

Tjalling C. Koopmans Research Institute

Tjalling C. Koopmans



Universiteit Utrecht

**Utrecht School
of Economics**

**Tjalling C. Koopmans Research Institute
Utrecht School of Economics
Utrecht University**

Vredenburg 138
3511 BG Utrecht
The Netherlands
telephone +31 30 253 9800
fax +31 30 253 7373
website www.koopmansinstitute.uu.nl

The Tjalling C. Koopmans Institute is the research institute and research school of Utrecht School of Economics. It was founded in 2003, and named after Professor Tjalling C. Koopmans, Dutch-born Nobel Prize laureate in economics of 1975.

In the discussion papers series the Koopmans Institute publishes results of ongoing research for early dissemination of research results, and to enhance discussion with colleagues.

Please send any comments and suggestions on the Koopmans institute, or this series to M.deSwart-Gijsbers@econ.uu.nl

ontwerp voorblad: WRIK Utrecht

How to reach the authors

Please direct all correspondence to the first author.

Bas van Groezen
Hannah Kiiver
Brigitte Unger
Utrecht University
Utrecht School of Economics
Vredenburg 138
3511 BG Utrecht
The Netherlands.
E-mail: B.vanGroezen@econ.uu.nl
H.Kiiver@econ.uu.nl
B.Unger@econ.uu.nl

This paper can be downloaded at: <http://www.koopmansinstitute.uu.nl>

Coordination of Pension Provision in a Divided Europe: The Role of Citizens' Preferences

Bas van Groezen^a
Hannah Kiiver^a
Brigitte Unger^a

^aUtrecht School of Economics
Utrecht University

September 2006

Abstract

This paper explores the underlying factors which explain the diversity in public opinion of EU citizens on the preferred way of financing pensions and the implications for international policy coordination. We find that preferences are mainly determined by the current pension provision and unspecified nation-specific effects, while personal characteristics only play a minor role. Furthermore, some countries have substantial regional differences, others have rather homogeneous regions. Overall, our results suggest that policy making on pension financing at the EU level is not feasible, the more so when taking regional differences into account. Policy coordination within several subgroups of countries whose citizens share similar opinions would be a more realistic option.

Keywords: international policy coordination, opinion, pensions

JEL classification: C25, F42, H55

1 Introduction

Pension reforms are high on the political agenda nowadays. In June 2000, member states of the European Union (EU) agreed to review social and economic policies that cater to current and upcoming social developments. One of the main topics was the future of pension systems. In December 2001, the EU's Council of Ministers adopted plans for the so-called open coordination of pension policies, which can be considered as a first step towards full coordination - and possibly harmonization - of (elements of) pension policies.

This need for a stronger coordination or harmonization of pension policies is increasingly acknowledged by economists for various reasons. Uebelmesser (2003), for instance, focuses on international labor mobility and argues that coordination of pension systems (i.e. measures which link national pension systems closer to one another) is sub-optimally low within the EU. Member States should concede more fundamental responsibilities to the EU in order to stimulate labor mobility between countries, which would result in a more efficient allocation of labor. However, she also admits that harmonization needed for efficiency does not necessarily correspond to what the majority of the Member States prefers most. Therefore, she does not consider it wishful to replace national pension systems by a uniform European system.

A similar case for a move toward a more coordinated pension system is made by Holzmann (2004), who proposes a harmonized, multi-pillar pension structure while allowing for country-specific preferences with regard to coverage and contribution rate.

Sinn (2003) is more concerned with the erosion of public pension systems through tax competition among countries than with labor mobility. If states start to compete with each other, then a supranational authority (the EU) is necessary to prevent a race to the bottom, or countries have to develop and agree on common rules of conduct.

Other arguments that have been put forward in favor of international coordination of pension policies focus on international capital mobility and concern the negative international spill-over effects of unfunded pension schemes

(see e.g. Pemberton, 1999, 2000).

Economists therefore favor a better coordination or harmonization of pension arrangements across EU Member States, be it for different reasons. But what is considered good from an economic viewpoint is not necessarily what people actually want. Office-seeking politicians will be tempted to conform to public opinion. If these opinions differ between countries, international coordination will be very difficult, if not impossible, despite the alleged welfare gains. There are countries where the overwhelming part of the population favors a certain type of pension scheme, whereas other countries have split ideas. In the latter case, it will be difficult to formulate a national standpoint and even more difficult to come to international agreement. Undoubtedly, this issue will be fortified with the enlargement of the EU.

In this paper we analyze whether coordination of pension policies in the EU as a whole is politically feasible and sensible, or whether it would be more feasible to focus on several subgroups of countries whose citizens share rather similar opinions. Our main focus will be the question how people think pensions should be financed (publicly, privately or through a collective occupational arrangement), and how differences in opinions on this matter can be explained by underlying characteristics. Using opinion poll data from Eurobarometer, we estimate a multinomial logit model in order to find out about the preference heterogeneity between and within countries. We distinguish three groups of potential determinants of people's preferences for the kind of pension provision. First, personal characteristics such as age, gender, marital status, income or education. Second, the status quo, i.e. the pension system as it is currently designed in the respective country. And third, the effect of national identity and region within the country.

We find that nationality is an important explanatory factor for the preferred way of financing pensions, in general more important than personal characteristics. The differences between countries are striking, even after accounting for status-quo effects: some have a very strong preference for publicly provided pensions, while others favor occupational schemes. Apart

from that, also the way pensions are currently provided are a major explaining factor for the preferred pension provision. Also within countries, the differences can be great, though not everywhere. Countries like France, Germany and Belgium are rather heterogeneous, whereas Spain, Finland and The Netherlands are quite homogeneous. Our main conclusion is therefore that international coordination of pension policies, however much grounded on economic arguments, will be very hard to achieve on the level of the EU. It would be more realistic to focus on subgroups of countries whose citizens share rather similar opinions.

The rest of the paper is organized as follows. Section 2 discusses some literature on opinions and preferences for a certain way of providing pensions. In Section 3, we describe our data set and model specification. The empirical results are presented in Section 4, followed by the conclusion.

