WORKING PAPERS

Are Public Sector Workers Different? Cross-European Evidence from Elderly Workers and Retirees

Mirco Tonin
Michael Vlassopoulos

Are Public Sector Workers Different?
Cross-European Evidence from Elderly Workers and Retirees

Abstract

We investigate whether public and private sector employees differ in terms of public service motivation using a representative sample of elderly workers from 12 European countries. We find that public sector workers, both those currently employed and those already retired, are significantly more prosocial; however, the difference in prosociality is explained by differences in the composition of the workforce across the two sectors, in terms of (former) workers' education and occupation. We also investigate other dimensions and find no differences in terms of trust, while there is evidence of some differences in risk aversion, political preferences, life and job satisfaction.

Mirco Tonin
Economics Department
Social Sciences
University of Southampton
United Kingdom – Southampton SO17 1BJ
m.tonin@soton.ac.uk

Michael Vlassopoulos
Economics Department
Social Sciences
University of Southampton
United Kingdom – Southampton SO17 1BJ
m.vlassopoulos@soton.ac.uk

November 2014

"Wall Street may be losing its luster for new U.S. college graduates who are increasingly looking to the government for jobs that enrich their social conscience, if not their wallet."

— Wendell Marsh, Reuters, 11/06/2009.

1 Introduction

In most countries the public sector is a key economic actor, providing a wide range of goods and services, regulating the economic activities of firms and households, redistributing large shares of national income through the tax and benefit system. To execute all these functions, the public sector employs a large fraction of the labor force: on average government employment represents 15% of the labor force across the OECD, with compensation of government employees reaching 11% of GDP (OECD, 2011). Employees in the public sector operate in an environment where agency problems are arguably more severe than in the private sector (Dixit, 2002; Besley and Ghatak, 2003), due, for instance, to the multiplicity of objectives and principals characterising public sector organizations and the difficulty in measuring output, which can give rise to phenomena such as corruption (Svensson, 2005), regulatory capture (Dal Bo, 2006), and waste (Bandiera et al., 2009). For these reasons, and given the importance of the tasks carried out in the public sector (e.g. education, health care, law enforcement), understanding what are the characteristics of public sector employees is of primary importance. In particular, whether or not public sector workers are intrinsically motivated to carry out their job in order to serve the public interest, i.e. they have public service motivation, is important, for instance, for the design of remuneration policies (Besley and Ghatak, 2005; Delfgauuw and Dur, 2008; Dal Bo et al., 2013) and the outsourcing of public service provision to for-profit firms (Francois, 2000; Francois and Vlassopoulos, 2008).[1] The issue of selection of workers into the public sector has also recently received a lot of attention in the development literature (Dal Bo et al., 2013; Hanna and Wang, 2013; Banuri and Keefer, 2013; Lagarde and Blaauw, 2013; Ashraf et al., 2014).

In this paper, we assess whether the public sector is effective in attracting a particularly motivated workforce, by comparing private and public sector workers, current and retired, along one aspect of prosocial behavior, namely, volunteering.[2] We draw data from the Survey of Health, Ageing and Retirement in Europe (SHARE), a representative cross-national survey of more than 85,000 individuals from 19 European countries aged 50 or over, with detailed information about health, socio-economic status and social and family networks. An important advantage of this dataset is that it allows us to compare not only current public and private sector employees, but also retired

---

[1] For a survey of the extensive public administration literature on public service motivation, see Perry et al. (2010).

[2] This methodology has been used extensively in the literature that we review in the next section, using measures like unpaid overtime, charitable donations, volunteering, blood donations, or participation in nonpolitical civic affairs.

workers from the two sectors. Moreover, we are able to follow a subsample of individuals who transition from employment into retirement and thus track how their behavior develops.

Looking at elderly workers, beyond being interesting in its own right because of ageing, is advantageous because the early years of someone's career may not be very revealing in terms of tastes, as one may engage in "job hopping", in search of a good match (Jovanovic, 1979). This problem is exacerbated by the fact that "queuing" for public sector jobs is common in many countries. Considering the latter part of one's career provides a better indication of preferences and, as the average job tenure in our sample of current employees is 21 years (while retirees have spent on average 25 years in their last job), we capture a sizeable part of the working life.

We complement the analysis that is based on elderly current workers with that from individuals who have retired from a job in the public or the private sector. This allows us to overcome two potential limitations associated with drawing inferences from samples of current workers, as the existing literature has done. The first is that the working environment is likely to be different between the private and public sectors in terms of working hours, job security, career incentives, required effort and so on, and it is difficult to control for all these differences. Thus, differences between current public and private sector employees may be due to (uncontrolled for) differences in the working environment rather than to differences in motivation. This is not an issue for retirees. The second limitation of comparing only current employees is that marginal and overall motivation may differ. Finding that, for instance, plumbers donate to charity more than nurses would indicate that their prosocial motivation is higher on the margin, but we could not infer how they compare in terms of overall motivation. Nurses may donate less because they have the opportunity to behave altruistically on the job and thus may feel less inclined to do it off the job. Of course, considerations about past contributions to society may play a role in the decision on whether or not to behave prosocially when retired, but we expect these to be of second order importance compared to contemporaneous events. A drawback in using elderly and retired workers is that we cannot trace how public service motivation evolves over the career of individuals. We discuss this limitation in the conclusions, but we believe that looking at this population of elderly and retired workers allows us to push forward our understanding of the characteristics of the public sector workforce.

What we find is that public sector workers are more prosocially inclined as they are more likely to volunteer compared to private sector workers. In particular, working in the public sector increases the probability of volunteering by 3 percentage points, compared to an average propensity to volunteer of 16%. We also find that this difference in prosocial attitudes is mostly due to the composition of the public sector workforce. Indeed, once we control for factors like education and profession, there is no significant difference in the prosocial behavior of public and private sector

employees. The results are similar when looking at retirees. In that sample, the unconditional difference is higher, 6%, but is considerably reduced and becomes insignificant after controlling for personal characteristics. The longitudinal analysis, where we can control for individual fixed effects, reveals a positive shift in volunteering after retirement, but no differential shift depending on the sector of employment. This suggests that the two biases discussed above are either small or cancel each other out.

Thus, overall our results indicate that public sector workers are on average more prosocial than private sector workers, but this is mostly because they are on average more educated and less likely to perform menial tasks, factors that are positively correlated with prosociality. In other words, our results suggest that it is the structural difference of jobs in the public and private sector that explains the different prosocial attitudes of workers in the two sectors, while we do not find evidence of public service motivation that is specific to the public sector as a whole.

When we perform subgroup analysis on the more numerous sample of retirees, we find that, while public sector workers in education display significantly more prosocial motivation than comparable workers in the private sector, this is not the case for workers in health and social care, public administration and the rest of the public sector. When we narrow the comparison within broadly defined occupational groups, we do not find differences across the two sectors. For instance, we find that private and public sector managers and professionals are indistinguishable in terms of their prosocial motivation. Finally, the pattern of findings regarding the public-private difference in prosociality outlined above - a significant premium in public sector in raw comparisons that vanishes when controlling for individual characteristics - is robust to considering different cohorts of retirees or different countries separately.

Besides prosocial motivation, we also investigate whether employees in the public and private sectors differ along other dimensions, such as, risk attitudes, political views, trust, and life satisfaction. Again, looking only at current employees, as the literature has done so far, may be problematic because of differences in working conditions, while adding retirees to the analysis allows us to overcome this potential drawback. We find no difference in terms of trust between public and private (former) employees, while there is some evidence of public sector employees being more risk averse, more left leaning in terms of their political preferences and more satisfied with their job and life.

The rest of the paper is organized as follows. The next section discusses more in detail the relevant literature. Section 3 introduces the data, describes and provides summary statistics of the main variables. Section 4 presents the main results on differences in prosocial motivation. Section 5 conducts some subgroup analysis by industry, occupation, age group and country. Section 6 looks at differences in risk, trust, political views and life satisfaction, while the last section concludes.

4

2 Related Literature

Here, we briefly review the empirical literature concerning differences between public and private sector employees in terms of prosocial motivation, risk attitudes, and other characteristics.[3] In the conclusions, we compare these findings to our results.

