ZEW Expert Brief

NO.04 // 22 APRIL 2022

// Dr. Zareh Asatryan (ZEW Mannheim)

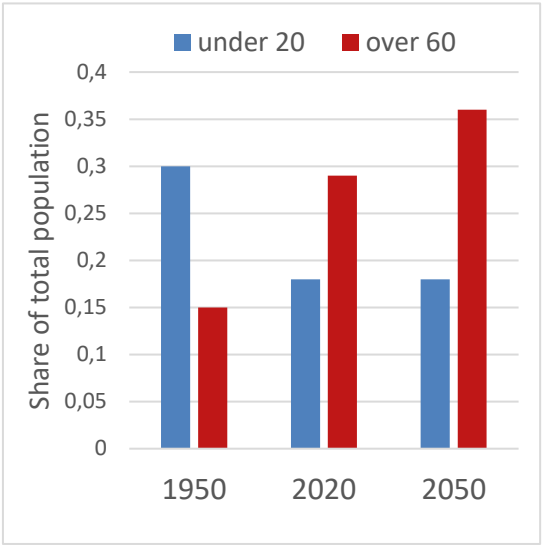
Representing the Future in Aging Societies: Policy Implications of the Voting Age Reform in Germany

Leibniz Association

ZEW

1. Motivation

German population is ageing: Since 1950 the mean age increased by 26% with the share of over-60s in the population doubling. This implies that the age of voters is also increasing, which is further exacerbated by lower turnout rates among the young.



This demographic shift is well reflected in the recent federal elections which were dominated by the over-50s, who made 60% of voters, whereas only 14% of voters were under 30 compared with 19% in 1961.

This societal change poses a fundamental challenge: If it is the case that the elderly prefer policies yielding short-term benefits - e.g., higher pensions and more elderly healthcare - at the expense of those with long-term goals - e.g., investments in climate protection and education – then with population aging democracies may tend to prioritize short-term goals more and more often over long-term goals. This situation has been dubbed a “gerontocracy”.

However, it is not a trivial question of whether policy preferences are a linear function of age in the way we would expect from perfectly self-interested voters. First, even self-interested voters can have certain incentives that may make such age gradients non-linear. For example, while the elderly do not directly benefit from spending on education, they can benefit indirectly if the society improves its level of human capital. Second, voters are often altruistic including towards future generations. For example, while the elderly might not benefit from investments on sustainable energy during their lifetime, they might feel a moral obligation to support such policies for the benefit of the future generations.

This report uses descriptive analysis and arguments in the economics literature to try and better understand whether and under which conditions does this hypothesis - that the elderly have different preferences than the young – hold and what are its implications on what types of policies democracies choose.

The report uses survey data on people’s preferences in Germany and other EU Member States, as well as past voting age reforms by German states combined with state-level policy variation to study the question. In so doing we contribute to the debate on the proposal of Germany’s new coalition government to decrease the voting age from 18 to 16. We identify the specific policy areas where the reform may shift priorities and speculate on the possible direction and magnitudes of effects on policy.

Several German states as well as many other countries have implemented such reforms at the sub-national level. Niedersachsen was the first state in Germany to reform the voting age in 1995, and a first mover in Europe. Four further reforms for Landtagswahlen – including a recent reform in Baden-Württemberg - and reforms for most of Kommunalwahlen have followed. However, the similar reform at the federal level is

considered a rather bold move. The last federal-level reform happened half a century ago in Germany decreasing the age from 21 to 18 in 1972, while in the EU only Austria has made such a move in 2007. After a big country like Germany does it, others may well follow suit.

The specific aim of this report is to contribute to the debate on whether this reform is sufficiently radical to prevent a gerontocracy in Germany, in the sense that an aging voting population imposes policies that are only beneficial to the old. The more general aim is to contribute to the discussion on the question of what should democracies do to ensure that the future interest is better anchored in current politics.

2. Current Reform Debate in Germany

In Germany the strongest proponents of this voting age reform are The Greens and the FDP. With the establishment of the new coalition government of SPD, FPD and Greens, they now also get support from their coalition leader SPD, who previously stood against the reform. The government proposes to extend the active franchise to 16 and 17 year olds. They argue that the right to vote is the most fundamental form of democratic participation which should not be withheld without having a very important cause. Since the 18 year olds are not very different from 16 year olds, as the argument goes, then the 16 year olds should also have the right to vote. Regarding its implications for policy, it is believed that the reform would contribute to more intergenerational justice by improving representation of those who will feel the greatest impact of political decisions.

