61*** (0.23)	3.60*** (0.23)	2.69*** (0.22)	2.71*** (0.32)
Demographic variables	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES
Financial variables	NO	NO	NO	NO	YES	YES
Nb. Obs.	2,707	2,707	1,643	1,643	1,643	1,643
-logLik.	3,578.3	3,578.6	2,279.9	2,278.3	1,914.8	3,144.5

We pool together the pieces of information (\simeq 550 respondents per treatment), * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

- Reading the **CB blog post together with the video** has **persistent** effects on the **opposition to monetary finance** and **CB independence**.

- 1 Introduction
- 2 Survey and experimental design
- 3 Findings: What do people know?
- 4 Findings: What do people think?
- 5 Findings: Can we change their minds?
- 6 Conclusions**

Conclusions

- **Innovative dataset** from a large-scale multi-country survey experiment in two waves on macroeconomic literacy, expectations, prior beliefs and posterior opinions on policy support.
- Four **information-provision treatments** about government funding options.
- **CB communication may durably impact people's views on complex debates** such as monetary finance, **no matter their level of literacy** and even more so with **educational content**.
- Information shifts people's **inflation and tax expectations** associated to these policies, which in turn affects their support for them.
- **Prior beliefs matter** and contradictory information may be **polarizing**: challenge for reaching a large audience.

Thank you for your attention

Comments welcome!

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Representativity of our data

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	France		Italy		Netherlands		Cross-treatment p-values (7)
	Our sample (1)	Population (2)	Our sample (3)	Population (4)	Our sample (5)	Population (6)	
<i>Survey targets</i>							
Female	0.51	0.52	0.51	0.51	0.50	0.50	0.24
18-29 y.o.	0.20	0.20	0.17	0.17	0.21	0.21	0.31
30-39 y.o.	0.18	0.18	0.16	0.16	0.17	0.17	0.15
40-49 y.o.	0.18	0.18	0.21	0.20	0.17	0.17	0.24
50-59 y.o.	0.19	0.19	0.22	0.21	0.20	0.20	0.33
≥ 60 y.o.	0.26	0.25	0.25	0.26	0.25	0.25	0.78
Ile de France	0.18	0.18					0.25
Bassin Parisien	0.15	0.16					0.66
Nord-Pas-de-Calais	0.06	0.06					0.44
Est	0.08	0.08					0.60
Ouest	0.13	0.13					0.86
Sud-Ouest	0.11	0.11					0.87
Centre-Est	0.12	0.12					0.84
Mditeranne and DOM	0.16	0.16					0.87
Nord-Ovest			0.27	0.27			0.95
Nord-Est			0.20	0.19			0.20
Centro			0.20	0.20			0.23
Sud			0.23	0.23			0.70
Isole			0.11	0.11			0.99
Noord					0.10	0.10	0.60
Oost					0.20	0.21	0.87
West					0.49	0.48	0.92
Zuid					0.20	0.21	0.40
Education Bracket 1	0.07	0.22	0.27	0.39	0.26	0.24	0.95
Education Bracket 2	0.51	0.43	0.50	0.43	0.34	0.39	0.41
Education Bracket 3	0.42	0.35	0.23	0.18	0.40	0.37	0.70
Income Bracket 1	0.43	0.29	0.42	0.26	0.37	0.26	0.87
Income Bracket 2	0.34	0.38	0.36	0.34	0.35	0.35	0.48
Income Bracket 3	0.19	0.29	0.08	0.26	0.15	0.26	0.87
Income undeclared	0.04	-	0.14	-	0.13	-	0.86

The CB blog-post

[▶ Full text](#)[▶ back](#)

- A summary emphasizing the inflationary risk of monetary finance:

“The article argues that if the European Central Bank were to create money to fund government expenses, this would be illegal and it could entail **very high social and economic costs** in the future. Looking at historical experience, creating money to fund government expenses has often led to a **loss of confidence in the currency** and a **loss of control over the general level of the prices** in the economy. A situation where prices start increasing rapidly refers to **inflation** or even hyperinflation.”

- The full text (available to respondents) explains the mechanics of currency issuance and CB balance sheets and refers to the monetary-finance ban in the Treaty.

