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Salience of inherited wealth and the support for inheritance taxation

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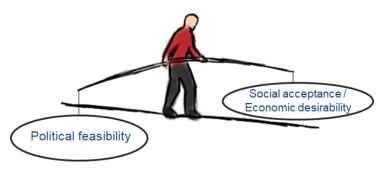
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Canazei Winter School in Inequality & Social Choice 2019

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How are redistributive policies shaped?

The tax policymaker's balancing act



What determines the social acceptance of tax policy?

- Large area of research, both theoretical and empirical
 - Most studies focus on income inequality and income taxation
- Theoretical literature
 - For example, Piketty (1995), Bénabou & Ok (2001), Alesina & Giuliano (2011)
- Empirical literature
 - Vast number of studies relating attitudes to redistribution with different backgorund variables, circumstances etc. (HB-chapter: Alesina, Giuliano, Bisin, Benhabib, 2011)
 - Mostly correlational evidence
 - Recent strand: Randomized experiments

Experimental studies of attitudes to redistribution

- Small, but growing literature using randomized experiments
 - E.g., Weinzierl (2014, 2017), Cruces, Truglia, Tetaz (2013), Kuziemko et al. (2015), Karadja, Möllerström and Seim (2017), Alesina, Stantcheva and Teso (2018), Chirvi and Schneider (2019)
- Mainly survey information experiments
 - Role of knowledge, awareness, biased perceptions
- Most papers look at income inequality and income taxation
- A few recent look at wealth and estate taxation
 - Kuziemko et al. (2015), Fisman et al., (2017), Alesina et al. (2018)

Kuziemko, Norton, Saez, Stantcheva, 2015, AER

- Survey population: Amazon Mechanical Turks
- Four information treatments one about the US estate tax

The Federal Estate Tax (also known as the Death Tax) applies when a deceased person leaves more than \$5 million in wealth to his or her heirs. Wealth left to a spouse or charitable organizations is exempt from estate tax.



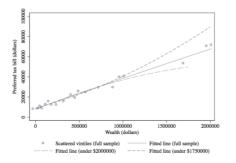
Only 1 person out of 1000 is wealthy enough to face the estate tax.

Average Americans do not have anything close to \$5 million in wealth, so the estate tax does not affect them and they can pass on their property to their children tax-free.

- Positive treatment effect on support for the estate tax
- But what explains the effect: Equity concerns or self-serving interests?

Fisman, Gladstone, Kuziemko, Naidu, 2017, WP

- Survey population: Amazon Mechanical Turks
- Subjects asked to specify tax in USD on income/wealth levels
 - Treatment: Information about origin of wealth (saved vs. inherited)



Preferred wealth tax: 0.8% lifecycle W vs. 3.0% inherited W

Alesina, Stantcheva, Teso, 2018, AER

- Survey population: Web survey in the US, U.K, Italy, and Sweden
- Links attitudes to redistribution and perceptions of social mobility
 - Treatment: Information about actual social mobility.
- Main finding: Pessimistic information about mobility increases support for redistribution, mostly for "equality of opportunity" policies

Recent trends in inherited wealth and its taxation

- Inheritance taxation is declining
 - Since 2000, thirteen countries have abolished the inheritance/estate tax
 - Sweden abolished the inheritance tax in 2004
 - Opinion polls suggest low popularity rates for the inheritance tax
- Economic importance of inherited wealth
 - About 30-70% of aggregate household wealth inherited
 - Annual flow of inheritances increases (France, Sweden)
 - Gradient in heirs' income/wealth
 - Many (most?) billionaires are heirs
- Optimal inheritance taxation: New results
 - Equality of opportunity-justification (classical)
 - Recent papers suggest positive optimal inheritance tax rate

The questions we ask in this study

- Why is the inheritance tax so unpopular?
- Are people aware of the economic role of inherited wealth?
- Would people's attitude to inheritance taxation change if they were informed about the actual importance and distributional aspects of inherited wealth?

This paper

- New survey of tax attitudes
 - Nationally representative sample of adults in Sweden
 - Respondents linked to population registers
- Randomized information experiment
 - We inform about the importance and distribution of inherited wealth
 - Treatment effects on support for inheritance taxation
- Distinguish between factors behind tax support:
 - Perception of inherited wealth
 - Self-interest
 - Other factors...