The main counter argument to the reform, as represented by CDU and AfD, says that the rights and obligations of citizens must be in alignment. This view finds it inconsistent that, on the one hand, citizens are able to take part in decision-making about the future of the country, while, on the other hand, they do not have full legal powers.

3. Economics Literature

The economic literature studies several aspects of this debate. First, the so-called median voter hypothesis suggests that, under certain conditions such as single-peaked preferences, in a democracy an equilibrium policy is driven by the preferences of exactly the median voter. In our context, Bertocchi et al. (2020) find that an increase in youth turnout in the US leads to higher education spending. Of course, this is conditional on the fact that the newly enfranchised youth prefer spending on education sufficiently more than the existing population. In contrast, the turnout of voters who do not have preferences that are clearly different than those of the existing voters either because they are uninterested (Hoffmann et al. 2016) or because they are similar to the existing ones (Bertocchi, 2016) can result in zero aggregate effects.

Second, voting age reforms may impact the level of political information that new voters obtain as well as their decision to participate in elections or not. However, studies from Norway (Berg, 2011) and the UK (Chang and Clayton, 2006) suggests that this is not the case. Using data from Brazil, Leon et al. (2014) conclude the same, explaining it with the rational ignorance hypothesis: When obtaining information is costly,

the individual chooses to be uninformed as long as one vote has no meaningful impact on elections.

Third, lowering the voting age might not only impact voters and their median preferences, but it may also effect political selection since younger voters might prefer younger candidates. This is important because research has shown that younger representatives' tend to increase public spending on public goods valued by young inhabitants, such as child care and schools (Baskaran et al. 2022).