The opinion piece from a European economist

[▶ Full text](#)[▶ back](#)

- Prof. **Paul De Grauwe**, John Paulson Chair at the London School of Economics and Political Science, a vocal academic researcher in mainstream newspapers in Dutch, French and English languages.
- A summary arguing that the ECB must finance the COVID-19 public deficits and the absence of inflationary risk:

“The article argues that if the European Central Bank were to create money to fund government expenses, this would create a **relief for countries’ budgets** and make them **avoid potential indebtedness problems**. It also argues that this would **not induce any risk of large increase in the level of the prices** in the current context. It proposes to find the appropriate way to make this option legal.”

The educational video

Play in: FR, EN, NL, IT

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- 1"20 to illustrate the intertemporal accounting consistency between G , T , B and M .
- Designed by 'La Cité de l'éco', an educational museum in Paris on economics.
- Mention benefits and drawbacks of each govt. funding options, *without specifying which*.
- Explicitly links dangers commonly associated with monetary financing to the ECB independent mandate but *without any reference to inflationary bias*.
- Aim to provide context and increase survey engagement despite the complexity of the topic.

The money created by central banks has nothing of magical

The current context of health crisis will lead to a massive increase in public debt. In the public debate, money creation by central banks is often proposed as a solution. Is the currency created by central banks really a "magic currency" that could prevent governments from issuing public debt or cancel existing debts?

To answer this question, it is first helpful to understand how a central bank creates money. In general, central banks issue money in two ways: when they put banknotes into circulation and when they credit the current accounts that commercial banks hold with them. This currency is never offered; it is issued in exchange for a financial security that the central bank acquires or a loan to a commercial bank. This form of issuance allows the central bank to reduce the amount of money in circulation, if it deems it necessary, to achieve its objective of price stability, by reselling securities or reducing the supply of new credit to commercial banks.

Concretely, when the Bank of *country name* buys a *country adjective* government bond from a French bank, it credits the deposit account that this bank holds with it. The Bank of *country name* then receives interest on this bond and pays interest on the deposit created, both interest rates may be negative. As long as the bond's rate of return to maturity is higher than the deposit rate of commercial banks, the Bank of *country name* makes a profit, which it then transfers to the *country adjective* Treasury.

The money created by central banks has nothing of magical

Since the central bank owns the public debt and the government owns the central bank, can't the public debt held by the central bank be written off leaving the total public sector balance sheet unchanged?

No. First of all, it is illegal in the euro zone because the Treaties forbid it. Then the central bank still owes interest on the deposits created. If interest rates paid on deposits are positive, the central bank will owe money without having the income to pay it. There are mainly two possibilities in this case: either the government recapitalizes the central bank (and the public sector will therefore gain nothing from the operation) or the central bank repays by issuing new reserves. In the second case, the risk is the loss of confidence in the currency and the loss of control over the level of inflation. Although this risk seems remote today, history teaches us that inflation can be budgetary in origin and that the economic and social costs of inflation can be very high. We can see it clearly: in any case, we never create money magically.

Having witnessed the 2008 financial crisis and the subsequent eurozone debt crisis, Europe's policymakers should already realize what the COVID-19 pandemic could mean for the economy. To avert a self-perpetuating downward spiral, the European Central Bank, in particular, will need to start thinking outside the box.

If the ECB engages in monetary financing of member states' budget deficits, it will likely be joined by many other central banks around the world. The virtue of such an approach is that it spares national governments from having to issue new debt. Because all new debt would be monetized, the crisis would not increase government debt-to-GDP ratios. For those countries suffering the worst of the pandemic, the threat of a bondholder panic will have been removed from the equation.

Yes, one could raise many objections to this proposal. As a legal matter, the Treaty on the Functioning of the European Union forbids the ECB from engaging in monetary financing of national budget deficits. But ECB lawyers, with their unbounded ingenuity, could surely find a way around this restriction. After all, the very future of the eurozone depends on it.

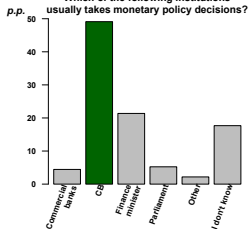
One also might object on the grounds that monetary financing would produce inflation. Yet under the current circumstances, there is simply no chance of this. If anything, Europe is now facing a deflationary spiral; monetary financing would militate against this trend. As soon as the deflationary dynamic had been stopped, the ECB could halt its monetary financing.