Outline

- Introduction
- Experimental design and data
- 3 Treatment effects (ITT)
- Perception of inherited wealth
- 5 Extensions and robustness checks
- 6 Conclusions

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Experimental design and data

- Survey of tax attitudes
 - Paper survey mailed to 12,000 individuals in Sweden (May-June 2017)
 - Stratified sample (register-based)
 - Calibrated weights for representativity
 - Cover sheet: General information + treatment information
 - Questions
 - Attitudes to capital taxes (inheritance, property, wealth, capital income), variants of these (with small/large exemptions, revenues intact), other taxes (earnings etc.)
 - General views (spending on social issues, defense, raise/cut taxes/spending)
 - Response rate 49% (5,774 respondents)
- Linked register data variables
 - Income (several years), wealth, education, taxes, civil status.
 - All household members observed

Randomized information experiment

Three equally sized groups of randomly assigned individuals:

- Inherited wealth treatment group
 - Exposed to facts about inherited wealth
- Housing wealth treatment group (Come back to this later)
 - Exposed to facts about housing wealth
 - Similar in structure, but more neutral
- Control group
 - No specific information

Inheritance treatment

- Challenge: How does one inform people about inherited wealth and its distributional characteristics?
- Previous literature on inherited wealth
 - Wolff (2003, 2015), Boserup et al. (2016), Elinder et al. (2018)
 - Positive correlation btw bequest and heirs' income/wealth
 - Evidence on negative relative correlation over the distribution.
- Inheritance treatment: Three research-based facts
 - Half of all households' wealth has been inherited
 - People with the highest incomes also inherit the most
 - A majority of Swedish billionaires has inherited their wealth
 NB: Deliberate focus on link btw inheritance and higher inequality

Cover sheet: Inheritance treatment and control group





Questionnaire: Main questions in survey

- Questionnaire same for all respondents
- Question about perceived share of inherited wealth

How large	share of t	he Swedis	h househo	lds' wealth	do you thi	nk has bee	n inherited	1?
10%	20%	30%	40%	50%	60%	70%	80%	90%

 Question about the role of luck/unfairness vs. hard work for economic success

What is the main reason some people get rich? Mark only one alternative.				
☐ They work harder than others				
Luck or unfairness in society				

Questionnaire: Main questions in survey

• Question about support for inheritance taxation

Here are some questions about <i>taxes of inheritance and gifts</i> . To tax an inheritance means that those who inherit pay a certain percent of the inherited amount in tax. Sweden abolished the inheritance and gift tax in 2004. It was paid by heirs who received at least 70.000 kronor and the tax rate was between 10 and 30 percent. What is your opinion about the following claims?						
	Agree fully	Agree mostly	Agree partly	Disagree fully	No opinion	
A tax on inheritance should be introduced.						
A tax only on large inheritances should be introduced.						

- Sweden's basic exemption low: 7,000 EUR
- ullet Taxes: low-exemption (au^{LE}) and high-exemption (au^{HE}) Exemptions
- Other q's: revenue-neutral tax and exempting family-firm successions

Balance of the experiment

	Inheritance treatment	Housing treatment	Control group	Diff Inherit- Control	Diff. House- Control
Male	0.51	0.5	0.52	-0.01	-0.02
Age	48.91	48.62	49.83	-0.92	-1.21
Married	0.41	0.42	0.47	-0.07	-0.05
Children home	0.62	0.67	0.75	-0.14	-0.08
Foreign-born	0.17	0.21	0.22	-0.05	0
Taxable income, ind.	278	273	279	-1	- 6
Taxable income, hh	511	541	541	-29	1
House value, hh.	1,443	1,560	1,689	-247	-129
Net wealth, ind.	1,224	962	999	225	-37
Net wealth, hh.	2,030	1,861	1,942	88	-82
Primary school	0.19	0.24	0.2	-0.01	0.05
Secondary school	0.42	0.44	0.4	0.02	0.04
University/College	0.39	0.32	0.4	-0.01	-0.08*
Employee	0.5	0.49	0.48	0.02	0.01
Self-employed	0.06	0.07	0.08	-0.02	-0.01
House ownership	0.38	0.38	0.41	-0.03	-0.03
Apartment ownership	0.25	0.25	0.2	0.05	0.05
Observations	1,884	1,947	1,944		
Response rate (%)	48.0	49.6	49.5		