2 Different preferences for pension provision

The kind of pension provision that people prefer (a public, occupational or private pension system) can vary for several reasons. Personal characteristics can play a role, but individuals can also be biased by the status quo of their own pension provision. Apart from that, they might be influenced by their national identity or the region in which they live. Of course, they can also misinterpret the opinion poll question we will use. The last three reasons will lead to preferences that are fairly homogeneous within countries, but heterogeneous between countries. The first reason (personal characteristics) would lead to rather heterogeneous preferences within countries, and a certain degree of homogeneity between countries.

When we talk about personal characteristics in this context, we are limited to what is observable and reported in our data set. In this case, we have information about gender, marital status, age, income, occupation and education. To our knowledge there exists no literature about the effects of these characteristics on pension preferences, except for age. In many models fol-

lowing the seminal paper by Browning (1975), age plays a role with respect to the preferred way of financing pensions, based on the individual's economic interest. A pay-as-you-go scheme (PAYGO) involves a direct transfer from the working young to the old, so the older a person is, the stronger his or her preference for this pension scheme. Young individuals usually experience a higher rate of return from a private or occupational funded scheme compared to unfunded PAYGO pensions. We would therefore expect to find that older individuals (all else equal) have a stronger preference for public pensions (which are mainly PAYGO financed), while younger individuals give preference to private or occupational arrangements. This would coincide with Gruber and Wise (2001), who find a strong positive relationship between the share of the elderly population and public spending on the elderly in OECD countries. Furthermore, the income distribution plays an important role, especially if the public pension system is redistributive by providing a (rather) flat benefit which is financed by income dependent contributions. Individuals with low income then prefer public pensions, while high-income people favor a system of private savings.

Of course, the preferences of citizens can only play a role in the implementation of a particular pension system in a democracy. Wang and Davis (2003) therefore focus on measures of economic and political freedom as a possible explanatory factor for the existence of different current types of pension schemes in many countries. Indeed, they find these variables to be of important influence. However, they do not analyze opinions of citizens and do not include personal characteristics.

Recently, several studies have analyzed the opinions of citizens on different aspects of the pension system. Boeri, Börsch-Supan and Tabellini (2002) used a survey carried out in Germany and Italy about the sustainability of the pension systems in these countries and possible reforms. Among other things, they find that most individuals prefer the status quo. Age, education and more general, the economic interests also appear significant determinants of people's preferences over policy options. This contrasts the results found by

Lynch (2006), who analyzed data from two cross-national European surveys which indicate that elderly Europeans who benefit most from the pension system are least likely to oppose lower levels of public pensions.

Previous studies therefore mainly focus on the status quo and private interests in explaining the preference for a particular pension scheme. We will also investigate this, but additionally pay special attention to the effect of nationality and regional differences within a country.

3 Data and model specification

Our data are taken from the EU's regular surveys about the opinion of citizens with regard to political, social and economic issues, which are published in the series Eurobarometer. We exploit a special survey (Eurobarometer 56.1) focusing on pension policy and pension reform. It was carried out in September and October 2001 in all the Member States of the European Union, resulting in a data set with over 12,000 observations. The question we will focus on is the following.

How do you think pensions should be provided?

1. Mainly by state or public pension schemes, financed from taxes and contributions;
2. mainly by occupational schemes, financed from employers' and their employees' contributions;
3. mainly by private arrangements between individuals and insurance companies, banks, etc.;
4. don't know.

Figure 1 presents for several countries the responses given to this question. The differences are striking. While more than 80 percent of the Spanish respondents prefers public pension provision, individuals in other countries like Germany, The

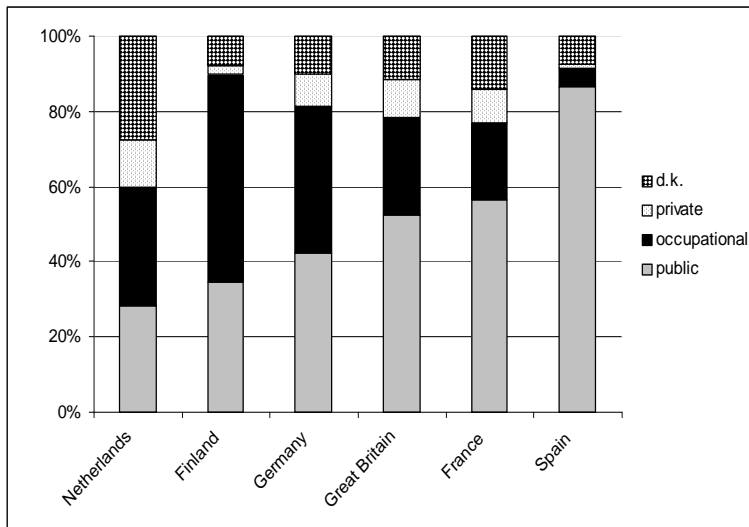


Figure 1: Stated preferred pension provision

Netherlands and especially Finland have a relatively strong preference for occupational schemes. If countries had the same distribution of personal characteristics like age, occupation and gender, we could conclude from these descriptive statistics that the different preferences are purely determined by nationality or reflect the status quo. However, when we have a closer look at the distribution of these characteristics (see Tables 3-7 in the Appendix), we see that the respondents in the various countries do in fact differ with respect to their level of education, occupation, marital status, and to some extent, their age. We therefore cannot rely on descriptive statistics, but rather have to run a regression that includes these variables.

Formally, each individual is given the choice between the four alternatives indexed $j = 1, 2, 3, 4$. If the utility level that individual i attaches to choice j is given by $U_{i,j}$, the alternative chosen will be the one for which the individual experiences the highest level of utility. In addition, we assume that $U_{i,j} = \mu_{i,j} + \varepsilon_{i,j}$, where $\mu_{i,j}$ is a function of observed characteristics and some unknown parameters. We can then write the probability that the choice by individual i (y_i) is alternative j as

$$P\{y_i = j\} = P\{\mu_{i,j} + \varepsilon_{i,j} > \mu_{i,k} + \varepsilon_{i,k}\}$$

where $k = 1, \dots, 4, k \neq j$. Assuming that all error terms $\varepsilon_{i,j}$ are independent from each other and identically distributed with Weibull distribution, we can evaluate the impact of personal characteristics as well as nationality on the probability that each of the four possible answers is given by running a multinomial logit regression.¹

4 Empirical findings

This section discusses the impact of the different characteristics on the preference for a certain pension provision. Since it is difficult to interpret the coefficients of a multinomial regression directly, we calculate the marginal effects at the mean. Because all variables are dummy variables, the effect is that of a switch of the value 0 to 1 on the probability that a certain answer is given. Table 8 (see Appendix) reports the regression results.