Sooner or later, the ECB must accept that monetary financing in support of deficit spending is a necessity not just for mitigating the COVID-19 crisis, but also for averting a downward deflationary cycle that could pull the eurozone apart. It is time to think outside the box.

Detail of the quiz answers

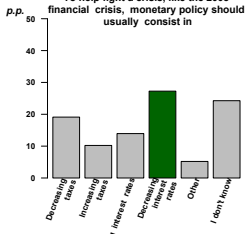
▶ back

Which of the following institutions usually takes monetary policy decisions?



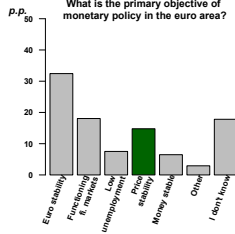
(i) Total score

To help fight a crisis, like the 2008 financial crisis, monetary policy should usually consist in



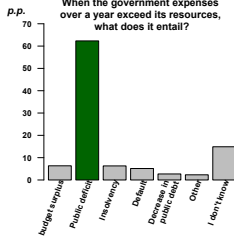
(j) Monetary-policy score

What is the primary objective of monetary policy in the euro area?



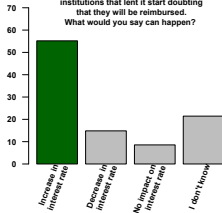
(k) Fiscal-policy score

When the government expenses over a year exceed its resources, what does it entail?



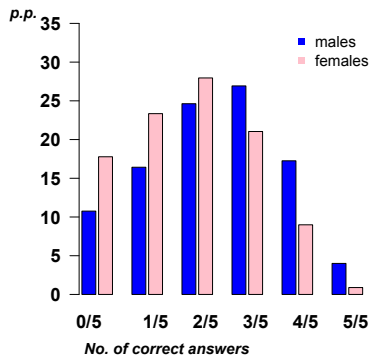
(l) Total score

Imagine that a country has accumulated so much public debt that people and institutions that lent it start doubting that they will be reimbursed. What would you say can happen?

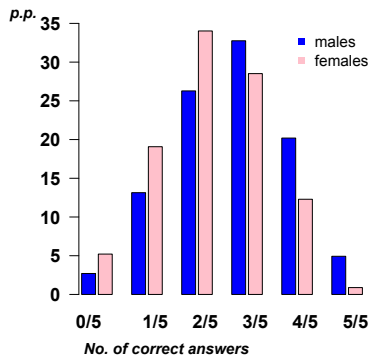


(m) Monetary-policy score

Macroeconomic-literacy gender gap



(n) Whole sample (8,601)



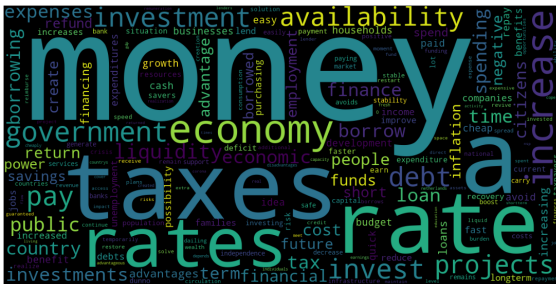
(o) Attentive respondents (2,052)

▶ back

OE priors on debt-financed public expenses ▶ back



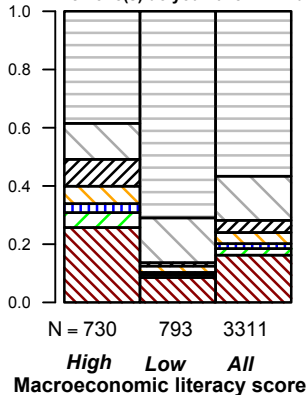
(r) Risks of debt issuance (6,671 obs.)



(s) Advantages of debt issuance (3,311 obs.)

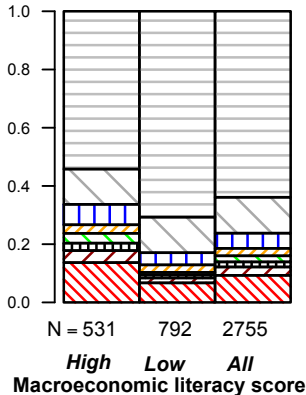
OE answers on advantages by literacy score ▶ back

'You said funding public expenses by issuing debt has advantages. Which one(s) do you have in mind?'