Starting with studies that infer prosocial motivation from reported actions, Gregg et al. (2011) use the British Household Panel Survey and focus on individuals working in health, education and social care industries. They find that employees in the non-profit sector are significantly more likely to do unpaid overtime than those in the for-profit sector; looking at the behavior of people who switch sectors, they find some supporting evidence that this is due to self-selection rather than to different institutional norms in the two sectors. There is also a literature in political science and public administration that explores empirically the issue of public sector motivation. Rotolo and Wilson (2006) and Lee (2012) use the Current Population Survey and find that public-sector workers are more likely to volunteer than private-sector ones. Brewer (2003) uses the American National Election Study and finds that government employees are more likely to participate in nonpolitical civic organizations and are more trustful than other citizens. Houston (2006) uses the General Social Survey and finds that public employees are more likely to volunteer and donate blood than private sector employees.

The study by Buurman et al. (2012) exploits a survey that took place in the Netherlands offering as a reward for completion a gift certificate, a lottery ticket, or a charitable donation. They look at whether public or private sector employees differ in their choices. What they find is that public sector employees are significantly less likely to choose the lottery. Moreover, public sector workers are more likely to choose the charity only at the start of their career, while, as tenure increases, the difference disappears and even reverses. By looking at whether people feel underpaid in their job, they also find some indication that public sector employees might not donate to the charity because they feel they have already contributed to society at work.

There are also several studies looking at reported motivations. Dur and Zoutenbier (2014) and Cowley and Smith (2014) use data from the World Values Survey to explore the importance of public sector mission in attracting motivated workers. The first paper finds an increase in the likelihood of working in the public sector for those workers who have both high altruism and confidence in political parties. The second paper finds that public sector workers exhibit higher intrinsic motivation in many countries and that the likelihood of intrinsically motivated workers to work in the public sector is negatively affected by corruption, with the effects being stronger for younger workers. Dur and Zoutenbier (2012) and Dohmen and Falk (2010) use data from the

---

[3]For an early contributions on the different personal characteristics between employees in the public versus the private sector see Blank (1985).

German Socio-Economic Panel Study. The first paper finds evidence of public sector workers being more altruistic (and lazy) than similar private sector employees, with the difference in altruism due to employees in caring industries and the difference in laziness due to workers with long experience, while the difference in altruism is not affected by experience. They also find that more risk averse workers are more likely to work in the public sector. The second paper focuses on teachers and finds that they are more risk averse, trust more and are less negatively reciprocal than employees in other professions.

Recently, a series of papers in the development literature have looked at the issue of worker selection into the public sector. Dal Bo et al. (2013) use a field experiment in Mexico and find, among other things, that offering higher salaries at the recruitment stage attracts candidates with stronger public service motivation. Ashraf et al. (2014) set up a field experiment in Zambia and find that stressing the social dimension, rather than career perspectives, of public sector jobs does not affect the motivation of candidates. Hanna and Wang (2013) show evidence of negative selection into the public sector in India, with students more likely to cheat during a laboratory experiment also more likely to express a preference for a government job. Banuri and Keefer (2013), on the other hand, find evidence of positive selection into public service in Indonesia. Lastly, Lagarde and Blaauw (2013) report that nursing students in South Africa that displayed generous behavior in a dictator game with patient recipients, were more likely to then take up positions in rural areas, which are considered to be less desirable for health workers but more beneficial to the beneficiaries.

Finally, looking at senior citizens has been instrumental in addressing various important issues in economics. The SHARE dataset has been used, for instance, to look at portfolio choices (Christelis et al., 2010; Christelis et al., 2013), the effect of retirement on cognitive abilities (Rohwedder and Willis, 2010; Mazzonna and Peracchi, 2012), the effects of education on the distribution of earnings (Brunello et al., 2009), the long term economic and health outcomes of exposure to war (Kesternich et al., 2012), the prevalence of informal caregiving to elderly parents (Crespo and Mira, 2012) and the dynamics of homeownership (Angelini et al., 2014). There have also been studies, mostly in gerontology, describing the patterns of volunteering (see Hank and Erlinghagen, 2010, for a review) or other outcomes among elderly people. To the best of our knowledge, this is, however, the first study looking at senior citizens, both working and retired, to uncover differences between the workforces in the public and private sectors.

3 Data

3.1 The Survey and Samples

We use data from waves 1 (2004), 2 (2006) and 4 (2011) of the Survey of Health, Ageing and Retirement in Europe (SHARE), which collects data on health, socio-economic status, social support and networks of a representative sample of individuals aged 50 and above from 19 European countries (plus Israel). Extensive documentation about the survey can be found at http://www.share-project.org/.[4] We focus on 12 Western European countries (Austria, Germany, Sweden, Netherlands, Spain, Italy, France, Denmark, Greece, Switzerland, Belgium, Portugal).[5]

We form two main samples: one of current employees, and one of former employees who are currently retired. In both cases we restrict attention to individuals aged between 50 and 80, who were born in the country they are interviewed and exclude the self-employed. This leaves us with 12,165 observations for current employees and 19,486 observations for retirees, for which we have information for the control variables as well. In SHARE some people are interviewed in multiple waves, but in creating the two main samples, we use just one observation per individual. For the employees sample we select the one corresponding to the last occasion in which we observe the individual as an employee, while for the retirees sample, we select the first occasion in which we observe the individual as a retiree. Finally, we also construct a longitudinal sample consisting of the 1,800 individuals that we observe both as employees and as retirees. These individuals are in both the main samples.

3.2 Key Variables

The key variable we use in our empirical analysis is sector of employment. This allows us to distinguish between private and public sector (former) employees. For the retirees sample, we derive the variable from the following two questions in the survey:

1. *"We are now going to talk about the last job you had. In this job were you an employee or*

---

[5]We exclude five Eastern European countries, for which the role of the public sector during socialism was very different from Western Europe. We also exclude Israel and Ireland, both of which have a very small sample size.

self-employed?" (Employee/ Civil servant/ Self-employed)

2. *(If Employee) "In this job were you employed in the public sector?" (Yes/No)*

For the employee sample, the questions are similar but referring to the current main job. We classify as public sector employees those answering "Civil servant" to the first question or "Employee" to the first question and "Yes" to the second question, and as private sector employees those answering "No" to the second question. We do not know in which sector individuals in our sample started their career or whether they have switched sector during their working life. Nonetheless, as mentioned in the introduction, it may be preferable to consider the latter part of someone's working life and in our sample, on average, employees have spent 21 years in their current job and retirees 25 years in their last job.

Our main outcome variable is prosociality. We classify as being prosocial those answering positively to a question on whether they had done voluntary or charity work in the last month.[6]

We also use information about other variables that may influence the likelihood of engaging in voluntary work like gender, marital status, age, education, health status, settlement type, household income, occupation, and participation to a sport, social or other kind of club.[7] For current employees, we also use information on characteristics of their working life that may have an impact on the propensity to volunteer, like the hours worked per week, whether they experience time pressure due to heavy workload, and whether they consider their salary adequate.

The other outcome variables we consider are:

- *Risk Attitudes*: based on a question about the willingness to take financial risk;

- *Political Views*: based on a question on the position in the left-right spectrum;

- *Trust*: based on a question on whether most people can be trusted;

- *Life (Job) Satisfaction*: based on a question on how satisfied with life (job);

The exact questions behind these variables are provided in the Appendix.

3.3   Descriptive Statistics

Table 1 provides descriptive statistics on the size of the two samples in each country, ranging from 290 to 1551 individuals for employees, and from 689 to 2814 for retirees, and the proportion of

---

[6]In wave 4 this question refers to the previous year.

[7]There is a significant number of individuals with missing values for the categorical variable on settlement type. So as not to drop these individuals from the analysis, we assign them to a separate category, "missing".

each country, after applying survey weights. There is also information on the size of the public sector in terms of employment and the prevalence of prosocial motivation, separately for each of the 12 countries in our sample. The public sector is substantial in size in the sample, averaging 38% in the employees sample and 34% in the retirees sample. The average measure of prosociality is around 16% in both samples, with significant variation across countries. The overall pattern is for countries in the South (Greece, Spain and Portugal) to score low on this measure and countries in Central and Northern Europe to display larger incidence of volunteering.

Table 2 reports summary statistics of the different outcomes we consider in the paper, for the whole population and across the two sectors. It appears that in both samples most people declare not to be willing to take financial risks, have moderate political views, have a medium level of trust and high life satisfaction. Employees also display high work satisfaction. In terms of a rough comparison across sectors, the prevalence of prosocial motivation is higher among public sector current or former employees, who also report being more trusting. Retirees from the public sector are less risk averse and more satisfied with life, while, regarding political orientation, current employees in the public sector are more left leaning than their counterparts in the private sector.