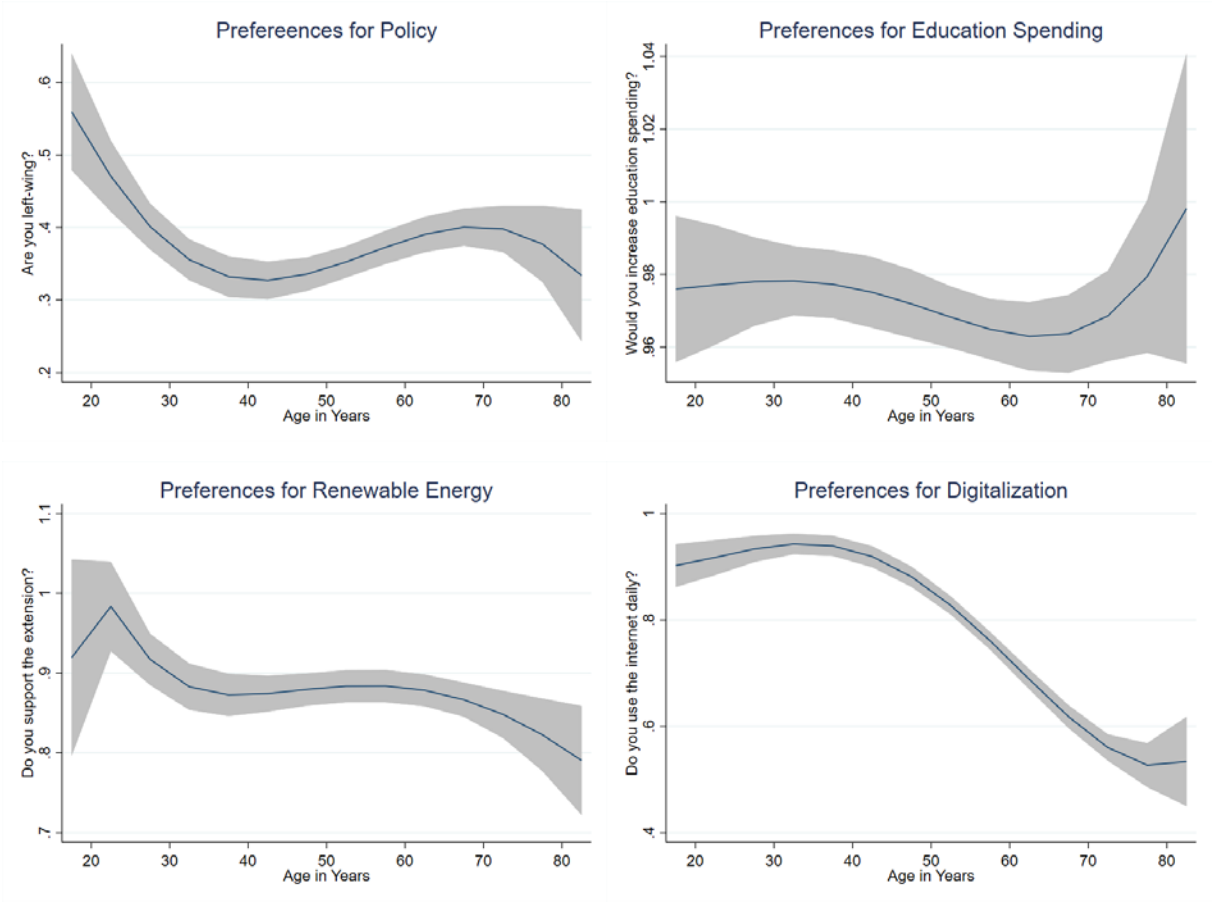
4. Policy gradients

To better understand the possible effect of the described change in the age structure of voters on policy outcomes, we first explore the underlying shape of policy preferences among voters. We visualize these age gradients based on survey data from the Eurobarometer and German Internet Panel. The Eurobarometer dataset encompasses a large timeframe, enabling us to compare across time and countries. The GIP is a newer German survey with more detailed data on specific German policies and a lager sample of German population.

These gradients are estimated parametrically using third order polynomials. For the selection of policy areas, we considered the relevance of the policy according to its budget share (e.g., healthcare, pensions, education) but also applied softer selection criteria to consider policies that will be potentially more relevant in the future (e.g., climate change, digitalization). We then classify policy areas according to whether they can be thought of as pro-young, pro-old or non-linear (e.g., pro-mid-age). It must be noted that the interpretation of these gradients are only suggestive for various reasons. First, age is correlated with many other socio-demographic characteristics which we do not control for. Second, preferences will not be always well defined and can change on how the question in the survey is formulated exactly. Third, age-specific effects are collinear with cohort-specific effects, and we are not able to distinguish these two.

Pro-young policies: We first study the self-placement of respondents on a left-right political orientation scale. This suggests that majority of under 20s (55%) considers themselves left while this is only true for about 30% of 80-year-olds. Next we study preferences for public spending on education. There is a broad support for increased spending across all age groups. We do not find that the young have differing preferences in this policy field. There is even a higher approval among the old, but the magnitudes are small. Preferences for further developing renewable energy are ageing close to having a full support among the young, however the elderly are 20 percentage points less likely to support this policy. The frequency of internet use, as a proxy for relevance and affinity toward digital technologies, shows unsurprisingly the largest gradient with around 40 percentage points difference between those in their 20s and 30s versus those in their 70s.