Intuition would suggest that women in general are more likely to prefer public pensions since they may profit less from occupational and private pension schemes if they do not work, e.g. because they have children. However, we control for the occupation of 'housekeeper', so this direct effect can be accounted for. For similar reasons we would expect married individuals in general to prefer public pensions: they may profit more from public pensions when they or their partner stay at home. The table shows that women, compared to men, have a 3 percent lower probability to answer that they think pensions should be mainly provided by an occupational scheme. They also have a weaker preference for private pensions than men, and they are significantly more likely to answer that they do not know, while married individuals are less likely to give that answer compared to non-married people. This may imply that women in general are less well informed about the implications of different pension systems for them and that married individuals are better informed than single individuals. This may be due to the responsibility they have for other members of the household. Finally, married individuals have a significantly stronger preference for occupational pensions than unmarried persons. We do not find evidence that gender or marital status influences the choice for a public pension scheme.

¹Subsection 4.2 discusses a modification of the assumption of uncorrelated error terms.

The impact of age for the preferred pension provision is particularly interesting due to the assumptions made in many political-economic models: in essence, they state that the young prefer private/funded pensions to PAYGO/unfunded systems, since the return to investing on the capital market is higher than the indirect return of a PAYGO scheme. The opposite holds for the middle-aged and especially the retired, who would favor an unfunded scheme. As was first argued by Browning (1975), the majority of voters in a democracy will vote for a public pension system (of a socially inefficient size) unless the population grows extremely fast. As the median voter is getting older in an aging society, this model predicts that pension reform (i.e. switching to a more funded scheme) will be more difficult (see e.g. Sinn and Uebelmesser, 2003). While the question in this data set does not specifically differentiate between funded and PAYGO pension systems, we know nevertheless that in Europe public pensions are generally PAYGO, while private pensions are by definition funded. We should thus find a preference for private pensions by the young and a dislike for public pensions, which gradually turns around if age increases. Table 8 shows that only for private pensions, there is some preference order by age. Those between 20 and 45 years old have a stronger preference for private pensions than those older than 55, although the youngest age group is more likely to choose 'don't know' than elderly individuals. This could indicate that the issue of pensions is still so distant that they are not well informed yet or genuinely do not care. In terms of the model assumptions mentioned before this could mean that the potential disinterest of young voters might tip the scale towards the older voters earlier than thought. Apart from these two observations, age (surprisingly) does not seem to play a very significant role for the preferred pension provision.

The education level is approximated by the years of education and divided into three classes: less than 15 years (edlev1), 15-20 years (edlev2), and more than 20 years of education. The base level chosen is the highest level of education.² In general we find that the lower educated a person is, the higher the probability that a public pension system is preferred and the lower the preference for occupational and private pension systems.

For the (household) income classes, the base category are the middle fifty per-

²People not falling in one of these categories are still in education. These are captured by the occ7 variable, which includes students.

cent of the income distribution in addition to all those who answered 'don't know' to question about their income (this base category was chosen due to a large don't know category). The variable *inc1* stands for the lowest income quartile, *inc4* for the highest. As can be seen from the table, income matters only for preferences regarding occupational and private pensions: individuals with an income in the highest quartile have a 3 percent higher probability to answer that they prefer an occupational pension scheme compared to people with lower incomes. They also have a stronger preference for a private pension scheme, whereas low income individuals dislike private pensions compared to the middle-income group. Furthermore, people with high incomes are also less likely to answer that they do not know, indicating that they are better informed about pension arrangements.

The base category for the set of occupation or labor market status dummies are the self-employed. We find that some of the working individuals who are not self-employed (*occ2*: managers and *occ3*: other white collar workers) actually prefer occupational pensions in comparison to self-employed and the other categories (*occ5*: house workers, *occ6*: unemployed, *occ7*: students), while all categories are opposed to private pensions in comparison with the self-employed. Doing the regression with manual workers (*occ4*) as base category shows that manual workers, house workers and unemployed have a significantly stronger preference for publicly provided pensions than self-employed, managers, other white collar workers and students. Furthermore, the preference for a privately provided pension scheme does not differ significantly between the occupations, except for the self-employed who have a very strong preference for this kind of pension provision.

4.1 The impact of nationality

Table 8 also reports the regression results for the nation dummies, which are also displayed in Figure 2. The reference country is Luxembourg, so the numbers in the table give the change of the probability that an individual in that country answers to prefer a certain pension scheme compared to someone from Luxembourg (*ceteris paribus*).

Compared to the personal characteristics, the impact of the nationality dummies is overall large, significant and diverse. This implies that many if not all countries differ from the base country, even after controlling for personal charac-

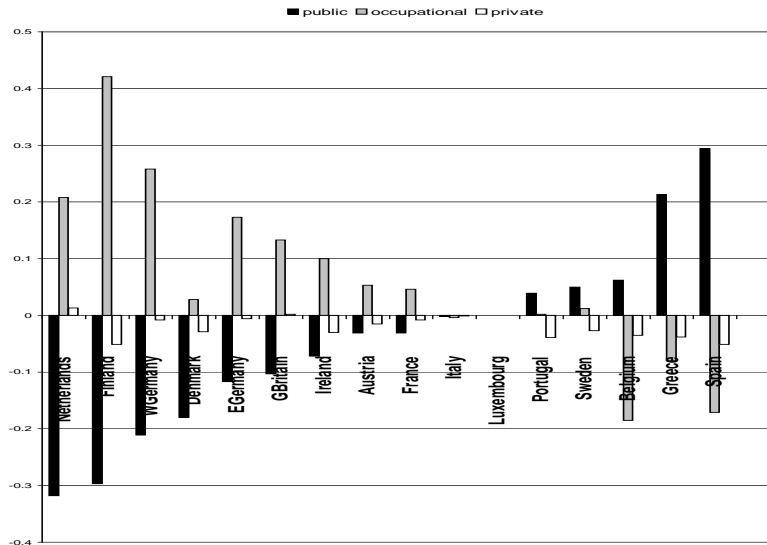


Figure 2: Nation dummy effects for different pension provision choices

teristics.

