ON SELECTION INTO PUBLIC CIVIL SERVICE

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October 2010

Abstract: This paper investigates whether the institution of life time tenure for public sector employees affects the selection of workers into private and public sector occupation. Precisely, we argue that more generous employment protection for public sector employees may induce risk averse individuals to select into civil service employment even if they have a low intrinsic motivation and talent for this type of occupation. To empirically test for this effect, we exploit the natural experiment of the German reunification in 1990. While occupational choices in the Federal Republic of Germany (FRG) before 1990 may be affected by the described security motive, workers in the former German Democratic Republic (GDR) enjoyed an employment guarantee irrespective of their occupation. Using data from the German Socio-Economic Panel, we employ a difference-in-difference approach that takes absenteeism as a proxy for intrinsic worker motivation and productivity. The results suggest a significant selection effect: public sector employees who made their occupational choice in the FRG report more days of absence than the control group of civil servants who chose their occupation in the former GDR. This effect turns out to be robust against controlling for potential socio-economic and cultural differences between the groups.

JEL classification: J45, J5, H8 key words: public sector, employment protection, occupational choice

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1 Introduction

Traditionally, many countries around the world grant life-time tenure to their public sector employees comprising a rather wide range of occupations from public administration over police officers to teachers at public schools. However, the occupations in which public sector workers obtain civil servant status and life-time tenure strongly vary across countries. While for example teachers in Germany, France and the US obtain civil servant status, their colleagues in the Netherlands, Sweden and the United Kingdom are salaried employees (see OECD, 2005).

The last years have moreover seen a trend towards abolishing the civil servant status and the corresponding life-time tenure for public sector employees. Switzerland, for example, introduced a new civil servant law in 2001 which put an end to life-time tenure contracts. In Germany, proposals to abolish the civil servant status for public sector workers have been advanced over several decades (see Quint, 1997).¹ Furthermore, many US states currently debate about abolishing life-time tenure for teachers at their public schools (e.g. US Today, 2008, New York Times, 2008).

In recent years, the academic economic literature has also shown a rising interest in the design of public sector contracts. The major aim of existing studies is to understand why payment schemes in public sector occupations are characterized by small worker rents compared to the private economy. Recent theoretical papers suggest that low wages in the public sector are efficient since they induce intrinsically motivated workers to select into public sector employment (e.g. Francois, 2000; Besley and Ghatak, 2005). It has so far, however, largely been neglected that public sector contracts are often characterized by more generous employment protection schemes than private sector work. Our paper argues that life time tenure may equally affect occupational choices and may make public sector work attractive for individuals even if they have a low intrinsic motivation and talent for occupations in the public sector.

The paper starts out with a simple theoretical model which describes the occupational choice of an individual who can select into employment in the private or public sector when his productivity in both sectors is uncertain. We assume that worker compensation is more strongly tied to the productivity outcome in the private sector which

¹Recently, the OECD sharply criticized Germany for its poor teacher quality and named the civil servant status to be one of the major reasons for the problem (OECD, 2008).

captures that workers in the private economy, in contrary to public sector workers with life-time tenure, may be dismissed if their productivity outcome is low. Consequently, the model gives rise to inefficiencies since workers have an incentive to select into public sector employment to insure against low productivity realizations.

We empirically assess the selection into public sector occupation by exploiting the natural experiment of the German reunification. After several decades of separation, the Federal Republic of Germany (FRG) and the German Democratic Republic (GDR) reunified in 1990. In this course, the FRG's public civil servant legislation was extended to public sector workers from the former GDR. However, while the two groups of workers are employed under the same contractual conditions today, they faced different incentives at the time of their occupational decision. Precisely, while in the FRG job security in public sector occupation has traditionally exceeded job security in the private economy, the former GDR guaranteed full employment protection irrespective of the occupation. Thus, considerations regarding the employment protection of public versus non-public sector work plausibly did not affect the occupational choice of workers in the former GDR.