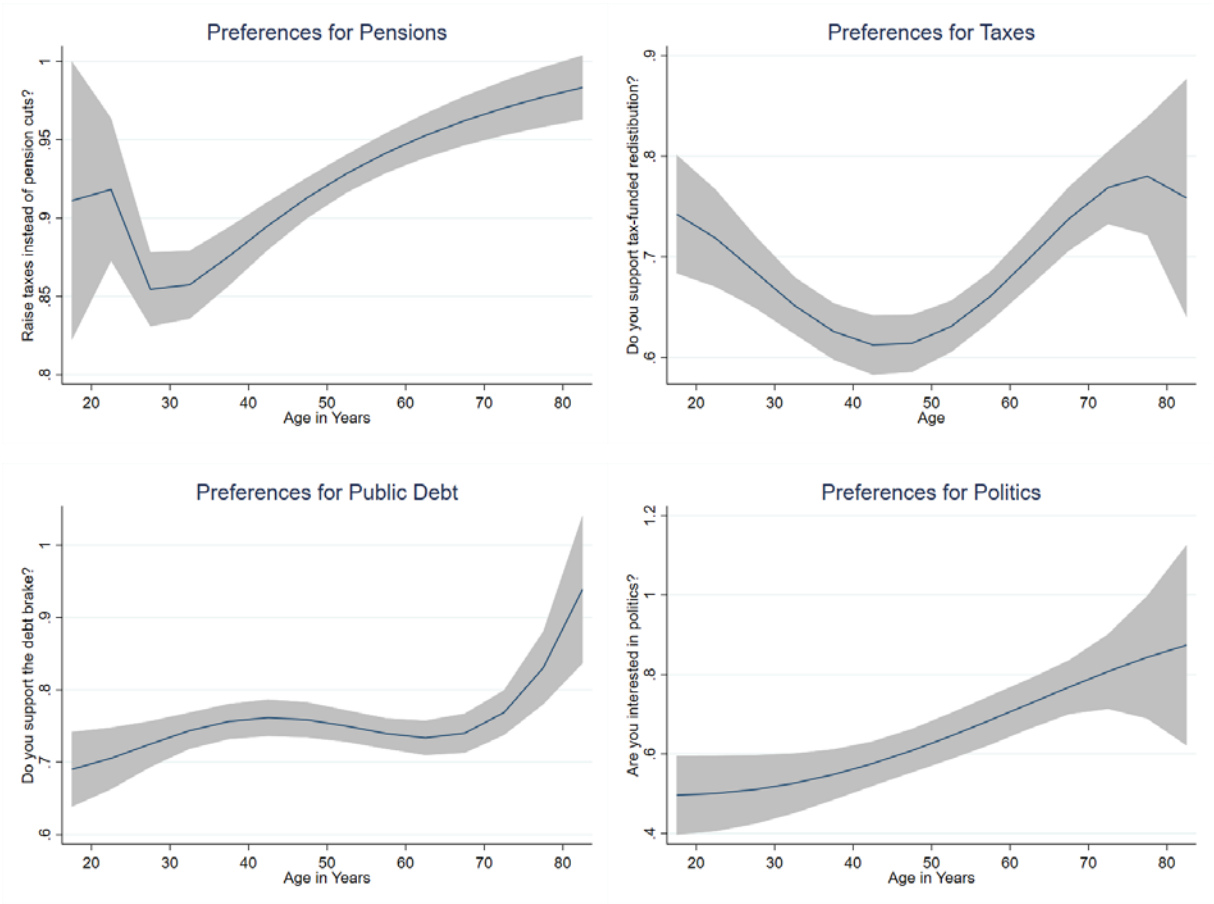
Figure 1: Age gradients in pro-young policies



Source: German Internet panel. Estimates plot policy preferences by age using polynomials of third degree. 95% confidence intervals are shown in shaded areas.

Pro-old policies: When asked for their preferences regarding the pension system, over 95% of above-60s agree on raising taxes rather than cutting pensions, while young voters are significantly less supportive. When it comes to tax funded redistribution policies, we estimate broad support among the old and young age-groups, but opposition from the middle-aged voter, so this policy should be classified in the next group of non-linear policy gradients. Our results on debt are somewhat counterintuitive from the self-interested voter view. The support of German debt-brake is more than 30 percentage points higher among the old age than among the rest of the population. What appears to be inter-generational altruism could also follow a different rationale: Investments in the young generation increases their human capital and thus expands pension possibilities in a pay-as-you-go retirement scheme. However, this could also be explaining by the generally more conservative views of the elderly shown. Indexing interest in politics as a function of the frequency of political conversations indicates a steep and linear gradient in favor of the old.