There is a wide variety of nationality effects with respect to the preference for a public and occupational pension scheme, but not concerning private pensions. People in The Netherlands, Finland and (West) Germany have a relatively strong preference for an occupational scheme, and compared to other countries do not prefer publicly provided pensions. The reverse holds for Belgium, Greece and Spain. Remarkably, the results for The Netherlands display a relatively large degree of undecidedness, and Italy and Luxembourg do not seem to differ significantly from each other.

We can thus not dismiss nation-specific effects for public opinion on pension provision. Based on these effects, we can make out the following categorization of countries whose citizens seem to share similar views:

- Denmark, Finland, Germany, The Netherlands;
- Great Britain, Ireland;
- Austria, France, Italy, Luxembourg, Portugal, Sweden;

- Belgium, Greece, Spain.

Note that this division is very rough, and only gives an indication of a possible grouping.

4.2 Correlated error terms

The assumption of independent error terms implies that once observed characteristics are accounted for, the utility levels associated with any of the different choices concerning the desired way of providing pensions are independent of each other. This *independence of irrelevant alternatives* means that the probability ratio of any two alternatives is determined irrespective of the quality of the other possible choices. This assumption may not be valid in our case. For example, we could imagine that individuals who experience a high level of utility for occupational pensions also experience a high level of utility for private pensions since they view both as different aspects of a funded pension system rather than a PAYGO system. In that case, we have to apply a (simulation based) multinomial probit model. The results of this regression do not differ much from those of the multinomial logit model with uncorrelated error terms.³ Some personal characteristics have become more significant with respect to the preference for a public scheme (notably the age variables with respect to the preference for a private provision). The impact and significance of the nation dummies does not change, except for those of Austria, France and Ireland, which are not or less significant. This holds for all four possible answers. This implies that nationality does not play a different role in these countries compared to the base country (Luxembourg). Remarkably, three of these countries were already classified in one group in the previous section, which confirms the grouping we made earlier.⁴ Furthermore, the majority of the nation dummies is of no significant influence on the choice for an occupational pension scheme any more.

³The results are available upon request.

⁴See also the figures in the Appendix.

4.3 Nation or status quo?

In addition to finding these large differences in nation dummy effects, we do not know in how far these results represent actual differences in preferences (influenced by the historical development as well as cultural differences etc.) or by the status quo, i.e. the pension system as it is now in a particular country. The latter effect would coincide with the results of Boeri, Börsch-Supan and Tabellini (2002), who find that the status quo is an important determinant in the formation of attitudes towards policy and policy reform in Germany and Italy. The results we find may thus be driven by currently existing pension arrangements. An additional point we might have to consider relates to the nature of the question: possibly, the question and answer possibilities have different connotations in different languages or actually have slightly different meanings in the light of different pension systems. One particular problem could arise due to the fact that public and occupational pensions may or may not rely on pure PAYGO financing; in the light of aging of the population, this could bias the results significantly.

To some extent, this issue can be tackled by including one or more proxy variables for the current pension system. Finding a significant effect of those variables would imply that individuals from countries with similar pension systems tend to choose similar options. If we find in addition that the coefficients of the nation dummies become insignificant, we can draw the conclusion that there is in fact an important status quo bias. To capture the status quo, we use the answers that non-pensioners gave to the question what will probably be their main source and second main source of income after retirement. Among possible answers to this question, most of the respondents answered positively to one of the following options:

1. Compulsory state or public pensions (old age or widow(er)'s);
2. Optional private pension scheme, through an employer;
3. Personal private pension scheme, not through an employer, and long term savings plan (life insurance etc.);
4. Returns from savings or other assets (shares, bonds, etc.);
5. Returns from real estate (e.g.: renting of apartment, etc.).

From these answers we created additional dummy variables, where the first possible answer reflects a public pension scheme ('s1pub' if it is the main source of income, 's2pub' if it is the second source), the second answer coincides with an occupational scheme ('s1occ' and 's2occ' respectively) and the last three are different forms of a private pension arrangement ('s1priv' and 's2priv').

Table 9 (in the Appendix) gives the results of the regression. We find strong significant effects of the status quo dummies: those who expect to have a compulsory state or public pension as first or second source of income, have a significantly higher probability to answer that they prefer public provision of pensions, whereas having another main (first) source of income negatively affects this probability. Likewise, people with a pension arrangement through an employer have a significantly stronger preference for an occupational pension scheme, and a privately arranged pension as first or second expected main source of income has a positive effect on preferring a private scheme. Furthermore, if people know what they expect their main source of pension income to be, they are less likely not to know what kind of pension provision they prefer most.

Although several nation dummy effects decrease in size, most nation dummies nevertheless remain significant. We can therefore conclude that the status quo does play an important role for the way people prefer pensions to be designed, but the nationality effects do not disappear. As for our grouping of countries, also that does not change, except for Austria and France, that would form a separate group.⁵

4.4 Heterogeneity within countries

For the question whether international coordination of pension financing is politically feasible, it is also important to see whether opinions within a country are divided. In a country where opinions are rather homogeneous, the formulation of a national standpoint will be much easier than in a split country. Apart from the data described above, we also know in which region of the country an individual lives. This can be important since regions can be very different with respect to e.g economic performance, age composition and cultural/linguistic aspects. We use the NUTS level 1 area break down, and replace the nation dummies by region

⁵See also the figures in the Appendix.