Table 3 reports means of the demographic, socio-economic and health characteristics we use as controls in the regression analysis below. Something to notice here is that in both samples individuals that retire from the private and public sector differ along important dimensions, most notably education and profession. In particular, there is a larger concentration of public sector workers who have completed some level of tertiary education, as compared to workers in the private sector, where there is a larger concentration of workers who have just completed primary education. With regards to occupation, again we see some marked differences across the two sectors that reflect the structural difference between what is produced in the two sectors. The public sector employs a higher proportion of white collar workers (managers, professionals, and clerks), while the private sector has a larger concentration of blue collar workers, both skilled and unskilled, and workers performing elementary jobs.[8] Comparing workers to retirees, it is not surprising that retirees are on average older and report experiencing health issues more frequently than current workers. Moreover, their household income is lower. It is also possible to notice that workers achieve a higher educational level compared to retirees, consistent with a secular increase in schooling. In line with this, the distribution of occupations for workers is skewed towards more skilled jobs compared to retirees.

---

[8]For workers, there are statistically significant differences across the two sectors in all of the characteristics in Table 3, with the exception of age, couple, limited activities, time pressure and adequacy of job salary. For retirees, the only exception is gender.

4   Main Results

Our main analysis involves estimating logit regressions of the following form:

(1)
$$Prosocial_i = \alpha + \beta Public_i + X'_i \delta + \mu_c + s_t + \epsilon_i,$$

where $Prosocial_i$ is a binary variable indicating whether individual i has done any voluntary work, $Public$ is a binary variable indicating whether an individual's current job is in the public sector or, for retirees, whether the last job before retirement was in the public sector, X includes a set of individual socio-economic, demographic, job and health characteristics that we control for (summarized in Table 3), μ_c are country dummies and s_t are survey wave dummies. We use survey weights throughout, and report average marginal effects and the associated standard errors obtained by using the delta method.[9]

4.1   Baseline Results

Table 4 reports our baseline estimates of equation ??, with and without controls. Looking first at the sample of workers, we find that the marginal effect of being employed in the public sector on the probability of undertaking voluntary work is 3.3% and is statistically significant. For retirees the corresponding figure is 6.3%, again statistically significant. We saw earlier in Table 1 that on average the probability of voluntary activity in both samples is 16%, so these figures indicate a rather large effect. However, when we account for the various individual controls, the marginal effect of public sector experience drops in the two samples to 0.2% and 1.3%, respectively, and is in both cases statistically insignificant.

Regarding the marginal effects of the other covariates in the estimated regression, we see some evidence that among retirees more educated individuals and those who do not suffer from health problems that limit their activities are significantly more likely to volunteer. Among the various occupations, there is evidence of a negative association between the propensity to volunteer and jobs in agriculture, crafts and trade, and elementary occupations. In the employees sample, gender and location seem to matter, with males and those living in smaller communities more likely to volunteer. Note that to account for possible differences in the availability of time or general propensity to have an active life, we also have a control for whether an individual reports having gone to a sport, social or other kind of club and in both samples we find a strong, positive association between voluntary work and engagement in this other type of social activity.

Summarizing, at first look it appears that, while individuals in the public sector are more

---

[9]Results are very similar when we use a linear probability model.

prosocial, this difference is explained by personal characteristics. Once these differences in the composition of the respective workforces are accounted for, we find no evidence of any residual difference in prosociality between workers in the two sectors. In other words, we find no evidence of prosocial motivation that is specific to having a public-sector employer. This is true both when looking at current employees and at retirees.

4.2   Analysis of explanatory power of characteristics

In this section, we investigate which of the characteristics that we control for in the baseline regressions reported above are primarily responsible for the reduction of the public-private gap in volunteering that we see in Table 4. Our approach is to reestimate equation 1 including only one (or two) additional characteristics as control(s) at a time. The outcome of this analysis is summarized in Table 5 for the sample of employees, which reports the marginal effect of having public sector experience, with each column of the table indicating the control variable included in the regression. What this analysis suggests is that only two characteristics, education (column 4) and occupation (column 8), have a substantial impact on the magnitude of the public sector marginal effect, reducing it to a value close to zero and rendering it statistically insignificant.

In Table 6 we report the results for the sample of retirees, controlling in this case also for combinations of two variables. In particular, the diagonal terms of the table correspond to regressions with one additional control, while the off diagonal terms contain marginal effects of regressions with combinations of controls indicated by the corresponding row and column heading. Focusing first on the diagonal terms, what this analysis suggests is that, again, only two characteristics, education (column 4) and occupation (column 8), have a substantial impact on the magnitude of the public sector marginal effect, reducing it by more than half. The rest of the individual characteristics on their own, including health status and club participation, have no noticeable impact on the magnitude and significance of the marginal effect of the public sector dummy compared to what we obtain in the unconditional regression in Table 4. Turning attention to the off diagonal terms, we find that, when we introduce characteristics in pairs, the public-private difference in the likelihood of volunteering is reduced only when either education or occupation is present and that no other characteristic is able to further reduce the marginal effect when combined with either of these two controls. Finally, when we introduce education and occupation simultaneously the marginal effect shrinks to 1.4% and is statistically insignificant (row 4, column 8), thus closely resembling the outcome in Table 4 when including all controls.

These results indicate that the estimated raw difference in prosocial activity across individuals from the private and public sector is not due to differences in time availability or health status, but rather to the fact that the public sector employs more educated people to perform more white collar

jobs than the private sector, and these characteristics are positively correlated with the likelihood of engaging in prosocial activities.

4.3 Longitudinal Sample

In this section, we exploit the panel structure of the survey to form a subsample of 1,800 individuals that we can observe both in the work and retirement stage. By focusing on this group, that we refer to as the longitudinal sample, we are able to gain further insight as to whether the similarity we see in the results in Table 4 between the two cross-sections of workers and retirees is genuine and is not due to a cohort or other effect. We first check whether this subsample is similar to the baseline sample of workers and retirees in terms of the public/private difference in prosociality. Reassuringly, in unreported regressions, we find the same pattern, both when they are working and when they are retired, as in the baseline samples, that is, there is a significant public sector premium, which disappears once we control for education and occupation.

We then pool the data and estimate a linear probability model of the likelihood of volunteering on dummy variables for whether an individual is or has been employed in the public sector and on whether he is retired, plus the interaction of the two. The results of this estimation are reported in column (1) of Table 7. We see that the likelihood of volunteering for workers in the private sector is 14.1% in this subsample, in line with the overall tendency we reported in Table 2. Workers in the public sector are significantly more likely to volunteer by 4.4 percentage points and there is also evidence of a retirement premium, as retired individuals in this subsample are more likely to volunteer by 10.8 percentage points. The interaction term is positive and insignificant, indicating that there is no differential increase in the propensity to volunteer across workers in the two sectors when they retire. In columns (2) and (3) of Table 7 we add country fixed effects and controls for education and occupation, and see no difference in the estimated coefficients except for the fact that, as in the baseline sample, controlling for education and occupation eliminates the difference between public and private sector. Finally, in column (4) we add individual fixed effects to account for any individual-specific time-invariant characteristics, and find that the pattern outlined above is robust.

In the introduction, we discussed how the approach of using current employees to identify differences between the private and public sector in terms of public service motivation is potentially subject to both positive and negative biases, related to differences in working conditions and to differences between marginal and overall motivation. The fact that in this longitudinal analysis we see a common shift in the prevalence of volunteering when an individual transitions from employment to retirement, suggests that these biases are either small or cancel each other out. This is consistent with the fact that we obtain a very similar picture when looking at the workers and at

the retirees samples.

5 Results by Industry, Occupation, Age and Country

After having looked at the public sector as a whole, in this section we conduct some subsample analysis, disaggregating the public sector into its main industries, looking separately at the most important professional groups, and exploring the patterns in different periods and at the country level. We present this analysis only for the sample of retirees, where the sample size is larger and therefore subsamples do not get too small. In any case, the overall message is the same when repeating the analysis for the employees sample, with the few exceptions noted in the text.

5.1 Industry

So far we have looked at the public sector considered as a whole. We now focus in more detail at the different key industries of the sector. From Table 8, it emerges that the largest share of employment in the public sector is concentrated in "Public Administration and Defence", accounting for 26% of total employment. Another important component of the public sector is represented by what can be characterized as "caring" industries, that is, education (23%), and health and social work (15%). Something that is also evident in Table 8 is that, of course, the industrial composition of the private sector is very different, with a high concentration of workers in manufacturing (37% of the private sector workforce), followed by wholesale and retail (12%) and construction (11%).