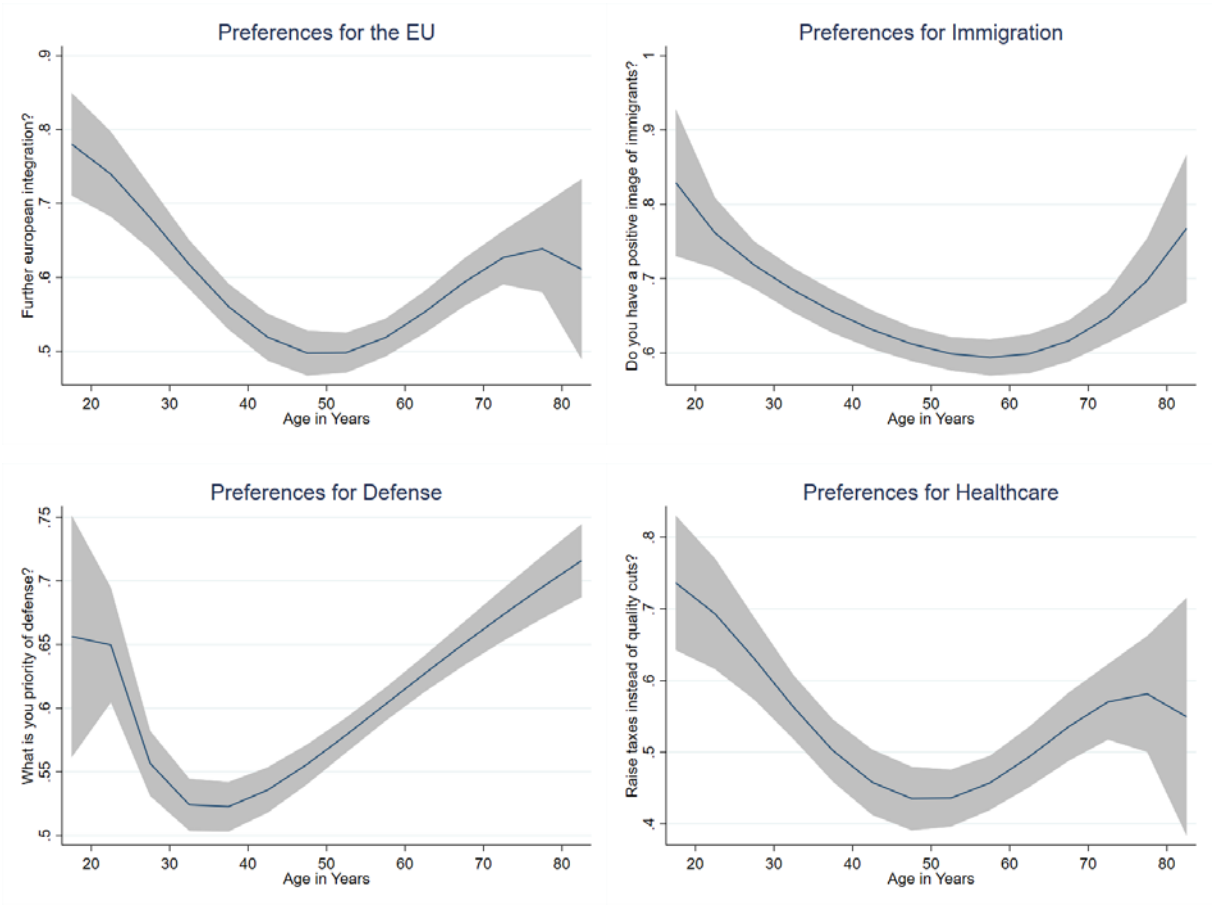
Figure 2: Age gradients in pro-old policies



Source: German Internet panel. Estimates plot policy preferences by age using polynomials of third degree. 95% confidence intervals are shown in shaded areas.

Non-linear policies: A number of policies appear to have clear non-linear gradients. Further European integration is supported by most old people and has even higher approval rates among the youth, but sees significantly lower support among the middle-aged voters. The perception of immigrants is most positive among the very old and young, and has its low point between 50 and 60 with a difference of 20 percentage points. Funding the public healthcare system is both expensive and a concern in aging society. While young and old support raising taxes to keep up with rising costs, the middle-age group would rather cut down on quality. The priority of defense spending is lowest among the 30–40-year-olds at 50% while reaching support around 65% in the young and old age groups.