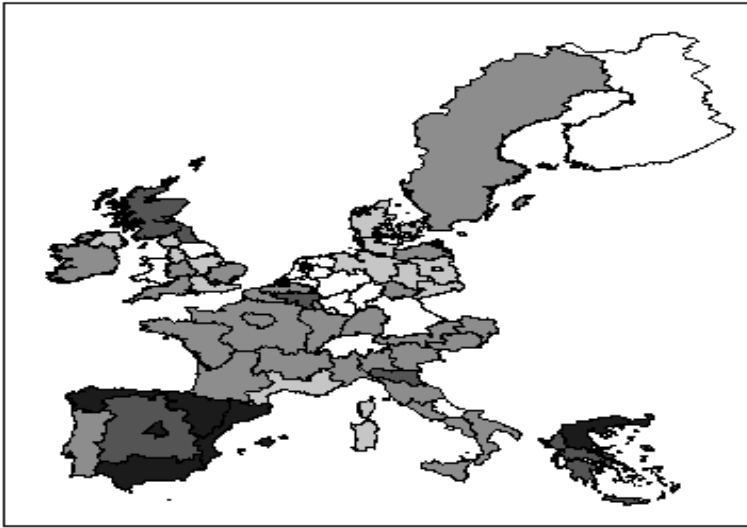


Figure 3: Regional preference for public pension provision. (Darker=stronger preference for public provision)

dummies. The results can be seen in Figures 3 and 4, where each region falls in one of five categories.

Figure 3 displays the size of the region dummies concerning the preference for publicly provided pensions (again with Luxembourg as the base region).⁶ The darker a region is colored, the stronger the preference for public provision. Spain, Greece, France, Austria and the Netherlands appear to be quite homogenous, whereas Germany and the United Kingdom are very divided.⁷ Similarly, Figure 4 gives the results with respect to the preference for an occupational pension scheme. Again, the regions in Spain are rather homogeneous, whereas all other countries are more divided for this type of pension scheme compared to public provision.⁸

We can therefore conclude that European nations not only differ among each

⁶Denmark, Finland, Ireland, Portugal and Sweden consist of only one NUTS1-region, so we cannot say something about regional differences in those countries. Note that Switzerland is not included in the questionnaire.

⁷All region dummies except for one in France, Germany and Italy are very significant. Adding the status quo proxies as discussed before only causes a few region dummies to become insignificant. The status quo effects are the same as before.

⁸The preferences for privately provided pensions are not included since our calculations show little regional differences for this type.

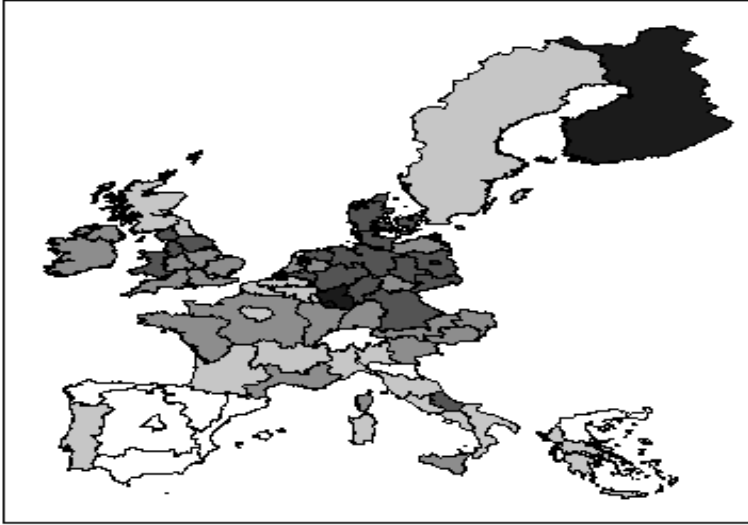


Figure 4: Region preference for occupational pension provision. (Darker=stronger preference for occupational provision)

other as for the most preferred type of pension provision, but also with respect to the extent that they are divided themselves.

5 Conclusion

The conclusion we can draw from our data analysis is that nationality plays a significant role in forming individuals' pension preferences, even after accounting for the pension system in place and a number of personal characteristics. Specifically, individuals from countries that now have a large share of public pension funding seem to form their opinion without being influenced by the status quo in the same way: the Greeks and Spaniards are forceful advocates of a public pension scheme, while Germans want quite the opposite, even though all three countries currently have similar shares of public pension financing. But countries also appear to be different in another aspect, viz. regional disagreement. For countries like the Netherlands and Spain, regional differences are not very important, whereas especially Germany and the United Kingdom are divided.

As for the international coordination of pension policies in Europe, we conclude that even though there is clearly an indication that opinion depends on factors like

education, income and other personal characteristics, the influence of nationality and region is quite strong. These results are especially serious when considering that pension coordination or harmonization on the EU level would have to be done via the Open Method of Coordination which requires unanimity on the side of the participating Member States.⁹ To make matters worse, EU institutions have no clear idea themselves on the pension model that Member States should try to adopt. Thus, instead of moving towards a given EU pension model and giving governments the possibility to blame Brussels for changes and reforms, each government has to formulate its own viewpoint and all governments together should then theoretically come up with a model that suits all EU members. Obviously, formulating a national viewpoint will by itself pose a challenge to those countries which are regionally divided in their opinion on the ideal pension system.

Harmonized or coordinated pension schemes are therefore difficult to achieve as long as opinions differ so much. It might be better to focus on coordination within several subgroups of countries where public opinion does not differ too strongly.

⁹The EU has no legislative power in pension policy.

References

- BOERI, T., A. BÖRSCH-SUPAN, AND G. TABELLINI (2002): “Pension reforms and the opinions of European citizens,” *American Economic Review - Papers and Proceedings*, 92(2), 396–401.
- BROWNING, E. (1975): “Why the social insurance budget is too large in a direct democracy,” *Economic Inquiry*, 13, 373–388.
- FELDSTEIN, M. (1996): “The missing piece in policy analysis: Social security reform,” *American Economic Review*, 86(2), 1–14.
- GRUBER, J., AND D. WISE (2001): “An international perspective on policies for an aging society,” *NBER Working Paper*, 8103.
- HOLZMANN, R. (2004): “Toward a reformed and coordinated pension system in Europe: Rationale and potential structure,” *World Bank Social Protection Discussion Paper*, 0407.
- KOTLIKOFF, L. (1996): “Privatising social security at home and abroad,” *American Economic Review*, 86(2), 368–372.
- LYNCH, J. (2006): “Pension inequality and pension policy preferences in Europe: Self-interest, policy feedbacks, or none of the above?,” *mimeo*, *University of Pennsylvania*.
- PEMBERTON, J. (1999): “Social security: National policies with international implications,” *Economic Journal*, 109, 492–508.
- (2000): “National and international privatisation of pensions,” *European Economic Review*, 44, 1873–1896.
- SINN, H. (2003): *The New Systems Competition*. Basil Blackwell: Oxford.
- SINN, H., AND S. UEBELMESSER (2003): “Pensions and the path to gerontocracy in Germany,” *European Journal of Political Economy*, 19, 153–158.
- UEBELMESSER, S. (2003): “Harmonisation of old-age security within the European Union,” *CESIfo Working Paper*, 1108.