The empirical analysis is based on micro data from the German Socioeconomic Panel (GSOEP). We follow the existing literature and take worker absenteeism as a proxy for worker productivity and intrinsic motivation (see e.g. Garcia-Prado and Chawla, 2006). Precisely, we test the hypothesis that employees who made their employment decision in the former FRG report a higher number of sick days than employees who made their occupational choice in the former GDR. Moreover, to control for potential socio-economic and cultural differences between the two groups, East and West German workers in the private economy are employed as a control group.

Our findings suggest that granting civil servant status to public sector workers significantly affects selection into public and private sector employment. German civil servants who chose their occupation in the FRG report significantly more sick days per year than public sector workers who made their occupational choice in the former GDR. Moreover, the difference in absenteeism of East and West German public civil servants turns out to be (partly) driven by an increased probability of the former to report zero sick days per year. This may point towards higher levels of intrinsic motivation as attending working every day, even if there is a good reason for being absent on some days (e.g. a minor illness), may indicate a particular commitment and work motivation. Precisely, while both, civil servants who chose their occupation in the FRG and civil servants who chose their occupation in the GDR, have a lower probability to report zero days of absence than private sector workers, the effect is quantitatively by around two thirds smaller for East German civil servants. Put differently, one third of the effect is common to all civil servant workers and is thus suggested to reflect moral hazard problems related to higher employment protection in the civil sector, while two thirds of the effect is specific to civil servants that chose their occupation in the FRG and thus suggests an adverse selection effect.

Our paper contributes to several strands of the economic literature. First, it adds to a number of theoretical papers which investigate the consequence of low-powered incentives in public sector contracts (like low wages and restricted professional advancement based on seniority rather than performance). While some papers stress adverse effects, most of the recent contributions suggest that low-powered incentives tend to be efficient since they attract intrinsically motivated agents into public civil service work (e.g. Francois, 2000; Besley and Ghatak, 2005, Delfgaauw and Dur, 2007). Our paper suggests that this positive selection mechanism may be dampened if governments grant life-time tenure for public sector employees.

Related empirical papers mainly address moral hazard problems of low-powered incentives in public sector work and investigate the effect of pecuniary and non-pecuniary incentive contracts on the performance of public sector employees. For example, Kahn et al. (2001) analyze the impact of introducing performance pay at the Brazilian tax collection authority and find that the scheme had a dramatic effect on fine collections. Similar results are reported with respect to the introduction of teacher incentive pay (for a survey, see Burgess and Ratto, 2004). Closely related, a small literature investigates the impact of employment protection in the public civil service sector on worker productivity. For example, Riphahn (2004) finds strong behavioral responses of public civil service workers to the degree of their employment protection. Exploiting a discrete jump in the level of job security for German public sector employees, her paper suggests that worker absenteeism sharply increases in the degree of employment protection.² Nevertheless, to the best of our knowledge, our paper is the first to investigate

²Similar results are found for the private economy (see e.g. Riphahn and Thalmaier, 2001; Ichino

the role of occupational selection for the productivity of public civil servants.³

The rest of the paper is structured as follows: Section 2 presents a simple theoretical model. Section 3 describes the identification strategy of our empirical analysis and the institutional background. Sections 4 and 5 present the data and the estimation methodology. The empirical results are described in Section 6. Section 7 concludes.

2 A Simple Theoretical Model

The following model illustrates the incentives for motivated agents to select into different sectors and to subsequently exert effort.

2.1 Model Assumptions

We consider an economy with two sectors, the private sector (indexed by p) and the civil service sector (indexed by c), and a continuum of agents. The model comprises two stages. In the first stage, agents make an irreversible decision $s \in \{p, c\}$ in which sector to work. In the second stage, agents must decide how much unobservable effort to exert. We will assume that agents can either be successful and produce a high output $(y = \bar{y})$ or they are unsuccessful in which case the output will be low $(y = \underline{y})$. Effort e is normalized such that the probability for success equals the effort level e, i.e. $\operatorname{Prob}(y = \overline{y}|e) = e$.