Figure 3: Age gradients in non-linear policies

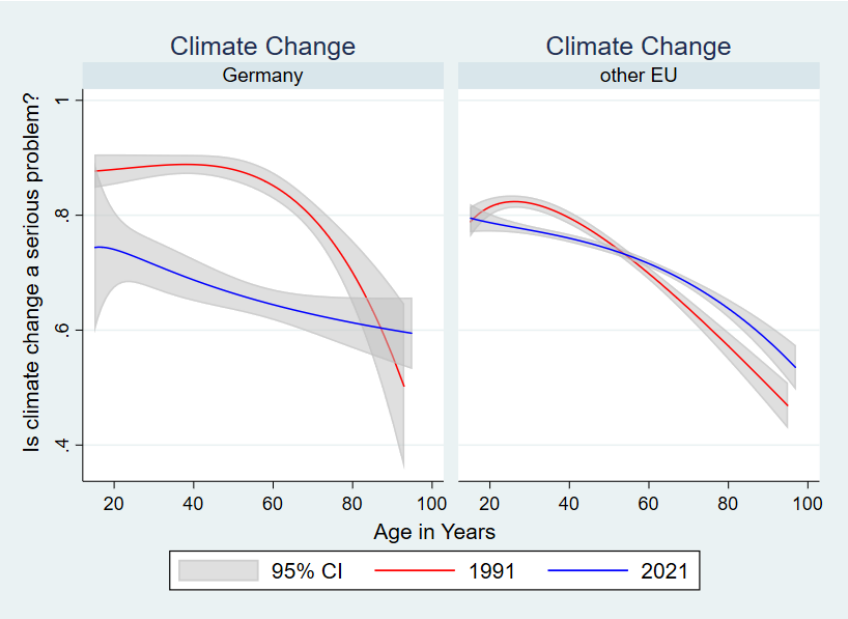


Source: German Internet panel. Estimates plot policy preferences by age using polynomials of third degree. 95% confidence intervals are shown in shaded areas.

Climate change, Germany vs EU, 2021 vs 1991: It is also interesting to study the shapes of policy gradients across space and time. We do this using the European barometer data for the important policy area on climate change. Extending the exercise to other policies is possible. First, we can observe that, consistent with data from GIP presented above, there is a negative age gradients in views towards climate change. Second, this gradient in Germany seems to be similar to preferences of voters in other EU Member States. Third, comparing graphs on climate change over time, we find that 30 years ago the gradients were much steeper with much larger differences among the young and the old. Interestingly, these views have some-what converged over time both in Germany and in the EU.

Summary of Gradients: In Tables A.1 and A.2 of the Appendix, we run a more formal econometric exercise to summarize some of these gradients. The two tables show whether policy preferences are significantly different between those under and above 25 or 65, respectively.

Figure 4: Age gradients in views towards climate change



Source: European Barometer. Estimates plot policy preferences by age using polynomials of third degree. 95% confidence intervals are shown in shaded areas. The composition of EU member states (right) has changed between 1991 and 2021.

5. Evidence from State Reforms

Now we set to use voting age reforms by German states and state-level variation in policy to study whether these reforms have affected policy outcomes. So far, four German states Brandenburg, Bremen, Hamburg, and Schleswig-Holstein have reformed their election laws to lower the voting age to 16. A fifth reform is currently under way in Baden-Württemberg. The idea is to study how state policy is different before and after the year of the reform compared to the same policy in a state that did not implement any reform. Usually, the reforms on state level were enacted after earlier reforms on municipality level, where more states have lowered the voting age. These reforms are summarized in Table 1 of below. The reforms were typically proposed and supported by SPD-lead governments and the greens, as well as by the FDP and Linke, while CDU has not backed any of the original four reforms.

Table 1: Sub-national voting age reforms in Germany

State	Municipality level	State level	Supporting major parties
Baden-Württemberg	2013	2022	SPD, Linke, Grüne, FDP, CDU
Bayern	x	x	
Berlin	2005	x	
Brandenburg	2012	2012	SPD, Linke, Grüne, FDP
Bremen	2006	2009	SPD, Linke, Grüne, FDP
Hamburg	2013	2013	SPD, Linke, Grüne
Hessen	x	x	
Mecklenburg-Vorpommern	1998	x	
Niedersachsen	1996	x	
Nordrhein-Westfahlen	1996	x	

Rheinland-Pfalz	x	x	
Saarland	x	x	
Sachsen	x	x	
Sachsen-Anhalt	1997	x	
Schleswig-Holstein	1997	2013	SPD, Grüne
Thüringen	2015	x	