One might hypothesize that there may be differences in prosocial motivation across industries in the public sector itself. For instance, one might expect that individuals working in caring industries display higher prosocial inclination, as jobs in these industries offer more opportunities for engagement in on-the-job prosocial activities. To investigate this, we split the public sector into four groups: education, health and social work, public administration, and other (includes all other industries). We estimate our baseline logit regression adding a set of dummies for whether a public sector retiree reports to have been last employed in a job in each of these four groups, and report the results of this estimation with and without controls in Table 9. In the unconditional regression, we see a positive association between voluntary work and each of the four categories, with the marginal effects standing at 14.4%, 6.7%, 4.5% and 2.9% for education, health, public administration and other, respectively. Note that the comparison group here is individuals who have retired from jobs in the private sector. When we add the various controls, as we did in Table 4, the marginal effect of education shrinks to 5.2% but remains significant, that of health and social work falls to 1.8% and is insignificant, whereas the marginal effects of public administration and other industries reduce essentially to zero.

To summarize, this analysis identifies a particular group of public sector workers, those employed in education, that display a much higher propensity to volunteer compared to workers in the private sector. Moreover, this difference remains significant even after controlling for personal characteristics. On the other hand, workers in public administration or in other parts of the public sector are indistinguishable in terms of motivation from comparable workers in the private sector.

It is worth noticing that in the employees sample the coefficient for education is close to zero and insignificant when we add controls, as are the coefficients for the other industry dummies. This pattern could be an indication that teachers have indeed higher motivation, but, while at work, they also have the opportunity to behave altruistically on the job and, thus, do not appear particularly prosocial out of working hours. After retirement, as they do not have this opportunity anymore their motivation gets expressed through volunteering.

5.2   Occupation

One could also expect prosocial motivation in the public sector to be heterogeneous across occupations. It could be the case, for instance, that, due to the compression that characterises the wage structure in the public sector (Borjas, 2002), in high-skill occupations only highly prosocial workers are attracted to the public sector, while in low-skill occupations we might even expect "negative" selection in terms of prosocial motivation, with people willing to "bend the rules" in order to get the relatively lucrative jobs offered in the public sector. It is also of specific interest to look at categories like managers or professionals separately, as they have a leadership role and a capacity to exert great influence in the delivery of public services. For these reasons, in Table 10 we estimate equation ?? for three different occupational groups separately. The first group, "Managers and Professionals" combines the categories "Managers" and "Professionals" from Table 3. The second group includes "Technicians or Associate Professionals" and "Clerks", while the "Other" includes all the remaining occupational categories.[10]

The results for managers and professionals, columns (1) and (2), and for the "Other" category, columns (5) and (6), show a positive and significant differential that becomes insignificant after adding controls, consistent with the pattern observed for the sample as a whole. For technicians and clerks, columns (3) and (4), coefficients are closer to zero and never significant. Thus, all in all, the analysis by occupation shows that the result for the whole sample is not due to a mixing of positive selection at the top of the skill distribution combined with negative selection at the bottom, but is rather homogeneous across broad occupational categories.

---

[10]Notice that we not consider the category "Armed forces", as this category contains only a few individuals who report to have worked in the private sector.

5.3 Age group

In this section we check whether there is a cohort effect or time trend in the cross-sectoral difference in prosociality. In particular, one might postulate that we are more likely to find differences in prosociality across sectors in the latter cohorts of workers, who started entering the labor force in the early 60s, a period of rapid economic development for many of the countries in our sample, as opposed to the earlier cohorts who, on average, made career choices just after the second World War. This could be the case because, with a rapidly expanding private sector providing lots of opportunities, only very motivated people would choose to pursue a career in the public sector. To check whether this is indeed the case, we examine whether the results obtained so far are robust to splitting the sample into two groups by date of birth: those born before 1940 and those born after. This split divides the sample into roughly two equally sized subgroups.

Table 11 shows unconditional and conditional marginal effects of public sector experience for the two age groups. The pattern of the coefficients we obtain are very similar across the two groups and very similar to those obtained for the whole sample in Table 4, both in terms of magnitude and statistical significance. This provides some confidence that the results reported above are not driven by one particular cohort of workers in our sample.

5.4 Country

So far we have conducted the analysis on the pooled sample from the 12 countries under study. It could be the case that the lack of difference in prosociality that we find in the conditional regressions is due to the fact that we mix countries where public sector workers are more prosocially motivated than their private sector counterparts, to countries where public sector workers are more antisocial, for instance, because public sector employment is a way to extract rents and bribes from the rest of society. To assess whether the previous analysis masks such type of cross-country heterogeneity, in this section we conduct the analysis for each of the 12 countries in our sample separately, with the caveat that, as evident from Table 1, sample sizes can become rather small.

In Table 12 we report both the unconditional and conditional marginal effect of having public sector experience. The unconditional marginal effects indicate statistically significant differences in prosociality across workers in the two sectors in all but 4 countries (Sweden, Denmark, Greece and Portugal).[11] Among the 8 countries where the marginal effect is significant, we find substantial heterogeneity in the public-private difference in prosocial motivation. In particular, the Netherlands exhibits the largest difference (9.1 percentage points) with Spain exhibiting the smallest (4.6

---

[11]Note that of these four countries, two have low percentages of volunteering activity (Greece and Portugal), while the other two (Sweden and Denmark) have relatively large percentages of retirees with volunteering activity (over 20%) and very large public sectors.

percentage points). The ranking would of course be very different if we considered the relative difference, given the high heterogeneity in prosocial motivation across countries documented in Table 1. Once we control for the various individual characteristics, the marginal effects shrink dramatically and become statistically insignificant in all but two countries, Austria and the Netherlands, where the difference remains at 3.2% and 4.8%, respectively. Among the rest of the countries, in Germany the difference across sectors also remains sizeable at 3.6%, but is not precisely estimated, while in the rest of the cases the marginal effect is even numerically very close to zero.

Thus, this country-specific analysis is overall consistent with the picture emerging when we consider the whole sample, indicating that the lack of a differential in motivation between public and private sector workers is not due to a mixture of countries with positively selected and negatively selected public employees in terms of prosocial motivation.

6   Other Outcomes: Risk, trust, political position, life and job satisfaction

Our data also allow us to assess whether there are differences across the two sectors in other dimensions. In particular, the survey collected information on self-reported attitudes toward risk, trust, political position, life and job satisfaction. More specifically, risk is measured on a 1-4 scale, with a higher number indicating lower willingness to take financial risk. Trust is measured on a 0-10 scale, with a higher number indicating higher beliefs that most people can be trusted. Political views are measured on a 0-10 scale, where 0 means the left and 10 means the right. Finally, life satisfaction is also measured on a 0-10 scale, where 0 means completely dissatisfied and 10 means completely satisfied (see the Appendix for details on the questions). We recode the three outcomes that are measured on a 0-10 scale as follows: (0 to 3 is assigned to 1; 4 to 6 is assigned to 2; 7 to 10 is assigned to 3) and estimate ordered logistic regressions, similar in terms of specification to equation 1, with and without controls. We report the marginal effects of the public sector dummy for all categories of the four outcomes in Table 13. Note, that the sample size is reduced compared to the analysis of prosociality in Table 4 as these measures where not obtained in wave 1 of the survey.

Regarding risk attitudes, the literature (see Bellante and Link, 1981, for an early contribution and Buurman et al., 2012, for a review) has pointed out that the public sector may attract more risk averse individuals, as public sector jobs are generally more secure or because risk takers are rewarded more in the private sector. Whether or not this is indeed the case has implications, for instance, regarding the effects of introducing pay-for-performance for workers in the public sector. For the workers sample, the conditional regressions indeed show that public sector employees are more

risk averse, while no difference emerges in the retirees sample (where the unconditional regressions indicate more risk seeking public employees). The very coarse nature of our measure of risk aversion, with the vast majority of people from both sectors declaring not to be willing to take any financial risk, represents of course a limitation to this analysis.