The decision to exert effort is driven by two main factors. First, we assume that the agent's wage depends on his success.⁴ The agent's monetary reward in sector i = p, c is given by $w_i(\bar{y}) \equiv \bar{w}_i$ if he was successful and by $w_i(\underline{y}) = \underline{w}_i < \bar{w}_i$ otherwise. For example, one could think of \bar{w}_i as the agent's wage upon a promotion and analogously could interpret \underline{w}_i as the agent's monetary payoff upon dismissal. We assume that the wage profile differs across sectors, in particular $\underline{w}_p < \underline{w}_c$ and $\bar{w}_p > \bar{w}_c$ implying $(\bar{w}_p - \underline{w}_p) > (\bar{w}_c - \underline{w}_c)$. That is, an unsuccessful agent will earn less in the private sector, while a successful agent earns less in the public sector. In line with our motivation on

and Riphahn, 2005).

³While the importance of contract characteristics for worker selection in the public service sector has so far been neglected, the link between incentive contracts and worker selection was discussed for the private sector (see Lazear (2000), for the seminal paper).

⁴To keep the analysis simple we will treat the wage structure in the two sectors as exogenous.

the introductory section, this relation may reflect stricter firing laws in the civil sector and promotion being based more heavily on seniority resulting in a flatter wage profile.

The second factor determining the agent's effort level is his task based intrinsic motivation which might differ across sectors.⁵ The stronger the intrinsic motivation of an agent, the lower is the disutility to exert effort. In particular, we will assume that a higher level of intrinsic motivation μ_i lowers the agent's cost of effort which, for simplicity, is given by $k(e_i, \mu_i) = \frac{1}{2\mu_i}e_i^2$. We take the agents' type $\mu = (\mu_p, \mu_c) \in (0, \bar{\mu}]^2$ to be uniformly distributed in the population and assume that the agent learns his type before he has to make the selection decision. Finally, under the assumption that the agent is risk averse his expected utility when working in sector *i* can be written as

$$Eu_i = (1 - e_i)u(\underline{w}_i) + e_iu(\overline{w}_i) - k(e_i, \mu_i).$$

Defining $\underline{u}_i \equiv u(\underline{w}_i)$, $\overline{u}_i \equiv u(\overline{w}_i)$ and $\Delta u_i \equiv \overline{u}_i - \underline{u}_i$, the expected utility is given by

$$Eu_i = \underline{u}_i + e_i \cdot \Delta u_i - k(e_i, \mu_i). \tag{1}$$

The timing of the game is as follows. First, nature determines the agent's type μ . After the agent has learned his type he chooses the sector he wants to work in. Once this decision has been made, the agent decides over his effort level. Nature then determines whether the agent was successful or not and payoffs accrue.

2.2 Analysis

We solve the model backwards. Once an agent has chosen to work in sector i, the utility maximizing effort level is given by

$$e_i^* \in \arg\max_{e_i} Eu_i = \underline{u}_i + e_i \cdot \Delta u_i - k(e_i, \mu_i) \Leftrightarrow$$
$$e_i^* = \Delta u_i \cdot \mu_i. \tag{2}$$

Intuitively, the equilibrium level of effort increases in the agent's intrinsic motivation and the intensity of incentives that prevails in that sector.

 $^{^{5}}$ We will abstract from any screening or signalling devices which could be employed to improve the information of the employer.

At the time the agent has to make the selection decision, he will already anticipate the effort level he is going to choose subsequently. His (indirect) utility function is given by

$$V_i = \underline{u}_i + \frac{1}{2}\mu_i \cdot \Delta u_i^2$$

The agent will select into whichever sector gives him higher utility. He will therefore choose the private sector if $V_p > V_c$ or

$$\underline{u}_{p} + \frac{1}{2}\mu_{p} \cdot \Delta u_{p}^{2} \geq \underline{u}_{c} + \frac{1}{2}\mu_{c} \cdot \Delta u_{c}^{2} \Leftrightarrow$$

$$\mu_{p} \geq \tilde{\mu}_{p}(\mu_{c}) := 2\left(\frac{\underline{u}_{c} - \underline{u}_{p}}{\Delta u_{p}^{2}}\right) + \left(\frac{\Delta u_{c}^{2}}{\Delta u_{p}^{2}}\right) \cdot \mu_{c}.$$
(3)