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Reduced-form treatment regression

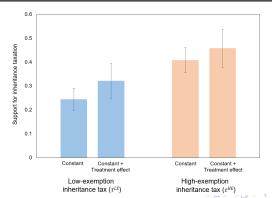
Baseline regression

$$Support_i = \alpha + \gamma Treatment + \beta' X_i + u_i$$

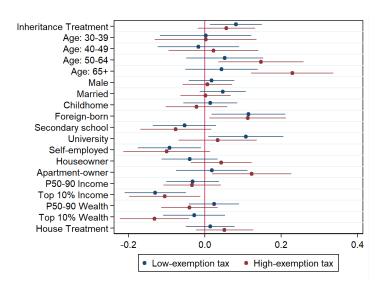
- Support is any support for introducing inheritance taxation
- Treat = 1 if respondent in treatment group
- $\hat{\gamma}$ shows intention-to-treat effect (ITT)
- Because of randomization, effect has causal interpretation
- Control variables from administrative registers
 - Age, Sex, Married, Children, Foreign-born, Education, Income, Wealth, Self-employed, Homeowner (House, Condo)

Baseline treatment effects

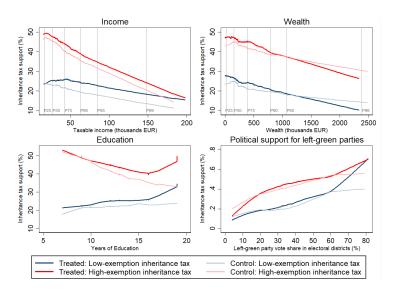
	Low-exemp	otion tax (au^{LE})	High-exemption tax $(au^{ extit{HE}})$		
Treat ment	0.077**	0.082**	0.050	0.057	
	(0.037)	(0.035)	(0.041)	(0.038)	
Observations	5,371	5,371	5,375	5,375	
Controls	No	Yes	No	Yes	
Control mean	0.245	0.245	0.408	0.408	



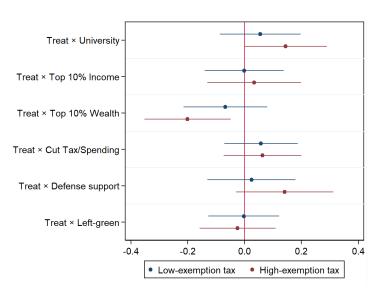
Covariate estimates



Heterogeneous treatment effects: Graphical evidence



Heterogeneous effects: Interaction regressions



Summary so far...

- Treatment effect large and positive for low-exemption tax: +30%
 - Small positive (borderline sig) for high-exemption inheritance tax
- This is the average effect across all individuals in treatment group
 - Regardless of whether they have read or understood the information
 - "Broad information campaigns"
- Heterogeneity of treatment effect is limited
 - Exceptions: High education (+), Wealthy (-), Left-leaning district (+)

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Perceptions of inherited wealth

- Is the treatment effect driven by shifting people's perception of inherited wealth?
- First, we propose a simple analytical framework
- Second, we empirically evaluate this using the question about respondents' knowledge of the inherited wealth distribution

Simple analytical framework

- Assume that individuals are heterogeneous in terms of:
 - ullet preference for an equal wealth distribution heta
 - ullet perceptions of the fraction of wealth inherited, $p \in [0,1]$
- ullet Pre-treatment individual support for inheritance taxation: s=s(p, heta)
- Let a denote treatment fact (about inheritance share)
- ullet Post-treatment support: $\hat{s}=s(q, heta)$, where q=q(p,a)
 - : function of perceived importance (p), treatment (a), preferences (θ)
 - ullet Assume: treatment shifts p towards true level: $\mid q-a\mid <\mid p-a\mid$

Simple analytical framework

- Let $f(p, \theta)$ the joint probability distribution of p and θ , and \hat{f} the joint probability distribution of q and θ .
- The treatment effect is then:

$$\Delta = \int s(q,\theta) \hat{f}(q,\theta) dp d\theta - \int s(p,\theta) f(p,\theta) dp d\theta$$

- Basic insight: The support for taxing a specific tax base is determined jointly by preferences for an egalitarian wealth distribution and information about distributional outcomes.
- Simple decision rule determining the support for inheritance taxation:

$$s(p, \theta) = \mathbf{1}[p > \theta]$$

Extending the framework

- Model can be extended to include heterogeneity in expected inheritance.
- People generally tend to support taxes they do not have to pay themselves (Kuziemko et al. 2015).
- Thus, we expect to find much higher general support for an inheritance tax with a high exemption (τ^{HE}) relative to a tax with a low exemption (τ^{LE}) .
- This is also what we find (41% vs. 24%).