There is also a literature that has been interested in the political preferences of public sector employees, noting that, given their higher participation in elections and their influence on the policy process, they may be able to exercise a disproportionate influence (Frey and Pommerehne, 1982; Corey and Garand, 2002). The general presumption, supported by empirical evidence (Gramlich and Rubinfeld, 1982; Ahlin and Johansson, 2001), is that public sector employees display a stronger support for government intervention. This may result from pure self-interest, as public employees benefit from public spending both as receivers of public services and, through higher wages and increased job security, as providers (Courant et al., 1979; Brueckner and Neumark, 2014). Alternatively, it may be the case that people employed in the public sector have stronger preferences for public spending relative to the rest of the population. In our sample, we find some evidence that current public sector workers are indeed more likely to be leaning towards the left. We also find that retirees from the public sector have a higher probability of being left wing and lower probability of being right wing, after introducing controls. Given that, by definition, former public sector workers are not any more providers of public services, this evidence supports the view that public sector workers have a genuine preference for a larger government, of course under the assumption that being left wing means being in favor of a larger government.

Another outcome of interest is trust. A growing literature has shown the importance of trust in economic activity (Bloom et al., 2012; Guiso et al., 2009; Knack and Keefer, 1997) and La Porta et al. (1997) single out government as one of the organizations in which trust is most needed, as "bureaucrats must cooperate with a large number of other bureaucrats whom they encounter only infrequently, as well as with private citizens they may never see again, to produce public goods". The conditional regressions in Table 13 indicate that public sector workers are not different than their private sector counterparts in this dimension. Retirees from the public sector are less likely to report low or medium trust and more likely to report high trust when not controlling for individual characteristics, but the difference disappears when adding controls.

Finally, concerning subjective well-being, some papers have compared life satisfaction between public and private sector employees "to distinguish between the general negative externalities of unemployment and changes in the economic risks that individuals face" (Luechinger et al., 2010) or to investigate whether "public servants enjoy any rents", linking the differentials in life satisfaction to irregular payments to bureaucrats (Luechinger et al., 2008). For these comparisons to be valid it is necessary that public and private sector employees are not inherently different in terms of their

life satisfaction, for instance, because people with a more optimistic outlook tend to join the public service. It is, therefore, useful to look at whether there are differences between public and private sector employees after retirement, when there are no differences in terms of employment security or in terms of opportunities to accept bribes.[12] The estimated unconditional marginal effects indicate that individuals with public sector experience are more likely to report high life satisfaction and less likely to report medium or low. This is the case also when we control for individual characteristics. Thus, this suggests that the comparisons reported above may be problematic as there may be an inherent difference in life satisfaction among comparable public and private sector employees. Finally, we find some evidence for public sector workers being more satisfied with their job than their private sector counterparts.

Interestingly, in unreported regressions we find that, in line with the results on prosociality above, of the characteristics that we control for, education and occupation combined generate marginal effects that are very similar, in terms of magnitudes and significance, to the ones reported in the conditional regressions containing the full set of controls presented in Table 11. This provides further evidence that, while there are marked differences along various dimensions between workers in the private and the public sector, what matters are differences attributable to the different economic functions performed by the two sectors.

7   Discussion and Conclusion

In this paper, we investigate empirically whether public and private sector employees differ in terms of prosocial motivation and other characteristics, using a large sample of elderly and retired workers from 12 European countries. We find significant differences in prosocial motivation across the two sectors, but, with the exception of the education sector, these are explained by differences in (former) workers' education and occupation. With the data at hand, it is not possible to assess whether this is because selection of prosocially motivated individuals into public sector jobs does not take place or whether selection is active at the recruitment stage, but prosocial motivation dissipates over time and thus is no longer present at later stages of the career. There is some supportive evidence for the latter pattern, as reported in Buurman et al. (2012), and this could explain the difference between our results and the ones discussed in the literature review, where a significant difference between the two sectors is usually found. Other explanations could be related to the fact that most of these studies do not control for occupation, a variable we have shown in Section 4.2 to be important in explaining differences in prosocial motivation across sectors. In addition, some of these studies only consider a subgroup of workers (workers in the caring sector in

---

[12]Boodoo et al. (2014) also investigate the subjective well-being of a sample of retired and working older adults, but do not consider differences across sector of employment, which is our focus.

Gregg et al., 2011; teachers in Dohmen and Falk, 2010) or find a difference only for a subset of the population, as Dur and Zoutenbier (2014), where altruism needs to be combined with confidence in political parties to increase the likelihood of working in the public sector. Likewise, in our analysis, when we split the public sector into its main components in section 5.1, we find that public sector former workers in education are more prosocial than comparable workers both in the public and the private sector. Moreover, as reported in the country-specific analysis in section 5.4, the difference in prosociality persists in some countries even after adding controls.

From a policy perspective, if the public sector fails to select workers with public service motivation then recruitment policies would need to be modified. Recent evidence (Dal Bo et al., 2013; Ashraf et al., 2014) shows, for instance, that offering higher compensation or career prospects is not incompatible with being able to attract pro-socially minded workers, and further research, particularly in advanced economies, is certainly needed. On the other hand, if it is the case that the public sector attracts prosocial workers, but this attitude dissipates over time, then this would have implications, for instance, for the design of career paths. Namely, closely linking career progression to tenure, as is common in the public sector in many countries, would effectively mean to select for leadership positions people lacking in public service motivation. Moreover, the public sector workforce in many OECD countries is ageing at an even faster pace than the rest of society, due to the rapid expansion of the workforce from the 1970s until the mid 1980s, followed by stabilization and hiring freezes in the 1980s and 1990s (Pilichowski et al., 2007). If public service motivation decreases with tenure, it will then progressively become scarcer in the public sector, with implications for the delivery of public services.

References

[1] Ahlin, A., and Johansson, E. (2001): Individual demand for local public schooling: Evidence from Swedish survey data, *International Tax and Public Finance*, 8(4), 331-351.

[2] Angelini, V., Brugiavini, A., and Weber, G. (2014): The dynamics of homeownership among the 50+ in Europe, *Journal of Population Economics*, 27(3), 797-823.

[3] Ashraf, N., Bandiera, O. and Lee, S. S. (2014): Do-gooders and Go-getters: Career Incentives, Selection, and Performance in Public Service Delivery, HBS Working Paper.

[4] Bandiera, O., Prat, A. and Valletti, T. (2009): Active and Passive Waste in Government Spending: Evidence from a Policy Experiment, *American Economic Review*, 99(4), 1278-1308.

[5] Banuri, S., and Keefer, P. (2013): Intrinsic motivation, effort and the call to public service, World Bank Policy Research Working Paper 6729.

[6] Bellante, D., and Link, A. N. (1981): Are public sector workers more risk averse than private sector workers? *Industrial and Labor Relations Review*, 34(3), 408-412.

[7] Besley, T., and Ghatak, M. (2003): Incentives, Choice, and Accountability in the Provision of Public Services, *Oxford Review of Economic Policy*, 19(2), 235-249.

[8] Besley, T., and Ghatak, M. (2005): Competition and Incentives with Motivated Agents, *American Economic Review,* 95(3), 616-636.

[9] Blank, R. M. (1985): An analysis of workers' choice between employment in the public and private sectors, *Industrial and Labor Relations Review*, 38(2), 211-224.

[10] Brueckner, J. and Neumark, D. (2014): Beaches, Sunshine, and Public Sector Pay: Theory and Evidence on Amenities and Rent Extraction by Government Workers, *American Economic Journal: Economic Policy*, 6(2), 198-230.

[11] Bloom, N., Sadun, R., and Van Reenen, J. (2012): The Organization of Firms Across Countries, *Quarterly Journal of Economics*, 127(4), 1663-1705.

[12] Boodoo, U. M. A., Gomez, R. and Gunderson, M. (2014), Relative income, absolute income and the life satisfaction of older adults: do retirees differ from the non-retired?. *Industrial Relations Journal*, 45(4) 281-299.

[13] Borjas, G. J. (2002): The wage structure and the sorting of workers into the public sector, NBER working paper, No 9313.

[14] Brewer, G.A. (2003): Building social capital: civic attitudes and behavior of public servants, *Journal of Public Administration Research and Theory*, 13(1), 5-26.

[15] Brunello, G., Fort, M., and Weber, G. (2009): Changes in compulsory schooling, education and the distribution of wages in Europe, *Economic Journal*, 119(536), 516-539.

[16] Buurman, M., Delfgaauw, J., Dur, R. and van den Bossche, S. (2012): Public Sector Employees: Risk Averse and Altruistic?, *Journal of Economic Behavior and Organization*, 83(3): 279-291.

[17] Christelis, D., Jappelli, T., and Padula, M. (2010): Cognitive abilities and portfolio choice, *European Economic Review*, 54(1), 18-38.

[18] Christelis, D., Georgarakos, D., and Haliassos, M. (2013): Differences in portfolios across countries: Economic environment versus household characteristics, *Review of Economics and Statistics*, 95(1), 220-236.