Note that since the low wage in the civil sector is higher, the first term of the right hand side is positive, while the higher incentive intensity in the private sector implies that $(\Delta u_c^2/\Delta u_p^2)$ is smaller than one. Equation (3) is graphically illustrated in figure 1. The line $\tilde{\mu}_p$ in figure 1 depicts all types that are indifferent between the two sectors. Consequently, all agents with type being above (below) $\tilde{\mu}_p$ will prefer to work in the private (civil) sector. One can see immediately that agents do not necessarily select into those sectors for which they have the highest intrinsic motivation. In particular, it is apparent that those types who exhibit a low motivation for both sectors tend to prefer the civil sector while those agents with a high level of intrinsic motivation for both sectors will predominantly select into the private sector. Intuitively, agents with a low motivation anticipate that their subsequent effort exertion will be low resulting in only a small chance to be successful. For those agents, the civil sector provides some insurance since the payoff upon failure \underline{u}_c is higher compared to the private sector. In contrast, highly motivated types select into the private sector even if their intrinsic motivation for the civil sector is higher since they benefit from the higher incentive intensity. We conclude therefore that differences in the wage profiles across occupational sectors translate into distortions in the agent's selection incentives.

The distorted selection decision impacts on the average motivation in the two sectors. One can see that the civil sector will attract a disproportionally low share of agents with very high motivation (those agents with μ_c close to $\bar{\mu}$) since among those, agents who have a high motivation for both sectors, are lost to the private sector. The reverse holds true for weakly motivated types who will more often end up in the civil sector. As a result, the average motivation will be higher in the private sector.

3 Identification and Institutional Background

Empirically identifying the effect of contract differences, in particular differences in employment protection, on the selection of individuals into public and private sector work is challenging in the sense that occupations in the private economy differ from public sector work in several dimensions. Thus, observed differences in characteristics and preferences of civil servants and private sector employees may have various causes other than contractual features. Note though that survey information is in line with the hypothesis derived in the previous section. A survey of the Higher Education Information System (HIS) among German university students, for example, suggests that individuals who study to become a teacher (who are granted civil servant status in Germany) report a significantly higher preference for leisure time than any other group of university students, see Table 1.

To go beyond this suggestive evidence and identify whether granting more generous employment protection and civil servant status to public sector employees affects the selection of workers into the civil service occupation, we follow Fuchs-Schündeln and Schündeln (2005) and exploit the German reunification in 1990 as a natural experiment.

Being divided after World War II, the Federal Republic of Germany (FRG) and the former German Democratic Republic (GDR) reunified in 1990. Following the example of other Western democracies, the FRG after World War II developed to be a market democracy with privately managed firms. While workers in the private sector faced a positive risk of dismissal, employees in most civil service occupations were granted civil servant status. Thus, after a probationary period, public sector workers received life-time tenure status. In contrast, the GDR was organized as a socialist system with a central planning office and provided an employment guarantee to all its workers irrespective of their occupation. Thus, the (expected) job protection level did not vary between public service occupations and the rest of the economy.

After the reunification in 1990, the West German civil service sector was extended to East Germany without any restrictions or alterations. Individuals in the former GDR who had worked in occupations for which civil servant status was granted under the law of the FRG received public servant status after going through a review process and subsequently obtained the same rights as their West German colleagues. Since both groups of workers are employed under the same contractual features today while only workers who made their occupational decision in the FRG, at the time of the decision, faced differing job protection laws between the public and private sector, this natural experiment allows us to determine the effect of granting civil servant status on the selection of risk averse individuals into public and private sector work. More detailed information concerning the institutional background for our identification strategy can be found in Appendix A.

4 Data and Sample Statistics

Our analysis is based on the German Socio-Economic Panel (GSOEP). This representative annual panel survey on individuals and households in Germany was started in 1984 and initially included only individuals in the former FRG. From 1990 on, the data also covers the new German states which joined from the former GDR.