Simple analytical framework

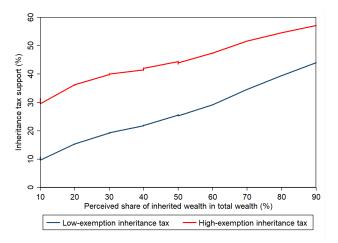
- Individual's expected future inheritance z (monetary value).
- Exemption threshold: d (e.g., τ^{LE} , τ^{HE})
- Assume: individual always supports inheritance tax if z < d and may support the tax if z > d.
- Extended decision rule for the support for inheritance taxation:

$$\tilde{s}(p, \theta, z, d) = \mathbf{1}[p > \theta \lor z < d]$$

- Prediction: Larger treatment effect on low-exemption tax relative to high-exemption tax.
 - Reason: High-exemption tax has with the large exemption already has a high number of supporters (for selfish reasons) that cannot be induced to support the tax when exposed to inequality information.
- Recall: Question anchored to Sweden's low-exemption inheritance tax

Perceptions and support for inheritance taxation

 Perceived importance of inherited wealth and support for inheritance taxation in the control group



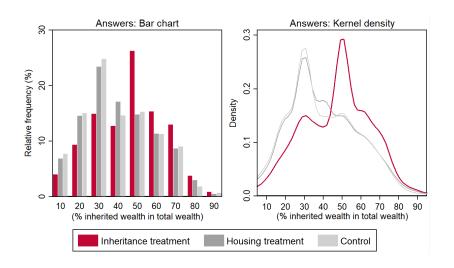
Does the treatment change people's perceptions?

• Define: PerceiveHigh = 1 if resp. perceives inheritance share >=50%

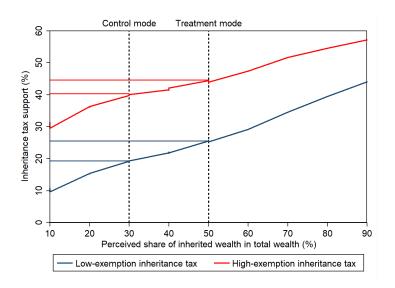
$$PerceivedHigh = \beta_0 + \beta_1 Treatment + \delta' X_i + u_i$$

	"Inheritance share is 50 percent or higher"			
Inheritance treatment	0.167***	0.166***		
	(0.041)	(0.040)		
Observations	5,512	5,512		
Controls	No	Yes		
Control mean	0.397	0.397		

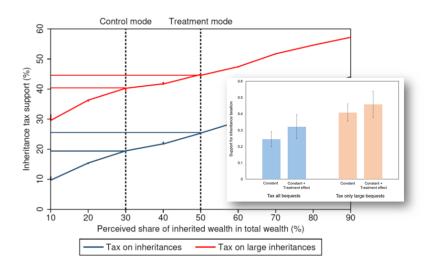
Graphical evidence of shifting perceptions



Treatment, perceptions and tax support



Treatment, perceptions and tax support



Estimating the perception channel

- We wish to estimate the role of perception shifts behind the treatment effect on support for inheritance taxation
- Three approaches are proposed:
 - Pseudo-"IV"
 - Mediating variable regressions
 - Conditioning dependent variable on perceptions

A Pseudo-"IV" approach

- Average treatment effect on the treated: Reduced form/First Stage
 - Our reduced-form estimate: about 0.08
 - Our "First stage" (treatement effect on perception): about 0.17
 - ATT = 0.08/0.17 = 0.47 (ca. half of treated individuals who perceive that inheritance is important become supportive)
- Suggests that attitudes to inheritance taxation can be strongly influenced in contexts where respondents receive and understand the treatment information.
- NOTE: This is not a real IV. Problem: treatment is not excludable (affects both perceptions and support).