[19] Corey, E. C., and Garand, J. C. (2002): Are government employees more likely to vote?: An analysis of turnout in the 1996 US national election, *Public Choice,* 111(3-4), 259-283.

[20] Courant, P. N., Gramlich, E. M., and Rubinfeld, D. L. (1979): Public employee market power and the level of government spending, *American Economic Review*, 69(5), 806-817.

[21] Cowley, E., and Smith, S. (2014): Motivation and mission in the public sector: Evidence from the World Values Survey, *Theory and Decision,* 76(2), 241-263.

[22] Crespo, L., and Mira, P. (2012): Caregiving to elderly Parents and employment status of European mature women, *Review of Economics and Statistics*, forthcoming.

[23] Dal Bo, E. (2006): Regulatory capture: a review, *Oxford Review of Economic Policy*, 22(2), 203-225.

[24] Dal Bo, E., Finan, F., and Rossi, M. (2013): Strengthening State Capabilities: The Role of Financial Incentives in the Call to Public Service, *Quarterly Journal of Economics*, 128(3), 1169-1218.

[25] Delfgaauw, J., and Dur, R. (2008). Incentives and Workers' Motivation in the Public Sector, *Economic Journal*, 118(525), 171-191.

[26] Dixit, A. (2002): Incentives and organizations in the public sector: An interpretative review, *Journal of Human Resources*, 37(4), 696-727.

[27] Dohmen, T., and Falk, A. (2010): You Get What You Pay For: Incentives and Selection in the Education System, *Economic Journal*, 120(546), F256-F271.

[28] Dur, R., and Zoutenbier, R. (2012): Intrinsic Motivation of Public Sector Employees: Evidence for Germany, Tinbergen Institute Discussion Paper 2012-135/1.

[29] Dur, R., and Zoutenbier, R. (2014): Working for a Good Cause, *Public Administration Review*, 74(2), 144-155.

[30] Francois, P. (2000): 'Public Service Motivation' as an Argument for Government Provision, *Journal of Public Economics,* 78(3), 275–299.

[31] Francois, P., and Vlassopoulos, M. (2008): Pro-social Motivation and the Delivery of Social Services, *CESifo Economic Studies*, 54(1): 22-54.

[32] Frey, B. S., and Pommerehne, W. W. (1982): How powerful are public bureaucrats as voters?, *Public Choice*, 38(3), 253-262.

[33] Gramlich, E. M., and Rubinfeld, D. L. (1982): Voting on public spending: Differences between public employees, transfer recipients, and private workers, *Journal of Policy Analysis and Management*, 1(4), 516-533.

[34] Gregg, P., Grout, P. A., Ratcliffe, A., Smith, S., and Windmeijer, F. (2011): How important is pro-social behaviour in the delivery of public services?, *Journal of Public Economics*, 95(7-8), 758-766.

[35] Guiso, L., Sapienza, P., and Zingales, L. (2009): Cultural biases in economic exchange? *Quarterly Journal of Economics*, 124(3), 1095-1131.

[36] Hank, K., and Erlinghagen, M. (2010): Dynamics of volunteering in older Europeans, *The Gerontologist*, 50(2), 170-178.

[37] Hanna, R., and Wang, S. Y. (2013): Dishonesty and Selection into Public Service, National Bureau of Economic Research WP No. 19649.

[38] Houston, D. J. (2006): Walking the walk of public service motivation: Public employees and charitable gifts of time, blood, and money, *Journal of Public Administration Research and Theory*, 16(1), 67-86.

[39] Jovanovic, B. (1979): Job Matching and the Theory of Turnover, *Journal of Political Economy*, 87(5), 972-90.

[40] Kesternich, I., Siflinger, B., Smith, J. P., and Winter, J. K. (2012): The effects of World War II on economic and health outcomes across Europe, *Review of Economics and Statistics*, forthcoming.

[41] Knack, S. and Keefer, P. (1997): Does Social Capital Have an Economic Payoff? A Cross-Country Investigation, *Quarterly Journal of Economics,* 112, 1251-1288.

[42] Lagarde, M. and Blaauw, D. (2013): Pro-social preferences and self-selection into rural jobs: Evidence from South African nurses, mimeo.

[43] La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R. W. (1997): Trust in Large Organizations, *American Economic Review*, 87(2), 333-338.

[44] Lee, Y. (2012): Behavioral Implications of Public Service Motivation: Volunteering by Public and Nonprofit Employees, *American Review of Public Administration*, 42(1), 104-121.

[45] Luechinger, S., Meier, S., and Stutzer, A. (2008): Bureaucratic rents and life satisfaction, *Journal of Law, Economics, and Organization*, 24(2), 476-488.

[46] Luechinger, S., Meier, S., and Stutzer, A. (2010): Why does unemployment hurt the employed? Evidence from the life satisfaction gap between the public and the private sector, *Journal of Human Resources*, 45(4), 998-1045.

[47] Mazzonna, F., and Peracchi, F. (2012): Ageing, cognitive abilities and retirement, *European Economic Review*, 56(4), 691-710.

[48] OECD (2011): *Government at a Glance 2011*, OECD Publishing.

[49] Perry, J. L., Hondeghem, A., and Wise, L. R. (2010): Revisiting the Motivational Bases of Public Service: Twenty Years of Research and an Agenda for the Future, *Public Administration Review*, 70(5), 681-690.

[50] Pilichowski, E., Arnould, E., and Thrkisch, E. (2007): Ageing and the Public Sector: Challenges for Financial and Human Resources, *OECD Journal on Budgeting*, 7(4).

[51] Rohwedder, S., and Willis, R. J. (2010): Mental retirement, *Journal of Economic Perspectives*, 24(1), 119-138.

[52] Rotolo, T., and Wilson, J. (2006): Employment sector and volunteering: The contribution of nonprofit and public sector workers to the volunteer labor force, *The Sociological Quarterly*, 47(1), 21-40.

[53] Svensson, J. (2005): Eight Questions about Corruption, *Journal of Economic Perspectives*, 19(3), 19-42.

Appendix

Main Variables

Here we report the survey questions behind the main variables used in the analysis, distinguishing between outcome and control variables.

Outcome variables

Prosociality: "Have you done any of these activities in the last month? [For Wave 4: Which of the activities listed on this card - if any - have you done in the past twelve months?] Done voluntary or charity work. [...]"

Risk Attitudes: "When people invest their savings they can choose between assets that give low return with little risk to lose money, for instance a bank account or a safe bond, or assets with a high return but also a higher risk of losing, for instance stocks and shares. Which of the statements on the card comes closest to the amount of financial risk that you are willing to take when you save or make investments?" [1. Take substantial financial risks expecting to earn substantial returns; 2. Take above average financial risks expecting to earn above average returns; 3. Take average financial risks expecting to earn average returns; 4. Not willing to take any financial risks.]

Political Views: "In politics people sometimes talk of left and right. On a scale from 0 to 10, where 0 means the left and 10 means the right, where would you place yourself?"

Trust: "I would now like to ask a question about how you view other people. Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? (...) [P]lease tell me on a scale from 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted."

Life Satisfaction: "On a scale from 0 to 10 where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life?"

Job Satisfaction: "All things considered I am satisfied with my job. Would you say you strongly agree, agree, disagree or strongly disagree?"

Control variables

Health status: "For the past six months at least, to what extent have you been limited because of a health problem in activities people usually do? [Severely limited/ Limited, but not severely/ Not limited]"

Income: this variable is generated by SHARE through a suitable aggregation of the individual and household income components collected in the survey. We use the version including imputations. Details about the methodology are available on the survey website.

Club: "Have you done any of these activities in the last month? [For Wave 4: Which of the activities listed on this card - if any - have you done in the past twelve months?] [...] Gone to a sport, social or other kind of club. [...]"

Time Pressure: "I am under constant time pressure due to a heavy workload. (Would you say you strongly agree, agree, disagree or strongly disagree?)"

Job Salary Adequate: "Considering all my efforts and achievements, my salary is adequate. (Would you say you strongly agree, agree, disagree or strongly disagree?)"