(t) Risks of debt issuance

'You said funding public expenses by having the central bank create money has advantages. Which one(s) do you have in mind?'



(u) Risks of monetary finance

- Immediate availability
- Investment: growth/welfare
- Long-term payment deferral
- Avoid tax increase
- Go for current low int. rates
- Irrelevant
- missing

- More money in circulation
- Avoid tax increase
- Avoid public debt increase
- Avoid interest payments
- irrelevant
- missing
- Investment: growth/welfare

Dependent variable:	Support for CB independence			Support for monetary financing			
				Permanent		Exceptional	
	all respondents		'CB text is clear' only	all respondents	'CB text is clear' only	all respondents	'CB text is clear' only
<i>CB</i>	0.06*	0.02	0.14	-0.08**	-0.21***	-0.12***	-0.18**
	(0.04)	(0.05)	(0.09)	(0.03)	(0.07)	(0.03)	(0.08)
<i>Video+CB</i>	-0.20***	-0.12**	0.004	-0.11***	0.04	-0.12***	0.02
	(0.04)	(0.05)	(0.08)	(0.03)	(0.07)	(0.03)	(0.07)
<i>Video</i>	-0.29***	-0.14***	-0.14***	-0.02	0.01	0.04	0.06
	(0.04)	(0.05)	(0.05)	(0.03)	(0.04)	(0.03)	(0.05)
<i>Video+CB+Media</i>	-0.18***	-0.12**	0.15*	-0.03	0.14**	0.04	0.35***
	(0.04)	(0.05)	(0.08)	(0.03)	(0.07)	(0.03)	(0.07)
<i>Inflation expectations</i>	0.06***	0.06***	0.05**	0.06***	0.05***	0.01	0.01
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
<i>Negative prior</i> (0.02)	-0.25***	-0.14**	-0.13**	-0.61***	-0.60***	-0.62***	-0.58***
	(0.02)	(0.05)	(0.06)	(0.02)	(0.05)	(0.02)	(0.05)
<i>Macro lit. score</i> (0.01)	-0.11***	-0.11***	-0.12***	-0.12***	-0.12***	-0.01	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
<i>CB</i> × <i>negative prior</i>		0.10	-0.06		-0.02		0.003
		(0.08)	(0.12)		(0.10)		(0.11)
<i>Video+CB</i> × <i>negative prior</i>		-0.19**	-0.30***		-0.33***		-0.29***
		(0.08)	(0.12)		(0.10)		(0.10)
<i>Video</i> × <i>negative prior</i>		-0.33***	-0.33***		-0.08		-0.06
		(0.08)	(0.08)		(0.07)		(0.07)
<i>Video+CB+Media</i> × <i>negative prior</i>		-0.15**	-0.43***		-0.30***		-0.52***
		(0.08)	(0.12)		(0.10)		(0.10)
<i>Constant</i>	3.00***	3.07***	3.09***	2.90***	2.98***	3.09***	3.01***
	(0.13)	(0.11)	(0.14)	(0.10)	(0.14)	(0.11)	(0.15)
Demographics, habits, prefs	YES	YES	YES	YES	YES	YES	YES
Financial variables	YES	NO	NO	YES	YES	YES	YES
Nb. Obs.	8,289	8,289	4,686	8,289	4,435	8,289	4,686
-log-Lik.	9,255	12,301.9	7,063.5	10,829.5	6,229.0	11,136.6	6,413.8

Dependent variable:

Support for fiscal consolidation

(cut public expenses)

(increase taxes)