WANG, L., AND O. DAVIS (2003): "Freedom and other variables in the choice of public pension systems," *Public Choice*, 114, 361–385.

Appendix

Table 1: Variable description and means

Variable	Description	Mean
ppublic	preference for public system	0.561
ppriv	preference for occupational system	0.067
pocc	preference for occupational system	0.243
pdk	don't know	0.129
female	individual is female	0.535
married	individual is married	0.491
edlev1	less than 15 years education	0.201
edlev2	15-20 years education	0.409
base	more than 20 years education	0.257
inc1	lowest quartile of income distribution	0.131
inc4	highest quartile of income distribution	0.204
base	middle half and no answers	0.665
age1	20-25 years old	0.203
age2	25-35 years old	0.229
age3	35-45 years old	0.231
age4	45-55 years old	0.197
base	older than 55 years	0.140
occ2	managers	0.110
occ3	other white collar	0.128
occ4	manual workers	0.292
occ5	homemakers	0.147
occ6	unemployed	0.088
occ7	students	0.133
base	self-employed	0.133
s1pub	1st main source of retirement income is public pension	0.576
s1occ	1st main source of retirement income is occupational pension	0.121
s1priv	1st main source of retirement income is private pension	0.123
s2pub	2nd main source of retirement income is public pension	0.115
s2occ	2nd main source of retirement income is occupational pension	0.113
s2priv	2nd main source of retirement income is private pension	0.300
nr. cases	21	12211

Table 2: Preferences per country

Country	Public	Occupational	Private	D.k.
Austria	0.570	0.206	0.077	0.146
Belgium	0.652	0.132	0.044	0.172
Denmark	0.425	0.463	0.062	0.050
East Germany	0.523	0.302	0.089	0.087
West Germany	0.424	0.389	0.088	0.100
Finland	0.344	0.556	0.021	0.079
France	0.566	0.204	0.089	0.141
Great Britain	0.524	0.262	0.100	0.114
Greece	0.815	0.104	0.043	0.038
Ireland	0.540	0.231	0.052	0.177
Italy	0.572	0.156	0.105	0.167
Luxembourg	0.583	0.170	0.102	0.146
Netherlands	0.284	0.315	0.124	0.277
Northern Ireland	0.536	0.318	0.050	0.095
Portugal	0.649	0.155	0.032	0.165
Spain	0.868	0.046	0.012	0.074
Sweden	0.651	0.186	0.055	0.109
Average	0.561	0.243	0.067	0.129

Table 3: Percentages of female respondents

Country	Female
Austria	0.542
Belgium	0.523
Denmark	0.494
East Germany	0.512
West Germany	0.503
Finland	0.573
France	0.521
Great Britain	0.547
Greece	0.525
Ireland	0.545
Italy	0.530
Luxembourg	0.535
Netherlands	0.547
Northern Ireland	0.582
Portugal	0.568
Spain	0.532
Sweden	0.528
Average	0.535

Table 4: Percentages with education levels

Country	Edlev1	Edlev2	Edlev3
Austria	0.222	0.486	0.150
Belgium	0.096	0.474	0.303
Denmark	0.075	0.199	0.590
East Germany	0.097	0.612	0.212
West Germany	0.198	0.510	0.205
Finland	0.132	0.308	0.375
France	0.067	0.448	0.354
Great Britain	0.206	0.579	0.128
Greece	0.367	0.303	0.233
Ireland	0.194	0.533	0.111
Italy	0.218	0.360	0.261
Luxembourg	0.184	0.373	0.323
Netherlands	0.108	0.423	0.334
Northern Ireland	0.177	0.586	0.141
Portugal	0.583	0.213	0.071
Spain	0.326	0.326	0.175
Sweden	0.112	0.341	0.383
Average	0.201	0.409	0.257

Table 5: Percentages in income classes

Country	Inc1	Inc2-3	Inc4
Austria	0.060	0.625	0.315
Belgium	0.120	0.715	0.165
Denmark	0.073	0.393	0.533
East Germany	0.221	0.597	0.183
West Germany	0.174	0.635	0.191
Finland	0.140	0.716	0.144
France	0.191	0.558	0.250
Great Britain	0.079	0.745	0.175
Greece	0.075	0.699	0.226
Ireland	0.050	0.819	0.131
Italy	0.123	0.733	0.144
Luxembourg	0.150	0.663	0.188
Netherlands	0.164	0.652	0.184
Northern Ireland	0.091	0.695	0.214
Portugal	0.177	0.741	0.082
Spain	0.101	0.647	0.252
Sweden	0.225	0.662	0.113
Average	0.131	0.665	0.204

Table 6: Percentages in age classes

Country	20-25	25-35	35-45	45-55	55+
Austria	0.230	0.245	0.234	0.196	0.095
Belgium	0.202	0.231	0.242	0.210	0.115
Denmark	0.163	0.227	0.234	0.235	0.140
East Germany	0.167	0.208	0.296	0.221	0.109
West Germany	0.139	0.255	0.248	0.223	0.134
Finland	0.231	0.212	0.203	0.211	0.144
France	0.211	0.271	0.248	0.193	0.078
Great Britain	0.230	0.267	0.203	0.194	0.106
Greece	0.208	0.229	0.2556	0.203	0.104
Ireland	0.253	0.222	0.195	0.156	0.174
Italy	0.198	0.275	0.229	0.181	0.117
Luxembourg	0.164	0.210	0.250	0.188	0.190
Netherlands	0.177	0.211	0.250	0.181	0.182
Northern Ireland	0.255	0.232	0.232	0.182	0.100
Portugal	0.204	0.170	0.205	0.192	0.229
Spain	0.255	0.245	0.189	0.152	0.160
Sweden	0.171	0.187	0.240	0.233	0.169
Average	0.203	0.229	0.231	0.197	0.140

