

Generational Conflicts regarding individual Policy Preferences for governmental Healthcare Spending? A Comparison of 21 OECD Countries.

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Introduction

This research paper is based on the still on-going debate about the possibility of a "*coming war of generations*" as expected by Browning (1975), Campbell et al. (1980) and Downs (1957). According to these researchers the conflict is based on changing proportions of elderly and younger population due to the demographic change. Assuming that elderlies have different policy preferences than middle-aged and young people, preferences on policies of old-aged ones could be overrepresented according to the median-voter theorem by Black (1948) and Downs (1957). Consequently, it could be that for example healthcare and pension spendings increase while education spending decreases under the assumption that elderlies have stronger preferences to invest in the former policies. In a worst case scenario in which the differences between the preferences of elderlies and younger people are large, this could end in a conflict between generations.

However, there is no scientific consensus whether age has a significant impact on the preference formation. While some studies detect age-related differences between preferences (see e.g. Busemeyer, Goerres and Weschle, 2009; Blekesaune and Quadagno, 2003; Bonoli and Häusermann, 2009; Cattaneo and Wolter, 2009; Gelissen, 2000; Hess, Nauman and Steinkopf, 2017; Mehlkopf and Neumann, 2012; Svallfors, 2003, 2004), others find no age-related differences. One reason for this is that the majority of the studies have not investigated the influence of the life-cycle-position (age) on the preference for policies systematically. Instead, the majority of the studies have investigated the influence of age only in terms of a numerical control variable. However, this paper also cannot estimate the real life-cycle effect because panel or at least longitudinal data would be necessary. Nevertheless, it will investigate the age effect systematically. Thus, following question is tried to answer: Is there evidence for age-related differences regarding the preference for healthcare spending? Furthermore, this paper will estimate the intensity of age-cleavages in each country according to the *coming war of generation* debate.

The paper is structured as follows. First, I introduce the theoretical framework. Second, the used data and methods are presented. Third, the results of descriptive and regression analysis as well as results of the cleavage intensity measurement are shown. Finally, the conclusion part summarizes the findings, discusses the results and shows a further research opportunity.

Theory

Research in the field of political economy and comparative welfare state research is based on a rational choice framework frequently. According to this "convention", it is assumed that an individual is motivated by its self-interest. There are also some other theories which are considered

shortly in the conclusion part. From a rational choice perspective, it is obvious that elderlies have a strong incentive to increase the governmental pension spending because they profit directly from it, while elderlies do not profit directly from higher education spendings (which is shown by e.g. Armingeon, 2006; Bonoli and Häusermann, 2009; Busemeyer, Goerres and Weschle, 2009; Cattaneo and Wolter, 2009; Esping-Andersen, 1999; Lynch and Myrskylä, 2009; Persson and Tabellini, 2000).

However, (Busemeyer, Goerres and Weschle, 2009) have claimed that preferences for health-care expenditures are special. On the one hand, elderlies have a self-interest to invest in health because it is well-known that the older a person the higher the risk of getting ill. On the other side, healthcare is not exclusively preferred by elderlies. Also middle-aged and young people profit from healthcare expenditures when they are getting ill. Therefore, healthcare spending can be seen as a more universal social policy than education and pension (Busemeyer, Goerres and Weschle, 2009). Only a few have investigated the individual preferences for healthcare spending systematically. For example, ? found evidence that elderlies prefer less education spending and more healthcare and pension spending than younger age groups.

Nevertheless, there could be a generational conflict regarding healthcare spending due to anticipated trade-off-relationships between policies. Trade-off relationships between policies mean that investments in all policies are not possible due to budget constraints. Consequently, people should ponder which policy they prefer to invest in. Therefore, it is imaginable that young and middle-aged people prefer for example education spending over healthcare spending, while elderlies could prefer healthcare over education, due to their self-interest. A higher self-interest for elderlies is supposed because the risk of falling ill with something increases with growing older. However, it is necessary that people are able to recognize trade-offs. Under this assumption it can be supposed that young and middle aged people differ from elderlies. Due to that following hypothesis can be derived:

Hypothesis 1: *On average, elderlies have a stronger preference for healthcare spending than middle-aged people.*