	all respondents	'CB text is clear' only	all respondents	'CB text is clear' only
<i>CB</i>	-0.02 (0.03)	0.22*** (0.07)	0.08** (0.03)	0.24*** (0.08)
<i>Video+CB</i>	0.01 (0.03)	0.24*** (0.06)	0.10*** (0.03)	0.24*** (0.07)
<i>Video</i>	-0.001 (0.03)	0.07* (0.04)	0.06 (0.03)	0.07 (0.05)
<i>Video+CB+Media</i>	-0.01 (0.03)	0.23*** (0.07)	0.10*** (0.03)	0.37*** (0.07)
<i>Inflation expectations</i>	-0.04*** (0.01)	-0.05*** (0.01)	0.08*** (0.01)	0.07*** (0.02)
<i>Macro lit. score</i>	0.09*** (0.01)	0.08*** (0.01)	-0.003 (0.01)	-0.01 (0.01)
<i>Negative prior</i>	0.04** (0.02)	0.11** (0.05)	-0.04 (0.02)	0.01 (0.05)
<i>CB × negative prior</i>		-0.12 (0.10)		-0.18 (0.11)
<i>Video+CB × negative prior</i>		-0.18* (0.09)		-0.16 (0.10)
<i>Video × negative prior</i>		-0.16** (0.06)		-0.03 (0.07)
<i>Video+CB+Media × negative prior</i>		-0.17* (0.10)		-0.34*** (0.11)
Constant	2.54*** (0.10)	2.58*** (0.13)	2.84*** (0.11)	2.87*** (0.15)
Demo, Habits, opinions, Fi	YES	YES	YES	YES
Nb. Obs.	8,289	4,345	8,289	4,345
-logLik	10,580.8	6,078.4	11,484.2	6,592.6

Dependent variable: macroeconomic literacy score in Wave 2

	I	II
<i>Trusting the ECB</i>	3.90** (1.65)	-4.74 (3.04)
<i>Video</i>	0.75 (1.80)	-1.11 (2.00)
<i>Video+CB</i>	0.06 (1.84)	-2.92 (2.02)
<i>CB</i>	1.98 (1.80)	-0.39 (1.97)
<i>Video+CB+Media</i>	3.21* (1.87)	1.71 (2.08)
Video × Trusting the ECB		9.19** (4.57)
Video+CB × Trusting the ECB		14.81*** (4.74)
CB × Trusting the ECB		11.77** (4.78)
<i>Video+CB+Media × Trusting the ECB</i>		7.47 (4.68)
Constant	20.45*** (5.64)	23.34*** (5.81)
Demographics, habits, prefs, financial	YES	YES
Nb Obs.	2,237	2,237
-logLik.	10,581.6	10,575.8

Estimating the expectation channel using 2SLS models

Full table

[▶ back](#)

Dependent variable:	Support for monetary-financed spending				Support for decrease in public spending			Support for increase in taxes		
	(permanent)		(exceptional)		All data V	'CB text is clear' only		All data VIII	'CB text is clear' only	
	All data I	All data II	All data III	All data IV		VI	VII		IX	X
π_M^e	-0.53*** (0.18)	-0.37*** (0.13)	-1.01*** (0.23)	-0.87*** (0.16)	-0.11 (0.16)	0.53*** (0.12)	- (-)	0.65 (0.62)	0.42*** (0.14)	- (-)
τ_B^e	0.40 (0.32)	- (-)	0.36 (0.39)	- (-)	0.30 (0.27)	- (-)	1.07*** (0.34)	-0.52 (1.34)	- (-)	0.84** (0.33)
Constant	3.36*** (0.73)	4.07*** (0.42)	5.18*** (0.87)	5.81*** (0.53)	1.86*** (0.61)	0.93** (0.43)	-0.85 (1.12)	2.38 (2.51)	2.56*** (0.43)	0.06 (1.08)
Weak-instrument test π_M^e	17.78***	17.78***	17.78***	17.78***	17.78***	18.49***	-	17.78***	18.49***	-
Weak-instrument test τ_B^e	5.66***	-	5.66***	-	5.66***	-	3.73***	5.66***	-	3.73***
DWH F-stat	4.61***	7.16***	22.95***	44.50***	0.45	14.40***	13.49***	3.75*	7.17***	6.13**
Sargan test (J-stat.)	$\chi(2) =$ 3.83	$\chi(3) =$ 6.23	$\chi(2) =$ 0.67	$\chi(3) =$ 1.62	$\chi(2) =$ 1.49	$\chi(3) =$ 5.06	$\chi(3) =$ 4.72	$\chi(2) =$ 3.18	$\chi(3) =$ 11.41***	$\chi(3) =$ 10.18**
Wald test	54.95***	65.38***	27.19***	29.92***	37.74***	18.24***	11.69***	17.96***	15.81***	12.47***
Demographic variables	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Habits and opinions	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Financial variables	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Nb. Obs.	7,911	7,911	7,911	7,911	7,911	4,498	4,498	7,911	4,498	4,498

*p<0.1; **p<0.05; ***p<0.01