Table 7: Percentages with occupations

Country	Occ1	Occ2	Occ3	Occ4	Occ5	Occ6	Occ7
Austria	0.067	0.162	0.114	0.281	0.151	0.084	0.141
Belgium	0.092	0.056	0.175	0.325	0.130	0.096	0.126
Denmark	0.048	0.202	0.120	0.382	0.017	0.094	0.137
East Germany	0.086	0.100	0.122	0.376	0.032	0.206	0.078
West Germany	0.085	0.151	0.137	0.360	0.109	0.070	0.088
Finland	0.109	0.149	0.092	0.291	0.076	0.097	0.186
France	0.054	0.093	0.200	0.300	0.134	0.088	0.131
Great Britain	0.068	0.095	0.121	0.355	0.163	0.111	0.087
Greece	0.201	0.064	0.100	0.181	0.253	0.104	0.097
Ireland	0.110	0.083	0.087	0.255	0.238	0.066	0.161
Italy	0.174	0.095	0.188	0.169	0.127	0.087	0.160
Luxembourg	0.076	0.166	0.108	0.275	0.234	0.020	0.121
Netherlands	0.087	0.090	0.167	0.211	0.285	0.026	0.134
Northern Ireland	0.073	0.086	0.136	0.323	0.168	0.118	0.096
Portugal	0.177	0.064	0.092	0.295	0.167	0.072	0.133
Spain	0.108	0.069	0.070	0.274	0.196	0.109	0.174
Sweden	0.078	0.165	0.160	0.352	0.016	0.065	0.164
Average	0.101	0.110	0.128	0.292	0.147	0.088	0.134

Table 8: Results of multinomial logit regression (marginal effects at the mean)

Variable	Public	Occupational	Private	D.k.
female	0.012	-0.030**	-0.012*	0.030**
married	-0.020†	0.039**	0.004	-0.023**
age1	-0.042*	-0.039*	0.024*	0.057**
age2	0.001	-0.027	0.022*	0.004
age3	0.033*	-0.038*	0.018**	-0.013
age4	0.020	-0.017	0.006	-0.009
edlev1	0.051*	-0.039*	-0.030**	0.017*
edlev2	0.044*	-0.030*	-0.015*	0.001
inc1	0.020	-0.003	-0.017**	0.000
inc4	-0.012	0.030**	0.015**	-0.032**
occ2	-0.042†	0.090**	-0.032**	-0.015
occ3	-0.015	0.079**	-0.041**	-0.023†
occ4	0.036†	0.041	-0.048**	-0.030*
occ5	0.033	-0.005	-0.036**	0.008
occ6	0.049†	-0.011	-0.042**	0.004
occ7	-0.045	0.030	-0.038**	0.052*
Austria	-0.031**	0.053**	-0.015**	-0.007*
Belgium	0.062**	-0.185**	-0.035**	0.018**
Denmark	-0.180**	0.028	-0.029**	-0.080**
East Germany	-0.117**	0.173**	-0.006**	-0.050**
West Germany	-0.211**	0.258**	-0.008**	-0.039**
Finland	-0.297**	0.421**	-0.051**	-0.072**
France	-0.031**	0.046**	-0.008**	-0.008**
Great Britain	-0.103**	0.133**	0.002	-0.033**
Greece	0.213**	-0.080**	-0.038**	-0.095**
Ireland	-0.072**	0.100**	-0.030**	0.002
Italy	-0.002	-0.004	-0.001	0.007**
Netherlands	-0.318**	0.208**	0.013**	0.096**
Northern Ireland	-0.111**	0.193**	-0.030**	-0.052**
Portugal	0.039**	0.002	-0.039**	-0.002
Spain	0.294**	-0.171**	-0.051**	-0.066**
Sweden	0.050**	0.012**	-0.027**	-0.035**