According to Lipset (1967) a political cleavage is a conflict line on which voters orient themselves and on which political actors can mobilize their voters. Thus, If there is a significant difference between age groups it will be seen as evidence for a age-cleavage. However, this paper only investigates the occurrence of a age-cleavage and not the trade-offs between different policy fields. Furthermore, many researcher have already shown that there are country specific differences in the magnitude of age-related spending preferences (e.g. Busemeyer, Goerres and Weschle, 2009; ?). Therefore, this paper will investigate whether the cleavages differ from country to country. Due to the fact, that healthcare can be seen as a "universal" policy only a low intensity of the age-cleavage on average is expected. In this paper a low intensity of a age-cleavage is defined as lower than 10 percentage points. Therefore, following hypothesis can be derived:

Hypothesis 2: *On average, the intensity of the age-cleavage is lower than 10 percentage points.*

Data and Methods

Data

Data is used from the fifth wave of the *Role of Government* module of the *International Social Survey Programm* (ISSP). The collection of the cross-sectional data took place in 35 countries in the time period of 2015–2018. To ensure comparability, only OECD-countries are included in the analysis because these countries have a similar development status. After controlling for available information following 21 countries are selected for the analysis: Australia, Belgium, Germany, Finland, France, Great Britain, Iceland, Israel, Japan, Latvia, Lithuania, Norway, Switzerland, Slovenia, Spain, South Korea, Sweden, Czech Republic, Turkey, Hungary and the USA.

The dependent variable in this analysis is the *preference for healthcare spending*. The preference is measured as a likert scale (from 1 *spend much less* to 5 *spend much more*). The survey question of the dependent variable is formulated as:

Listed below are various areas of government spending. Please show whether you would like to see more or less government spending in each area. Remember that if you say 'much more', it might require a tax increase to pay for it.

The variable is treated in the analysis as interval scaled. Therefore, the assumption is necessary that the respondents realize same distances between the answer options. Alternatively, a binary coding would have been possible but the disadvantage of this approach is the loss of information.

The main independent variable are the age groups. Due to the problem of collinearity between *age* and *employment status*, it is necessary to combine these two variables. For example the chance of being young and being retired is very low while the chance of being old and retired is high. Estimating coefficients in a model which includes *age* and *employment status* as variables without taking this collinearity into account could lead to high standard errors and therefore to no significant effects of both variables (Busemeyer, Goerres and Weschle, 2009). For the combination of the two variables, I recoded the original continuous *age* variable as categorical. The new age variable contains three categories: *younger than 30*, *between 30 and 59* and *older than 60*. These age categories are taken from the study of Busemeyer, Goerres and Weschle (2009). The advantage of these categories is that in the last one also people are included which are close to the pensionable age because it can be assumed that these people have similar preferences than the retired ones because they are facing the same risks. The variable *employment status* is constrained on the categories *in education*, *employed*, *not employed* and *retired*. There are 12 possible mathematical combinations. However, results from cross tabulation of *age* and *employment status*¹, combinations which occur rarely are assigned meaningfully to other categories. In order to have less categories, the categories *in education* and *not employed* are merged. Furthermore, to see whether retired people differ in their preference from others the category *retired* contains all retired people regardless of their age. Finally, there are following six categories: *younger than 30 and working*, *younger than 30 and not working / in education*, *30-59 and working*, *older than 59 and working* and *retired*.

¹Due to page restrictions the cross-tabular is not included

Healthcare Preference	Age groups	Gender	Education	Social Status	Number of Children in Household
Min. :1.000	1 : 180	0 :13336	Min. :0.000	Min. : 1.000	Min. :0.000
1st Qu.:4.000	2 : 1390	1 :14683	1st Qu.:2.000	1st Qu.: 5.000	1st Qu.:0.000
Median :4.000	3 : 1832	NA's: 28	Median :3.000	Median : 6.000	Median :0.000
Mean :4.025	4 :13297		Mean :3.506	Mean : 5.549	Mean :0.409
3rd Qu.:5.000	5 : 12		3rd Qu.:5.000	3rd Qu.: 7.000	3rd Qu.:1.000
Max. :5.000	6 :10316		Max. :6.000	Max. :10.000	Max. :7.000
NA's :635	NA's: 1020		NA's :439	NA's :1307	NA's :2172

Table 1: Descriptive Statistics

In addition to the main independent variable, further control variables are included in the analysis which are standardly used in comparative welfare state research. Following ones are included: *education*, *gender* and *number of children living in the household of the respondent*. In addition, *income* is a relevant control variable. Unfortunately, the ISSP data offers no comparable income variable. Therefore, *social status* is used as a substitute. Obviously, this is not the same measurement and has a more serious problem with social desirability than income. The variable is coded as a one to ten scale. One identifies the lowest social status and ten the highest. While there is a on-going debate about the comparability of income and social status, some researcher state that the social status represents the income (Clark, 2008). However, an underestimation of poverty and an overestimation of wealth is very likely due to social desirability.