Following Fuchs-Schündeln and Schündeln (2005), our analysis comprises observations from the survey rounds in 1998 to 2006. There are two justifications for taking 1998 as a starting point for our study. Firstly, in 1998 a refreshment sample was added that significantly increased the number of observations. Secondly, the review process before granting the civil servant status to an east German took several years (see Fuchs-Schündeln and Schündeln, 2005) and hence, the number of East German civil service workers with life-time tenure is low in years prior to 1998.

Moreover, we drop foreigners and migrants and restrict our analysis to labor force participants. Precisely, we exclude retirees, individuals on military or social service, individuals who are self-employed or hold minor jobs (below the earnings-threshold of 800 Euros) and individuals in education or apprenticeship. Moreover, we restrict the age of the individuals to be included in the sample to 55 years to avoid issues raised by self-selection into early retirement and to ensure that common support is given.

Our analysis seeks to identify the effect of life-time tenure in civil service on the selection of workers in the private and in the civil service sector. Section 2 suggests that workers with a low intrinsic motivation and a low expected productivity outcome may find it attractive to select in the public sector. Our analysis thus requires the definition of measures that capture worker productivity and motivation. The difficulty of finding appropriate ways to quantify worker productivity and worker motivation is

acknowledged by several studies (e.g. Aral et al., 2007), especially with respect to white collar occupations. Since many civil servant workers are engaged in white collar tasks, our study faces similar difficulties. For example, the care with which a police officer interrogates a suspect or the enthusiasm with which a teacher explains new material to a class, are hard to quantify. Therefore, we rely on the indirect measure of the number of days absent from work which previous studies suggested to be a proxy for worker motivation and worker productivity (e.g. Garcia-Prado and Chawla, 2006). Absenteeism can thereby be related to both, a worker's intrinsic job motivation as well as to his general productivity. First, intrinsically motivated employees are perceived to be motivated to exert effort because they care about their jobs rather than because of extrinsic incentives (see e.g. Prendergast, 2007). Consequently, moral hazard activities like calling in sick although being able to work which are documented by previous studies (e.g. Ziebarth and Karlsson, 2009) are less likely to apply to intrinsically motivated workers. In the contrary, intrinsically motivated employees may even attend work under imperfect health conditions to ensure the progress of their projects.⁶ Second, absenteeism may be affected by a worker's general job productivity since low levels of productivity may require large effort levels to achieve a certain work outcome and may result in job stress and the feeling of an overload of work. Among others, Zavana et al. (2002) and Leontaridi and Ward (2002) point out that job stress contributes to frequent health problems which may be physical as well as psychic in nature and which enhance the individual's days of absenteeism from work.

The absenteeism variable in our sample exhibits a considerable spread with some workers reporting 50 or more annual days of absence from work due to sickness.⁷ To avoid our results being driven by outliers due to severe cases of illness, we restrict our sample to workers who report less than 50 days of work absence due to illness which corresponds to the 99th percentile of the days-of-absence-distribution. Since this cut-off point is chosen arbitrarily, we reran our estimations on alternative samples including all workers (irrespective of the reported number of days absent from work) and workers

⁶Human resource managers claim that "superficial factors such as sickness, stress, car breakdown, lack of daycare keep only those people away from work who are not very motivated to be there in first place" (McCrimmon, 2008).

⁷Question: How many days have you been absent from work due to illness this year? (Original question in German: Wieviele Jahre haben Sie im Jahr [...] wegen Krankheit nicht gearbeitet?)

with less than 100 days of absence from work and did not find our qualitative results to be affected.

Moreover, we define an indicator variable for individuals that lived in the GDR before the reunification in 1990 and, in particular, made their occupational choice there. We thus split our sample in workers who received their education in East Germany and West Germany respectively, and will in the following refer to those groups as the East German sample (East German workers) and the West German sample (West German workers) respectively. An individual is included in the East sample if he received his education in the former GDR and was at least 25 years of age in 1990 at time of reunification. We presume that at the age of 25, individuals already made their final occupational choice, even if they pursued a university education.⁸

In total, our sample comprises 19,054 observations from 5,832 individuals. Thus, on average the sample contains 3.27 observations per individual. Precisely, we have 1,917 observations from 665 individuals which are employed as civil service workers with a Western German education, 315 observations from 98 individuals which are employed as civil servant workers with an Eastern German education. Basic sample statistics are reported in Table 2a. The average number of sick days in our sample is calculated with 5.22 but exhibits a large standard deviation. About half the workers in our sample report zero sick days while others observe high absenteeism of 20 or more work days.