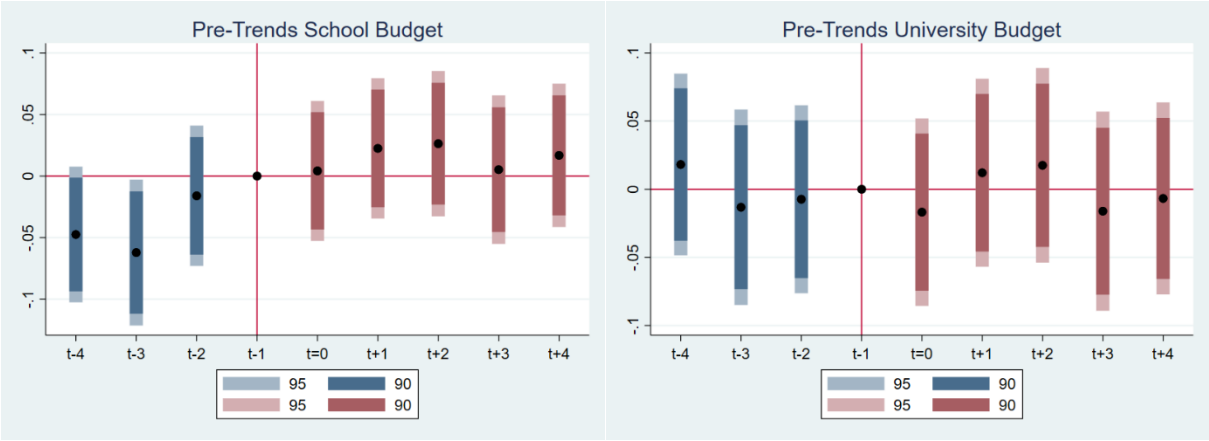
Source: Own compilation.

We follow the work by Bertocchi et. al. (2020) on US and study whether voting age reforms in German states shifted spending on education. This choice is not only driven by the fact that education spending is central to the debate on aging, but also because of the fact that education spending is one of the most central functions of German states. State education spending In Germany stands at about 61 billion Euros, which is about 14% of total government expenditures.

Our empirical strategy follows a standard difference-in-difference approach. We take public spending on schools and universities as independent variables, and explain these by the reforms. We control for fixed effects for states, years, state-specific time trends, as well as for population, unemployment, share of working age population, number of students and total expenditures. Our data covers all 16 German states for the period going from 2000 to 2019.

The below figures plot our results graphically. Point estimates show the percent change in education spending compared to the pre-reform year (t-1), and bars plot 90% and 95% confidence intervals. Overall, we do not find evidence for a strong direct impact of voting age reforms on education spending. This evidence is not consistent with some of the evidence from USA. However, this is consistent with the policy gradients we have identified earlier, where, somewhat surprisingly, we did not find that in Germany youth are different in their preferences for education than the middle-aged or the elderly (see Figure 1 and Table A.1). If anything, all age groups had almost full support for more spending on education.

Figure 5: State spending on education before and after voting age reforms in German states



Footnotes: Figures show development of log spending on schools (left) and universities (right) before and after voting age reforms by four German states compared to the pre-reform year (t-1) and to states that did not implement reforms. Regressions include fixed effects for states and years, and control for state-specific time trends, as well as for population, unemployment, share of working age population, total expenditure, and number of students. Data covers all 16 German states for the years 2000 to 2019.

One final note is that such analysis may be driven by endogeneity concerns. In particular, the left graph shows that spending on schools might have increased by about 5% in the two years leading to the voting age reform. This is consistent with the interpretation that new governments with new priorities might set out to change both the voting age and the education budgets at the same time. Which factor drives which policy is then very difficult to disentangle. In principle, such reasoning can then also be applied to the plans of the new coalition government in Germany.

6. Conclusion

Aging societies face a fundamental challenge: How to represent future oriented policies in the politics of today? Voting age reforms and, more generally, policies that encourage the participation of the youth in politics are discussed as one solution.

In this report, we studied whether voting age reforms are radical enough to save us from gerontocracy. We have shown that there are certain policy fields that have strong age gradients. Although these are very far from being linear and often go in unexpected directions compared to a view that sees voters as simple self-interested actors.

We think that, in principle, voting age reforms can matter. However, these effects are limited to very small magnitudes. One reason is simply because the estimated number of about 1.5 million new eligible voters of ages 16- and 17, only make up 2.5% of the electorate. Therefore, it would be foolish to leave such a big question of how to implement policies targeting long-term and important aims such as climate change to a

small group of teenage voters. In addition, 16 is close to a lower bound: You cannot let the children vote, while aging on the European continent is set to continue. Therefore, even if this was a solution, it would not be a sustainable one.

So, what could be done? We view this as being a larger issue with democracy: Future generation are not born and cannot vote. Therefore, if voting is strictly restricted to the expression of narrow policy that only benefits the self, then democracy is a recipe for disaster in the long-run. However, our evidence suggests that people's preferences are much more sophisticated than a simple self-interested view may suggest. In particular, people care about intergenerational justice, and our evidence suggests that this aspect has been improving over the last decades. We think that improving voter education on long-term issues combined with further promotion of inter-generational altruism may be the more promising path forward.