Table 1 shows descriptive statistics to each used variable. Overall, 28,047 individuals nested in 21 countries are included. Therefore, the numbers of NAs are seen as small for all variables. In case of the variable *Number of Children in Household*, there are 2172 NAs. In percentages, 7.7% are NAs which is acceptable.

Methods

The used data has a hierarchical structure because the individuals are nested in countries. Therefore, autocorrelation could be an issue because it can be assumed that the respondents of the same country have similar attitudes and compared to respondents of other countries different attitudes. To take this issue into account, I use linear regression models in which I can specify the clusters (*lm_robust* function in R). Furthermore, I use clustered robust standard errors. These are typically larger than normal standard errors which makes it more difficult to identify significant effects. Indeed, they enable unbiased inferences. Using the cluster algorithm of this function makes fixed effects redundant.²

The analysis is structured as follows: First, a descriptive analysis is used to compare the individual preference for healthcare spending between retired and non-retired respondents. To compute the differences, I calculated the proportion of retired which prefer higher spending and subtracted it from the proportion of retired which prefer less spending. Then, I did the same for the non-retired people. Finally, I calculated the difference between retired and non-retired. Second, the already described linear regression model will be presented which shows the average effect of the age groups on preference for healthcare spending considering all observed countries. Finally, I use a cleavage measurement technique to conduct a analysis of the magnitude

²This is only important for the regression analysis for the model which includes all countries (table 2)

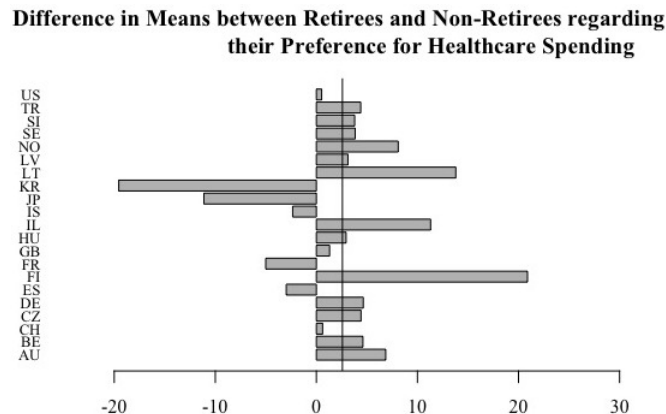


Figure 1: Difference in preference for healthcare spending between retired and non-retired

of the intensity of a potential age-cleavage. This is done through comparing the predicted values of the reference group (39-59 years old and working) and those of the retirees. Computing the absolute difference between both groups and setting this in relation to the reference group, enables the interpretation of the distance between the preference of both groups in percentage points. Therefore, the cleavage can have values from 0 to 1 where 0 means that there is no difference. In order to compare the cleavage of each observed country the basis of the calculation are 21 single country OLS regressions.

Results

Figure 1 shows a first descriptive analysis of the preference for healthcare spending of retirees and non-retirees. If the bars are in the positive area of the x-axis, it means that the retired have a stronger preference for healthcare spendings than the non-retired on average, vice versa. Also the figure enables comparing the different countries. The average difference is 2.58 percentage points (shown as vertical line). However, the average is low because of the heterogeneity of the countries. While in the majority of the countries the retirees have a stronger preference for healthcare spending than the non-retirees, countries like Spain, France, Iceland and especially Japan and South Korea retirees have a weaker preference than the non-retired. Nevertheless, overall this descriptive analysis gives a first evidence that the self-interest assumption which claims that the retired should have a stronger preference compared to non-retirees could be right. However, this analysis is just a descriptive one and shows only the differences in proportions and no correlation. Therefore, in the next step a multivariate linear regression analysis is presented.