Moreover, 11.7% of the workers in our sample have civil servant status. Note, that similar effects as the one described in our theory section are expected for the group of public sector employees without civil servant status since they commonly also enjoy a lower dismissal risk than workers in the private sector. We thus reran the regressions reported in this paper for the whole group of public sector workers and found similar, although somewhat weaker, results. Furthermore, 27.2% of the workers in our sample received their education in the GDR.

The sample statistics moreover indicate that 59.1% of the individuals are male, 86.9% live together with a spouse and the majority of workers either holds a vocational

⁸A possible remedy against the identification strategy is that some individuals in the East sample may have switched their occupation after reunification. However, in line with Fuchs-Schündeln und Schündeln (2005), we are not concerned about this issue since a possible selection of East Germans in public and civil service work after reunification, is expected to introduce noise to the estimation and bias the results towards zero.

degree (63.2%) or a university degree (21.6%). 4.2% of the workers observe a disability, the average age is 45.1 years and the average number of children is 0.8. As expected, most individuals hold jobs which require an education and involve complex tasks and functions. A small fraction of workers is engaged in a team leading role (6.7%). The average worker's tenure is 12.3 years, slightly more than 20% of the workers hold part–time contracts. The average hourly wage is calculated with 21.9 Euros and the average number of working hours per week is measured with slightly more than 35 hours.

Table 2b reports the corresponding descriptive statistics for the sub-samples of workers in the civil service sector with an East and West German education respectively and for workers in the private sector. In line with our theoretical hypothesis, we find that the average number of sick days reported by civil servant workers with a West German education exceeds the average number of sick days reported by civil servants with an East German education and workers in the private sector (6.12 days versus 4.97 and 5.44 respectively). A comparable pattern can be found with respect to the probability of reporting a positive number of sick days (65.54% versus 49.62% and 49.68% respectively). Moreover, the sub-groups are homogeneous with respect to personal characteristics like age and sex but differ to some extend with respect to the workers' highest educational degree and their job characteristics. Precisely, workers in the civil service sector are found to be better educated and to occupy superior job functions compared to workers in the private economy. This pattern is, however, found to be equal for civil servants with an East and West German education.

5 Estimation Methodology

Following our theoretical motivation, we estimate the following empirical model

$$y_{it} = \beta_0 + \beta_1 c_i + \beta_2 c e_i + \beta_3 s_i + \beta_4 x_{it} + \epsilon_{it} \tag{4}$$

whereas y_{it} symbolizes the number of sick days as a proxy for the intrinsic motivation and productivity of individual *i* at time *t*.

To assess whether civil servants who made their occupational choice in the former FRG report more sick days than the control groups of civil servants who made their occupational choice in the GDR and private sector employees, we define a dummy variable c_i which indicates civil servant workers and a dummy variable c_i which indicates civil servants who made their occupational choice in the former GDR. The dummy variable s_i indicates workers (in private firms and the public sector) that received their education in the former GDR. Our analysis thus employs a difference-in-difference approach. Controlling for s_i ensures that our results are not driven by unobserved differences between individuals who made their occupational choice in the FRG and GDR respectively, caused, for example, by differences in social norms.

Moreover, we include a full set of state-year dummies to control for (time-varying) heterogeneity between German states which may affect the number of days of absence through differences in economic conditions (e.g. the regional unemployment rate), climate, mentality and social norms. Additionally, to avoid our results being driven by other individual and work place characteristics, we include several control variables for the workers' socio-economic situation x_{it} , comprising personal and job characteristics like age, sex, family status, job function and tenure.

We estimate equation (4) using ordinary least squares (OLS) as well as count data models. Since a likelihood ratio test suggests overdispersion, we employ a negative binomial model instead of poisson. Moreover, as a large number of individuals reports zero sick days, we additionally run specifications where we apply a zero-inflated negative binomial regression (which is also suggested by a Vuong test).