References

Baskaran, T., Z. Hessami and S. Schirner (2022). Young vs old politicians and public spending. Ruhr-University Bochum. Mimeo

Bertocchi, G., Dimico, A., Lancia, F., & Russo, A. (2020). Youth enfranchisement, political responsiveness, and education expenditure: Evidence from the US. American Economic Journal: Economic Policy, 12(3), 76-106.

Chan, T. W. and M. Clayton. (2006). Should the Voting Age Be Lowered to Sixteen? Normative and Empirical Considerations. Political Studies 54(3), 533–58.

de Leon, L., F. Leite and R. Rizzi. (2014). A Test for the Rational Ignorance Hypothesis: Evidence from a Natural Experiment in Brazil. American Economic Journal: Economic Policy, 6 (4), 380-98.

Hoffman, M., G. León and M. Lombardi. (2016). Compulsory Voting, Turnout, and Government Spending: Evidence from Austria. NBER Working Papers 22221.

Nergh, J. (2013). Does voting rights affect the political maturity of 16- and 17-year-olds? Findings from the 2011 Norwegian voting-age trial. Electoral Studies, 32(1), 90-100.

Appendix

Table A.1: Policy preferences for those under and above 25

The Policy Preferences of the Young

	Regressor Variable: Age under 25			
	Coefficient	Standard Error	Observations	R-squared
Internet Use	0.129***	0.0260	4,293	0.00600
Healthcare	0.226***	0.0590	1,413	0.0100
Pensions	-0.0200	0.0230	2,309	0
Education	0.00900	0.0130	3,387	0
old policies	0.109***	0.0360	3,178	0.00300
European Union	0.139***	0.0450	2,911	0.00300
Taxes	-0.0350	0.0360	2,945	0
Immigration	0.163***	0.0350	3,314	0.00600
Public Debt	-0.0380	0.0320	3,426	0
Police	-0.117***	0.0250	4,283	0.00500
Political Interest	-0.0700	0.0920	445	0.00100
Climate Change	0.0340	0.0290	2,201	0.00100
Green Energy	0.074**	0.0290	2,204	0.00300
Left-Wing	0.135***	0.0340	3,852	0.00400
Defense	0.045*	0.0250	2,573	0.00100

*** p<0.01, ** p<0.05, * p<0.1

Table A.2: Policy preferences for those under and above 65

The Policy Preferences of the Old

	Regressor Variable: Age over 65			
	Coefficient	Standard Error	Observations	R-squared
Internet Use	-0.273***	0.0150	4,293	0.0740
Healthcare	0.063**	0.0310	1,413	0.00300
Pensions	0.065***	0.0130	2,309	0.0100
Education	0.00200	0.0070	3,387	0
old policies	-0.055**	0.0230	3,178	0.00200
European Union	0.051**	0.0210	2,911	0.00200
Taxes	0.113***	0.0210	2,945	0.0100
Immigration	0.0110	0.0210	3,314	0
Public Debt	0.0230	0.0180	3,426	0
Police	0.089***	0.0140	4,283	0.00900
Political Interest	0.196***	0.0550	445	0.0280
Climate Change	-0.032*	0.0170	2,201	0.00200
Green Energy	-0.050***	0.0170	2,204	0.00400
Left-Wing	0.0200	0.0190	3,852	0
Defense	0.073***	0.0140	2,573	0.0100

*** p<0.01, ** p<0.05, * p<0.1

Authors

Zareh Asatryan*
ZEW – Leibniz Centre for European
Economic Research
L 7, 1
68161 Mannheim
www.zew.de
zareh.asatryan@zew.de
Tel.: +49 (0)621 1235-392

* Contact person for inquiries

ZEW Expert Brief

Publisher: ZEW – Leibniz Centre for European Economic Research
L 7, 1 · 68161 Mannheim · Germany · info@zew.de · www.zew.de/en · twitter.com/ZEW_en
President: Prof. Achim Wambach, PhD · Managing Director: Thomas Kohl
Editorial responsibility: Sabine Elbert sabine.elbert@zew.de

Leibniz Association

ZEW