Perceptions as mediating variable

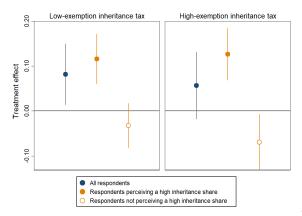
- Does the treatment effect go via a change in perception?
 - Use PerceiveHigh as mediating variable
 - A diluted main effect indicates mediation
 - Results indicate that perceptions play a role

	Low-exemption inheritance tax (au^{LE})					
Treatment	0.084**		0.075**	-0.009		
	(0.035)		(0.035)	(0.046)		
PerceiveHigh		0.061**	0.053*	-0.006		
Turk v Drugsbudlish		(0.028)	(0.028)	(0.032)		
Treat \times <i>PerceiveHigh</i>				0.166***		
				(0.062)		
Observations	5,313	5,313	5,313	5,313		
Controls	Yes	Yes	Yes	Yes		
Control mean	0.245	0.245	0.245	0.245		

Conditioning dependent variable on perception

Instead of changing RHS, let DepVar be conditional on perceiving

$$\begin{aligned} \textit{Support}_i &= \alpha + \gamma_0 \, \textit{Treat} + \beta' X_i + u_i \\ \textit{Support}_i |_{\textit{PerceiveHigh} = 1} &= \alpha + \gamma_1 \, \textit{Treat} + \beta' X_i + u_i \\ \textit{Support}_i |_{\textit{PerceiveHigh} = 0} &= \alpha + \gamma_2 \, \textit{Treat} + \beta' X_i + u_i \end{aligned}$$



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Extensions and robustness checks

- Do we make the correct interpretation of our inheritance treatment effect on people's support for inheritance taxation?
- We check this along several dimensions
 - Equality of opportunity and inheritance taxation
 - Intensity of support
 - Treatment effect on other capital taxes
 - Housing wealth treatment effects
 - Hawthorne effects
 - Time to response
 - Psychological priming
 - + additional checks of varying definitions of income, wealth, educational level/field, tax payments.

Equality of opportunity justification for effect on support

- Does the inheritance treatment make people more aware of inequality of opportunity in society?
- We ask if people view luck/unfairness or hard work as mattering most for economic success:

What is the main reason some people get rich?
Mark only one alternative.
☐ They work harder than others
Luck or unfairness in society

Equality of opportunity justification for effect on support

$$Luck_i = \beta_0 + \beta_1 Treatment + \delta' X_i + e_i$$
.

 Results show strong effects: treated individuals perceive higher inequality of opportunity

	Support	Support and $PerceiveHigh=1$	Support and $PerceiveHigh = 0$
Inheritance treatment	0.092**	0.150***	-0.058*
	(0.040)	(0.033)	(0.034)
Observations	5,307	5,307	5,307
Controls	Yes	Yes	Yes
Control mean	0.436	0.436	0.436

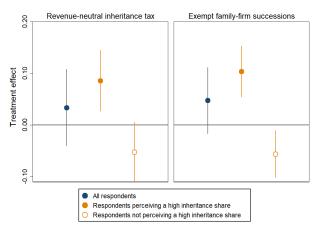
Intensity of support

- "Full support" accounts for half of the effect.
- "Opposition" decreases (i.e., effect not due to making indecisive fewer)

	Degree of support for inheritance taxation				
	Any support	Full support	Opposing	All responses (multi-level)	
Treatment	0.082**	0.042*	-0.081**	0.163**	
	(0.035)	(0.023)	(0.037)	(0.079)	
Observations	5,371	5,374	5,374	5,088	
Controls	Yes	Yes	Yes	Yes	
Control mean	0.245	0.055	0.678	0.678	

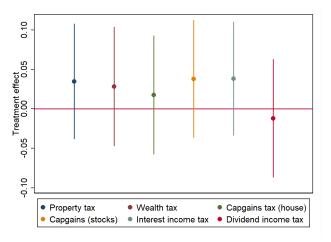
Revenue neutrality and Family-firm exemption

- Two policy-relevant aspects: revenue-neutral tax and tax that exempts family-firm successions
- Result: Both cases yield smaller support, but a clear effect among individuals perceiving large inheritance share



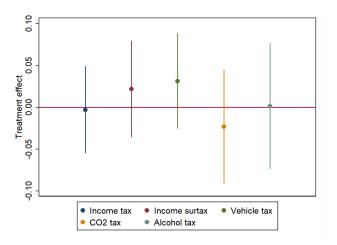
Treatment affect on support for other capital taxes?