Table 2 presents two models which both include effects of all 21 OECD-countries. As already mentioned, clustered robust standard errors are used to take the issue of autocorrelation into account. The first model in table 2 includes only the main independent variables which are the age groups. However, none of the coefficients are significant. Furthermore, the very low R^2 of 0.000478 indicates that this model explains the variance of the dependent variable badly. The second model includes relevant control variables. First, both variables *younger than 30 and working* and *Older than 59 and working* show a negative significant effect ($p < 0.1$). While the first effect is conform with the theoretical expectation, the second does not match the expectation.

	Model 1	Model 2
Intercept	4.13*** (0.08)	4.43*** (0.10)
Younger than 30 and working	-0.15 (0.08)	-0.19* (0.09)
Younger than 30 and not working / in education	-0.07 (0.07)	-0.10 (0.07)
30-59 and not working	-0.11 (0.07)	-0.13 (0.07)
Older than 59 and working	-0.13 (0.26)	-0.49* (0.20)
Retired	-0.10 (0.07)	-0.15 (0.08)
Gender (f)		0.10*** (0.02)
Social Status		-0.03 (0.01)
Education		-0.05*** (0.01)
Number of Children in Household		0.00 (0.01)
R ²	0.00	0.02
Adj. R ²	0.00	0.02
Num. obs.	26438	23641
RMSE	0.83	0.82
Clustered Standard Errors are used		
* (p<0.1) ** (p<0.05) *** (p<0.01)		

Table 2: Linear Regression Models

The younger than 30 and working have a 0.19 weaker preference than the reference group (30–59 and working). Even stronger is the effect of the *older than 59 and working* (-0.49). All other coefficients of the age groups are still not significant. A possible reason is on the one hand that the clustered robust standard errors are higher than normal SEs. On the other hand, as figure 1 shows, country differences could offset the effects. This means for the first hypothesis that it has to be rejected because *retired* has no significant effect and *older than 59 and working* has a negative coefficient.

Second, the coefficient of gender is significant on a 5% level. Women have a 0.10 stronger preference for healthcare spending than men on average. From a substantial perspective, the effect has to be considered with respect to the operationalization of the dependent variable which is a one to five scale. Therefore, the effect is not very strong. Furthermore, education is highly significant ($p < 0.01$). The coefficient is negative which implies that a higher educational level leads to a weaker preference for healthcare spending on average. This result is in line with the rational choice assumptions. Higher education means most of the time that the person has a higher income. A high income makes people more independent from the public health system. However, the variable *social status* is not significant. Probably, the social status is not a good substitute for income due to the reasons mentioned in the data section. Finally, the number of children living in the household of the respondents does not have a significant effect on the preference. This is not in line with the theoretical expectation. I assumed that having children increases the incentive to prefer higher health expenditures based on the high risk of safety hazard of children. Overall, the R^2 as well as the adjusted R^2 has increased on a level of 0.02 in the model 2. However, this very low R^2 implies that the model only explains 2% of the variance of the dependent variable.

Finally, a cleavage measurement technique is used to compare the different countries regard-

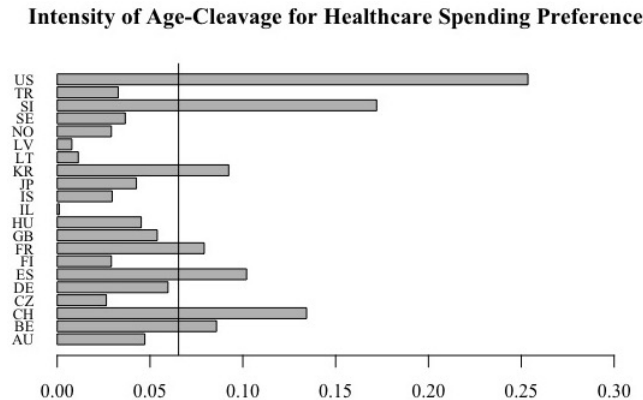


Figure 2: Intensity of Age-Cleavage for Healthcare Spending Preference.

ing the extent of the distance between the preferences of retirees and the 39-59 years old and working people (reference group from regression). Figure 2 shows the magnitude of the age-cleavage for each country. The longer the bar the stronger the age-cleavage in the respective countries. On average, there is a cleavage measured of approximately 6 percentage points (shown as vertical line). Therefore, the second hypothesis can be accepted because the average is below 10 percentage points. This is in line with the theoretical expectation that healthcare is a universal policy and not exclusively preferred by elderlies.