Table 1: Summary Statistics

Country	Workers				Retirees			
	Number of Obs.	Weighted Proportion	Public Sector (%)	Prosocial (%)	Number of Obs.	Weighted Proportion	Public Sector (%)	Prosocial (%)
Austria	902	1.9	41.3	15.2	2814	3.3	33.3	13.9
Germany	887	33.0	28.3	15.4	1522	25.0	26.9	15.2
Sweden	1232	4.3	51.5	15.8	1717	2.7	53.7	20.8
Netherlands	1242	5.8	53.6	28.2	1447	3.9	51.5	31.7
Spain	758	10.9	39.0	6.8	1276	12.0	23.0	4.0
Italy	818	15.0	44.8	12.4	1965	24.4	32.6	13.1
France	1463	18.8	38.5	19.6	2465	17.7	38.6	22.0
Denmark	1369	2.5	50.4	23.4	1229	1.8	51.1	22.4
Greece	495	1.3	45.4	3.5	689	1.5	38.8	3.2
Switzerland	1158	2.5	39.3	22.5	1168	2.0	38.9	22.7
Belgium	1551	3.0	42.3	18.4	2382	3.7	40.3	23.8
Portugal	290	1.1	44.6	5.3	812	2.1	43.3	6.8
Total	12,165	100.0	38.2	15.8	19,486	100.0	33.5	15.5

Table 2: Summary Statistics - Outcomes

	Workers			Retirees		
	All	Private	Public	All	Private	Public
Prosocial	15.8	14.4	18.0	15.5	12.8	20.9
Risk						
Take substantial risks	1.4	1.2	1.7	0.5	0.5	0.5
Above average	4.5	4.0	5.3	1.8	1.5	2.3
Average	26.4	27.3	24.9	15.8	13.9	19.4
Not willing to take risks	67.8	67.6	68.2	81.9	84.0	77.9
Political Views						
Left	26.6	24.4	30.0	20.5	20.7	20.0
Centre	56.3	58.3	53.3	58.0	57.9	58.3
Right	17.1	17.3	16.7	21.5	21.4	21.7
Trust						
Low	18.4	20.0	15.9	21.9	23.0	19.9
Med	41.2	40.7	41.9	44.3	45.2	42.5
High	40.4	39.3	42.2	33.8	31.8	37.6
Life Satisfaction						
Low	1.3	1.3	1.2	2.1	2.4	1.6
Med	13.2	14.5	11.2	18.6	21.1	13.8
High	85.5	84.2	87.6	79.2	76.5	84.6
Job Satisfaction						
Strongly agree	40.1	37.6	44.2			
Agree	51.4	52.8	49.3			
Disagree	7.0	8.1	5.3			
Strongly disagree	1.4	1.5	1.2			

Notes: All entries are percentages. For workers, a t-test rejects equality in prosociality across sectors, while chi-squared tests reject independence between political views, trust, job satisfaction and sector, but fails to reject independence between risk, life satisfaction and sector. For retirees, a t-test rejects equality in prosociality across sectors, while chi-squared tests reject independence between all outcomes and sector, with the exception of political views.
Job satisfaction refers to whether the individual agrees with the statement: "All things considered I am satisfied with my job."

Table 3 - Demographic, Socio-Economic and Health Characteristics

	Workers			Retirees		
	All	Private	Public	All	Private	Public
Age						
Mean	56.5	56.4	56.6	67.7	68.1	66.9
Gender						
% Female	45.0	41.4	49.3	46.1	45.6	47.0
Couple (%)	74.1	74.4	73.7	68.4	67.5	70.1
Education (%)						
No schooling	1.3	1.4	1.0	5.0	6.6	1.9
Primary education	8.3	9.9	5.6	26.4	30.8	17.5
Lower secondary	15.2	17.4	11.7	17.6	18.6	15.8
Upper secondary	40.5	45.6	32.1	32.2	32.5	31.6
Post-secondary non-tertiary	3.9	3.6	4.5	1.8	1.3	3.0
First stage of tertiary	29.5	21.4	42.6	15.8	9.5	28.3
Second stage of tertiary education	1.2	0.6	2.2	0.6	0.2	1.4
Still in school				0.1	0.2	0.1
Other	0.2	0.1	0.3	0.3	0.3	0.5
Limited Activities (%)						
Severely limited	6.9	7.7	5.7	12.9	13.1	12.5
Limited, but not severely	21.5	21.9	20.8	30.6	32.1	27.8
Not limited	71.6	70.4	73.5	56.5	54.8	59.8
Income						
Mean	40.2	38.4	43.2	30.8	28.2	35.9
Location (%)						
A big city	14.6	15.1	13.8	13.1	12.8	13.8
The suburbs	14.1	13.2	15.6	13.2	12.5	14.7
A large town	13.8	12.5	16.1	13.2	12.2	15.3
A small town	23.3	24.3	21.6	26.5	27.4	24.6
Rural area or village	25.1	26.2	23.3	26.1	27.2	24.0
Missing	9.0	8.7	9.6	7.9	8.0	7.7
Occupation (%)						
Legislator, senior official or manager	9.9	7.8	13.4	7.1	5.5	10.2
Professional	13.6	6.6	25.1	8.8	3.5	19.4
Technician or associate professional	15.9	14.8	17.8	13.4	11.4	17.4
Clerk	17.4	16.9	18.4	15.9	14.6	18.5
Service worker and shop and market sale	14.8	16.6	11.9	11.4	11.2	11.9
Skilled agricultural or fishery worker	1.5	2.0	0.7	3.6	4.9	1.0
Craft and related trades worker	9.9	14.6	2.4	12.3	16.3	4.3
Plant and machine operator or assembler	7.1	10.2	1.9	9.8	12.3	4.7
Elementary occupation	9.5	10.5	7.9	17.0	20.3	10.6
Armed forces	0.3	0.0	0.7	0.8	0.0	2.2
Hours Worked per Week	35.8	36.2	35.1			
Time Pressure due to Heavy Workload						
Strongly agree	17.2	18.0	15.9			
Agree	34.3	34.9	33.2			
Disagree	35.8	34.4	37.9			
Strongly disagree	12.8	12.6	13.0			
Job Salary Adequate						
Strongly agree	10.2	10.5	9.7			
Agree	45.7	45.5	46.0			
Disagree	32.2	31.8	32.8			
Strongly disagree	12.0	12.2	11.6			
Club (%)	28.7	27.4	31.0	21.9	20.1	25.5

For workers, there are statistically significant differences across the two sectors in all of the characteristics in Table 3, with the exception of age, couple, limited activities, time pressure and job salary adequate. For retirees, the only exception is gender. Income is in 1,000 euros 2007 Germany PPP

Table 4 - Cross Country Logit Regressions - Marginal Effects

	Workers		Retirees	
	(1)	(2)	(3)	(4)
Public	0.033**	0.002	0.063***	0.013
Male		0.032**		-0.004
Couple		-0.001		-0.001
Age		0.000		-0.002**
Education				
Primary education		-0.003		-0.003
Lower secondary		0.023		0.050*
Upper secondary		0.017		0.037
Post-secondary non-tertiary		0.134*		0.111***
First stage of tertiary		0.070		0.083***
Second stage of tertiary education		0.064		0.065
Still in school		0		-0.104***
Other		-0.013		0.096*
Limited Activities				
Limited, but not severely		-0.014		0.037***
Not limited		0.003		0.047***
Location				
The suburbs		0.013		-0.029
A large town		0.048*		-0.013
A small town		0.050**		0.002
Rural area or village		0.069***		-0.001
Missing		0.019		-0.026
Income		0.000		0.000
Occupation				
Professional		0.022		0.003
Technician or associate professional		-0.001		-0.012
Clerk		-0.028		-0.029
Service worker and shop and market sale		-0.021		-0.034*
Skilled agricultural or fishery worker		-0.045		-0.123***
Craft and related trades worker		-0.059		-0.084***
Plant and machine operator or assembler		-0.079**		-0.060***
Elementary occupation		-0.040		-0.066***
Armed forces		-0.071		0.052
Hours Worked per Week		-0.001*		
Time Pressure due to Heavy Workload				
Agree		0.015		
Disagree		0.012		
Strongly disagree		-0.012		
Job Salary Adequate				
Agree		0.002		
Disagree		-0.014		
Strongly disagree		0.025		
Club		0.101***		0.11***
N	12165	12165	19486	19486

Notes: Regressions include country and survey wave dummies.

*** [**] (*) denote significance at 1, [5], (10) % level

Omitted categories are: education (none), limited activities (severely limited), type of settkement (big city), occupation (Managers)

Table 5: Cross Country Logit Regressions - Marginal Effects - Workers

	Male	Couple	Age	Education	Limited Activities	Location	Income	Occupation	Club	Job Char.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	0.036**	0.033**	0.034**	0.011	0.033**	0.034**	0.031*	0.007	0.029*	0.033**
	(0.016)	(0.016)	(0.016)	(0.015)	(0.016)	(0.016)	(0.016)	(0.015)	(0.016)	(0.016)

Notes: The heading of each row indicate the control variable used in the regression. All columns include country and survey wave dummies.