 No clear inheritance treatment effects on support for other kinds of capital taxes



Treatment effect on support for other taxes?

• No strong effects from inheritance treatment on other taxes



Housing treatment effects

- Housing treatment:
 - About 60% of households own their home
 - House prices have risen by about four times over the last 20 years
 - The gap in housing wealth between owners and renters is widening
- Little effect of housing treatment

				Tax on property:		
	Housing first stage	Housing first stage	Luck most important	Baseline	Only highly valued	Cut other taxes
Housing	0.292***	0.017	0.059	0.041	0.006	0.036
treatment	(0.032)	(0.039)	(0.039)	(0.036)	(0.039)	(0.037)
Observations	5,528	5,512	5,307	5,256	5,256	5,415
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.436	0.139	0.397	0.301	0.459	0.459

Hawthorne effects

- Experimental exposure may by itself influence behavior
- We test for this in two ways
 - Use housing treatment as placebo treatment
 - Use housing treatment group as control group

House treatment (placebo)				Inheritance treatment (House treatment as control)			
0.016 (0.032)		0.016	0.036	0.066*		0.059	-0.033 (0.053)
()	-0.005 (0.032)	-0.005 (0.032)	0.021 (0.045)	()	0.078** (0.035)	0.069** (0.035)	-0.028 (0.047)
	. ,	. ,	-0.050 (0.064)				0`191*** (0.072)
3,620 Yes	3,582 Yes	3,582 Yes 0,245	3,582 Yes	3,554 Yes	3,515 Yes 0,245	3,515 Yes	3,515 Yes
	0.016 (0.032)	0.016 (0.032) -0.005 (0.032) 3,620 3,582	0.016 (0.032)	0.016	0.016	O.016	O.016

Time to response: Persistence of treatment effects?

• Three response times: (i) after initial survey, (ii) after post-card reminder (+2weeks), (iii) after receiving a second survey (+4weeks).

	Attitude to inheritance taxation (au^{LE})					
	Any support	Full support Opposing Multi		Multi-level		
	a) Direct response, <2 weeks					
Treatment	0.100**	0.028	-0.097**	0.153		
	(0.042)	(0.031)	(0.044)	(0.101)		
Obs.	3,476	3,478	3,478	3,321		
	b) Response after 2-4 weeks (postcard)					
Treatment	0.070	0.089**	-0.102	0.262*		
	(0.079)	(0.041)	(0.083)	(0.141)		
Obs.	901	901	901	836		
	c) Response after 4-8 weeks (new survey)					
Treatment	0.050	0.045	-0.021	0.135		
	(0.070)	(0.039)	(0.081)	(0.160)		
Obs.	994	995	995	931		

Psychological priming

- Providing arbitrary information about inheritance could increase support for inheritance taxation, increase perceptions about importance of inherited wealth (Tversky & Kahneman 1974, Ariely et al. 2003)
- Unlikely to be an issue for three reasons:
 - Providing information per se (housing treatment) does not seem to increase the support for inheritance taxation (Hawthorne test)
 - Providing information about inheritance taxation makes people believe that luck is more important for economic success, whereas no such effect is evident for the housing (or control) treatment.
 - The effect of the housing treatment on the support for property taxes is an order of magnitude smaller than the effect of inheritance treatment on inheritance tax support.

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Conclusions

- We find that individuals underestimate the economic importance of inherited wealth in society
- Informing them about this changes their view of inequality of opportunity and makes them more positive to inheritance taxation
- The salience of inherited wealth, and wealth inequality in general, could thus be one explanation for why the political support for inheritance and wealth taxation is not higher

Basic exemptions for inheritance/estate taxes

Table: Comparison of the level of inheritance taxation across countries

	Basic deduction (thousand euros)	Marginal in Lowest	heritance tax rate (%) Highest
Denmark	37	15	15
Finland	20	7	19
France	100	5	45
Germany	500	7	30
Netherlands	20	10	20
Sweden*	7	10	30
United Kingdom	270	40	40
USA	4,675	18	40