However, there are large country-related differences. For example, there is nearly no cleavage observable in the countries Israel, Latvia and Lithuania and very strong cleavages in South Korea (≈ 10 percentage points), Switzerland (≈ 14 percentage points), Slovenia (≈ 17 percentage points) and especially in the United States of America (≈ 26 percentage points). However, a limitation of this visualisation of the age-cleavage is that it does only illustrate the intensity of the age-cleavage and not the direction of it due to the calculation of the absolute difference between the preferences of both groups (Busemeyer, Goerres and Weschle, 2009). But the direction is shown in figure 1.

Conclusion and Discussion

This research paper has the aim to investigate whether there are age-related difference concerning preferences for healthcare spending. The theoretical framework based on rational choice assumptions claims that elderlies should have a higher incentive to prefer higher healthcare spendings than younger people due to their self-interest. While the descriptive analysis shows age-related differences, the regression analysis which contains all observed countries could not identify significant differences between retirees and middle-aged people. However, it was possible to show country differences in the magnitude of cleavage intensity. Some countries and especially the USA has a very strong age-cleavage. To conclude, there are age-related differences but in the case of the majority of the countries the intensity of the cleavage is rather marginal than high. Therefore, there is no evidence for a *coming war of generations*

This research should be seen as a first insight into preference formation and not as a fully specified analysis. Other relevant influences on the preference formation besides self-interest can

be values and norms. Furthermore, makrolevel variables should be considered for investigate healthcare spending preferences. Especially, the healthcare system of a country should be important to explain country differences in the intensity of age-cleavages. This should be — and has already by some studies — adressed in furhter investigations.

References

- Armington, K. 2006. *Reconciling competing claims of the welfare state clientele*. The Politics of Post- Industrial Welfare States London: Routledge.
- Blekesaune, M. and J. Quadagno. 2003. “Public Attitudes toward Welfare State Policies: a Comparative Analysis of 24 Nations.” *European Sociological Review* 19(5):415–427.
- Bonoli, G. and S. Häusermann. 2009. “Who wants what from the welfare state?” *European Societies* 11(2):211–232.
- Browning, E. K. 1975. “Why the social insurance budget is too large in a democracy.” *Economic Inquiry* 13(3):373–388.
- Bussemeyer, Marius R., Achim Goerres and Simon Weschle. 2009. “Attitudes towards redistributive spending in an era of demographic ageing: the rival pressures from age and income in 14 OEE countries.” *Journal of European Social Policy* 19(3):195–212.
- Campbell, A., P. E. Converse, W. E. Miller and D. E. Stokes. 1980. *The american voter*. Chicago: University of Chicago Press.
- Cattaneo, M. Alejandra and Stefan C. Wolter. 2009. “Are the elderly a threat to educational expenditures?” *European Journal of Political Economy* 25:225–236.
- Downs, A. 1957. *An economic theory of democracy*. New York: Harper.
- Esping-Andersen, G. 1999. *Politics without class? Postindustrial cleavages in Europe and America*. Continuity and Change in Contemporary Capitalism Cambridge: Cambridge University Press.
- Gelissen, J. 2000. “Popular Support for Institutionalized Solidarity: a Comparison between European Welfare States.” *Internationaljournal of Social Welfare* 9(4):285–300.
- Hess, Moritz, Elias Nauman and Leander Steinkopf. 2017. “Population Ageing, the Intergenerational Conflict, and Active Ageing Policies – a Multilevel Study of 27 European Countries.” *Population Ageing* 10(11-23).
- Lynch, Julia and Mikko Myrskylä. 2009. “Always the Third Rail? Pension Income and Policy Preferences in European Democracies.” *Comparative Political Studies* 42(8):1068–1097.
- Mehlkop, Guido and Robert Neumann. 2012. “Explaining preferences for redistribution: A unified framework to account for institutional approaches and economic self-interest for the case of monetary transfers for families and children.” *European Journal of Political Research* 51:350–381.

Persson, T. and G. Tabellini. 2000. *Political economics*. Cambridge: MIT Press.

Svallfors, S. 2003. "Welfare Regimes and Welfare Opinions: a Comparison of Eight Western Countries." *Social Indicators Research* 64(3):495–520.

Svallfors, S. 2004. "Class, Attitudes and the Welfare State: Sweden in Comparative Perspective." *Social Policy and Administration* 38(2):119–138.