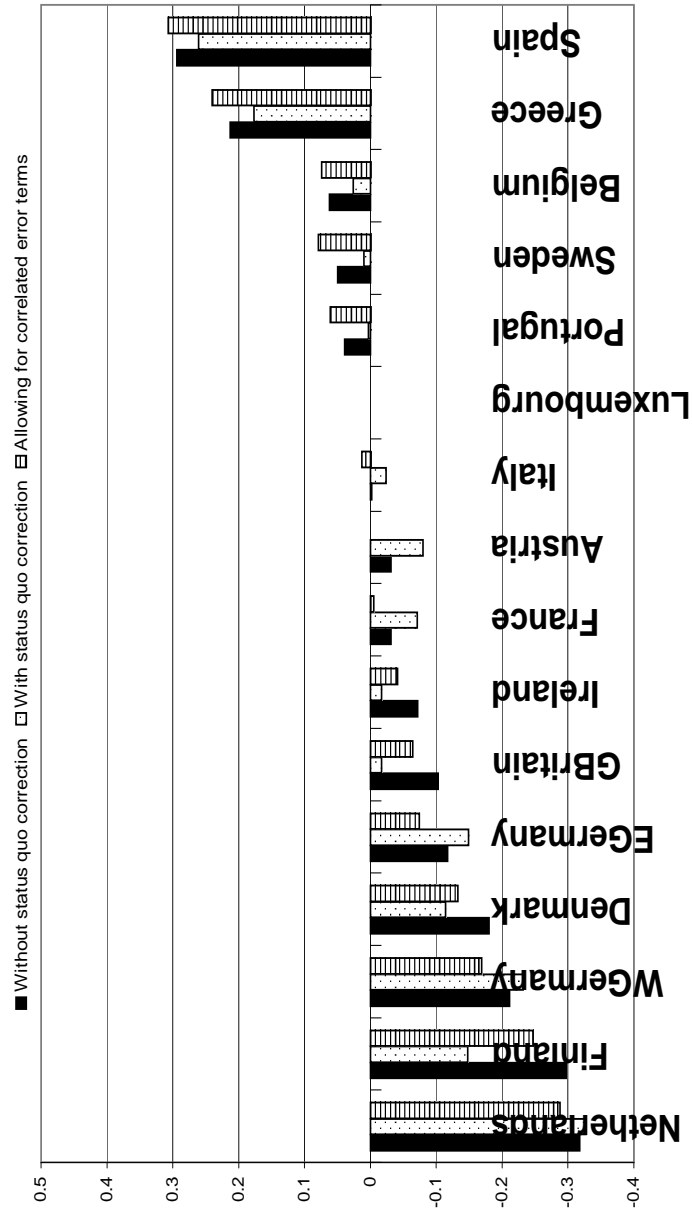
Significance levels †: 10% *: 5% **: 1%

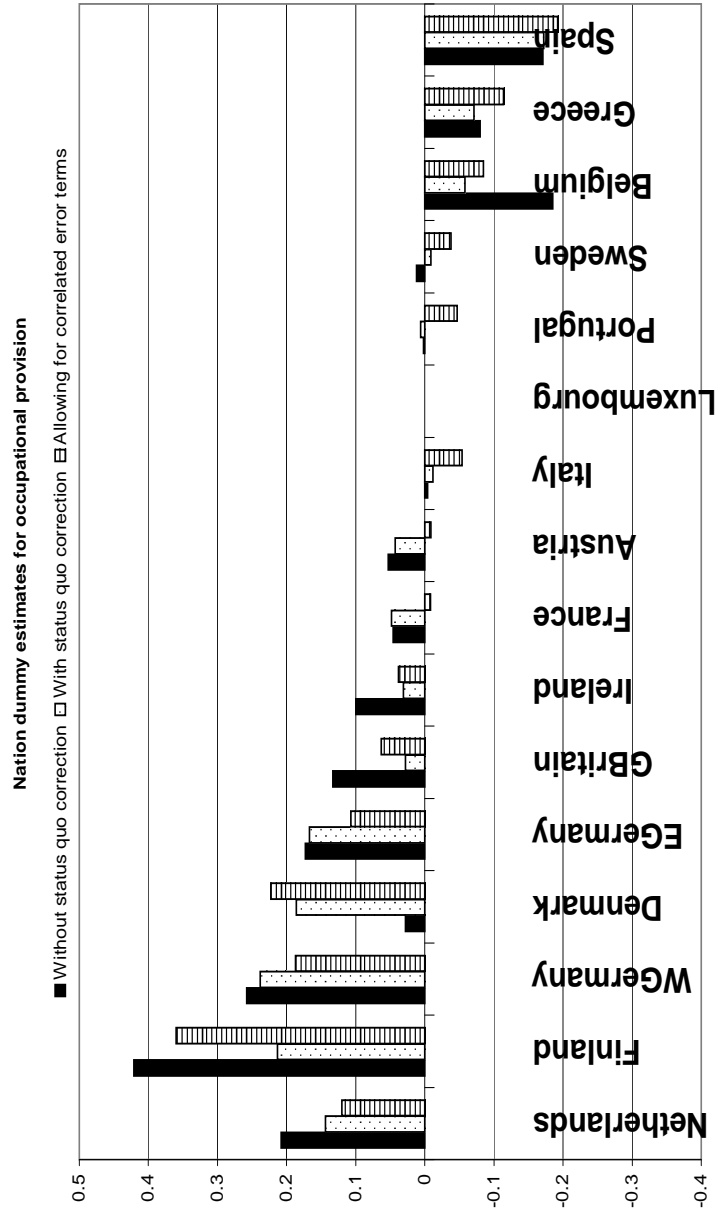
Table 9: Regression results including status quo (marginal effects at the mean)

Variable	Public	Occupational	Private	D.k.
female	0.008	-0.025*	-0.009 [†]	0.026**
married	-0.026*	0.036**	0.005	-0.015 [†]
age1	-0.016	-0.044*	0.015	0.045*
age2	0.018	-0.037*	0.012	0.007
age3	0.036*	-0.044**	0.013*	-0.005
age4	0.013	-0.020	0.005	0.003
edlev1	0.032	-0.023	-0.022**	0.012
edlev2	0.032 [†]	-0.021 [†]	-0.010	0.000
inc1	0.010	0.002	-0.013**	0.001
inc4	0.000	0.016	0.008 [†]	-0.023**
occ2	-0.046 [†]	0.075*	-0.021**	-0.008
occ3	-0.025	0.072**	-0.029**	-0.018
occ4	0.014	0.045 [†]	-0.030**	-0.029*
occ5	0.042 [†]	0.005	-0.026**	-0.021
occ6	0.033	0.011	-0.028**	-0.015
occ7	-0.028	0.042	-0.024**	0.011
s1pub	0.196**	-0.052**	-0.041**	-0.103**
s1occ	-0.141**	0.222**	-0.015	-0.067**
s1priv	-0.059*	0.069**	0.038**	-0.048**
s2pub	0.062**	-0.007	0.010	-0.065**
s2occ	-0.026	0.052**	0.030**	-0.056**
s2priv	-0.014	0.028	0.039**	-0.053**
Austria	-0.080**	0.043**	-0.019**	0.056**
Belgium	0.026**	-0.058**	-0.033**	0.065**
Denmark	-0.114**	0.186**	-0.034**	-0.038**
East Germany	-0.149**	0.167**	-0.016**	-0.002
West Germany	-0.232**	0.238**	-0.020**	0.013**
Finland	-0.148**	0.213**	-0.047**	-0.018**
France	-0.071**	0.048**	-0.006**	0.029**
Great Britain	-0.017	0.028*	-0.014**	0.003
Greece	0.177**	-0.071**	-0.030**	-0.077**
Ireland	-0.017 [†]	0.031**	-0.037**	0.023**
Italy	-0.024**	-0.012*	-0.003	0.039**
Netherlands	-0.327**	0.144**	-0.005*	0.188**
Northern Ireland	-0.037*	0.073**	-0.035**	-0.001
Portugal	0.003	0.006	-0.034**	0.025**
Spain	0.261**	-0.172**	-0.053**	-0.035**
Sweden	0.010	-0.009	-0.030**	0.030**

Significance levels †: 10% *: 5% **: 1%

Nation dummy estimates for public provision





Nation dummy estimates for private provision