In all columns, the number of observations is 12,165.

The entries are average marginal effects, standard errors are reported in parentheses.

*** [**] (*) denote significance at 1, [5], (10) % level

Table 6: Cross Country Logit Regressions - Marginal Effects - Retirees

	Male	Couple	Age	Education	mited Activiti	Location	Income	Occupation	Club
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Male	0.063*** (0.010)	0.062*** (0.010)	0.059*** (0.010)	0.031*** (0.010)	0.061*** (0.010)	0.063*** (0.010)	0.058*** (0.010)	0.023** (0.010)	0.057*** (0.010)
Couple		0.062*** (0.010)	0.058*** (0.010)	0.030*** (0.010)	0.061*** (0.010)	0.062*** (0.010)	0.059*** (0.010)	0.021** (0.010)	0.056*** (0.010)
Age			0.058*** (0.010)	0.030*** (0.010)	0.057*** (0.010)	0.058*** (0.010)	0.056*** (0.010)	0.020** (0.010)	0.053*** (0.010)
Education				0.030*** (0.010)	0.030*** (0.010)	0.030*** (0.010)	0.030*** (0.009)	0.014 (0.009)	0.028*** (0.010)
Limited Activities					0.061*** (0.010)	0.061*** (0.010)	0.058*** (0.010)	0.021** (0.010)	0.055*** (0.010)
Location						0.062*** (0.010)	0.059*** (0.010)	0.021** (0.010)	0.056*** (0.010)
Income							0.059*** (0.010)	0.021** (0.009)	0.053*** (0.009)
Occupation								0.021** (0.009)	0.020** (0.009)
Club									0.056*** (0.010)

Notes: The heading(s) of each row and column indicate(s) the control variable(s) used in the regression. All columns include country and survey wave dummies.

In all columns, the number of observations is 19486.

The entries are average marginal effects, standard errors are reported in parentheses.

*** [**] (*) denote significance at 1, [5], (10) % level

Table 7: Longitudinal Analysis

	(1)	(2)	(3)	(4)
Retired	0.108***	0.108***	0.106***	0.108***
	(0.015)	(0.015)	(0.015)	(0.015)
Public	0.044**	0.030*	-0.005	
	(0.017)	(0.018)	(0.019)	
Retired x Public	0.012	0.012	0.015	0.012
	(0.022)	(0.022)	(0.023)	(0.022)
Constant	0.141***	0.108***	0.253***	0.163***
	(0.012)	(0.031)	(0.09)	(0.006)
Controls			Yes	
Country FE		Yes	Yes	
Individual FE				Yes
Observations	3,600	3,600	3,520	3,600
Individuals	1,800	1,800	1,760	1,800
R squared	0.023	0.047	0.068	0.055

Notes: Controls include education and occupation

*** [**] (*) denote significance at 1, [5], (10) % level

Standard errors clustered at the individual level are reported in parentheses.

Table 8: Employment by Industry and Sector - Retirees

Industry	Private	Public	Total
Agriculture, hunting	6.7	0.9	4.7
Mining and quarrying	2.1	0.6	1.6
Manufacturing	36.6	2.6	25.0
Electricity, gas and water supply	1.6	3.5	2.2
Construction	10.6	2.0	7.7
Wholesale and retail	11.7	1.7	8.3
Hotels and restaurant	3.0	0.6	2.2
Transport, storage and communication	4.9	11.1	7.0
Financial intermediation	4.6	1.9	3.7
Real estate, renting	4.0	3.4	3.8
Public administration and defence	0.5	25.5	9.0
Education	1.4	22.8	8.7
Health and social work	3.7	15.2	7.6
Other community, social and personal services	8.7	8.2	8.5
Total	100	100	100

Table 9: Logit Regressions - Industry Retirees

	(1)	(2)
Education	0.144***	0.052**
Health and social work	0.067***	0.018
Public Administration	0.045**	-0.006
Other	0.029**	0.005
Controls	No	Yes
N	18582	18582

Note: *** [**] (*) denote significance at 1, [5], (10) % level

All the entries are average marginal effects

Table 10: Logit Regressions - Occupation

Retirees

	Managers & Professionals		Technicians & Clerks		Other	
	(1)	(2)	(3)	(4)	(5)	(6)
Public	0.055**	0.031	0.008	0.000	0.033***	0.014
	(0.025)	(0.026)	(0.019)	(0.018)	(0.012)	(0.011)
Controls	No	Yes	No	Yes	No	Yes
N	3728	3728	5680	5680	9948	9948

Note: *** [**] (*) denote significance at 1, [5], (10) % level. The entries are average marginal effects, standard errors are reported in parentheses.

35

Table 11: Logit Regressions - by Age group
Retirees

	Born before 1940		Born after 1940	
	(1)	(2)	(3)	(4)
Public	0.057***	0.015	0.063***	0.008
	(0.012)	(0.011)	(0.016)	(0.015)
Controls	No	Yes	No	Yes
N	9203	9203	10275	10275

Notes: All columns include country and survey wave dummies.

The entries are average marginal effects, standard errors are reported in parentheses.

*** denotes significance at 1 % level

Table 12: Country-Specific Logit Regressions
Retirees

	Unconditional Marginal Effect	Conditional Marginal Effect
Austria	0.077***	0.032**
	(0.017)	(0.016)
Germany	0.079***	0.036
	(0.026)	(0.025)
Sweden	0.028	0.013
	(0.021)	(0.023)
Netherlands	0.091***	0.048*
	(0.027)	(0.028)
Spain	0.046**	0.018
	(0.019)	(0.018)
Italy	0.072***	-0.006
	(0.026)	(0.023)
France	0.054**	0
	(0.024)	(0.023)
Denmark	0.036	0.018
	(0.024)	(0.026)
Greece	0.012	0.006
	(0.014)	(0.023)
Switzerland	0.047*	0.014
	(0.026)	(0.025)
Belgium	0.089***	0.012
	(0.022)	(0.023)
Portugal	0.037	-0.015
	(0.033)	(0.025)

Notes: *** [**] (*) denote significance at 1, [5], (10) % level

Table 13: Ordered Logit Regressions, Other Outcomes, Marginal Effects of Public Sector

Panel A: Workers

	Risk			Political Views			Trust			Life Satisfaction			Job Satisfaction	
	Un. M.E.	Cond. M.E.		Un. M.E.	Cond. M.E.		Un. M.E.	Cond. M.E.		Un. M.E.	Cond. M.E.		Un. M.E.	Cond. M.E.
Take substantial risks	0	-0.004**	Left	0.047**	0.054***	Low	-0.017	0.012	Low	-0.002	0.002	Strongly agree	0.069***	0.033*
Above average	0.001	-0.012***	Centre	-0.014**	-0.016**	Med	-0.010	0.006	Med	-0.018	0.014	Agree	-0.048***	-0.022*
Average	0.004	-0.042***	Right	-0.033***	-0.038***	High	0.027	-0.018	High	0.020	-0.016	Disagree	-0.018***	-0.010*
Not willing to take risks	-0.005	0.058***										Strongly disagree	-0.004***	-0.002*
Controls	No	Yes		No	Yes		No	Yes		No	Yes		No	Yes
N	6452	6452		6734	6734		7520	7520		10025	10025		12162	12162

Panel B: Retirees

	Risk			Political Views			Trust			Life Satisfaction		
	Un. M.E.	Cond. M.E.		Un. M.E.	Cond. M.E.		Un. M.E.	Cond. M.E.		Un. M.E.	Cond. M.E.	
Take substantial risks	0.0017**	0.0001	Left	0.0051	0.0263*	Low	-0.0314**	-0.0024	Low	-0.0088***	-0.0045**	
Above average	0.0057**	0.0004	Centre	0.0001	0.0002	Med	-0.0101**	-0.0007	Med	-0.0620***	-0.0274**	
Average	0.0394**	0.0024	Right	-0.0052	-0.0264*	High	0.0415**	0.0031	High	.0708***	0.032**	
Not willing to take risks	-0.0468**	-0.0029										
Controls	No	Yes		No	Yes		No	Yes		No	Yes	
N	8115	8115		8235	8235		9309	9309		10998	10998	

Notes: All entries are marginal effects. All columns include country and survey wave dummies.
*** [**] (*) denote significance at 1, [5], (10) % level.