6 Estimation Results

The following section presents our estimation results, whereas section 6.1 depicts the findings of our baseline estimations and section 6.2 reports the results of a falsification test. Heteroscedasticity robust standard errors which allow for clustering at the individual level are calculated and displayed in the tables below the coefficient estimates.

6.1 Basline Estimations

Table 3 presents our baseline results. In specification (1), we use an OLS approach and regress the worker's number of annual sick days on the variables c_i and ce_i , indicating workers with civil servant status in general and workers with civil servant status and occupational choice in the former GDR respectively. The specification moreover includes a dummy s_i , which indicates individuals that grew up and received their education in the former GDR. We find a positive and statistically significant coefficient estimate for the variable c_i and a negative and significant coefficient estimate for the interaction term ce_i . The two coefficient estimates have a comparable size in absolute terms. Consequently, civil servant workers who made their occupational choice in the former FRG tend to observe a higher number of sick days than their colleagues in the private sector, while civil servant workers who made their occupational choice in the GDR are not found to report a higher number of sick days. Since East and West German public service workers are employed under the same civil service legislations, this effect is not driven by differences in work contract conditions. The specification moreover controls for a set of personal control characteristics, namely the workers' sex, age, educational background and family circumstances.

In specification (2), we additionally include a full set of state-year dummies to control for state specific effects that vary over time, which does not affect our qualitative or quantitative results. Specification (3) additionally controls for a set of individual job characteristics to ensure that our effects are not driven by potential underlying differences in the job features between East and West German civil service employees. Precisely, we include the employees' job function, tenure, wage rate as well as indicator variables for part-time work and the number of working hours in the estimation analysis. Again, we find the coefficient estimates for the civil servant variable c_i to be unaffected. Quantitatively, our results suggest that civil servants who made their occupational choice in the FRG on average report 2.24 more sick days than comparable workers in the private economy while civil servants who made their occupational choice in the former GDR report only 0.65 days higher absenteeism than private sector employees. The latter estimate is statistically indistinguishable from zero as determined by a Wald test (with a p-value of 0.3207). Note moreover that the control variables exhibit the expected signs. For example, we find that workers with a longer job tenure report a higher number of sick days. This supports the results of previous work by Riphahn and Thalmaier (2001), Riphahn (2004), Ichino and Riphahn (2005) who find that the employment protection (which increases with a worker's tenure by German law) exerts a positive effect on worker absenteeism.

As described above, the count nature of our absenteeism variable, however, suggests to test whether the results are robust against employing a count data model. A likelihood ratio test indicates overdisperion and suggests that a negative binomial model is preferable to poisson estimation. Thus, in specifications (4) to (6) we report the estimation results for a binomial negative count data model. Specification (4) to (6) correspond to the OLS specifications reported in columns (1) to (3). The coefficient estimates turn out to be qualitatively unchanged to our prior findings and the coefficients for the public service variables again suggest that civil service workers in the West German sample report a larger number of days of work absence than private sector workers while this effect is substantially smaller in the control group of East German civil service workers. The quantitative effects are similar to the ones suggested by the OLS regressions. Precisely, calculating the marginal effects suggests that civil servants who made their occupational choice in the FRG report 2.52 more sick days than workers in the private economy, while civil servants who made their occupational choice in the GDR report only 0.70 sick days more than private sector employees. Again, the latter estimate is not statistically different from zero (with a p-value of 0.3686).

To account for the large number of individuals with zero sick days, we finally test the robustness of our findings to estimating a zero inflated negative binomial model, which combines a logit model to determine the probability of a zero observation with a negative binomial count data model. The results are reported in Table 4, whereas the first column in each specification presents the results of the negative binomial model and the second column reports the results of the logit model determining the probability of a zero outcome. In specification (1), we include the civil servant variables c_i and ce_i and a set of control characteristics for the individuals in our sample. Again, we find that civil servant workers with a West German background report a higher number of sick days than comparable workers in the private sector whereas this effect does not prevail for civil servant workers with an East German background (see column Non-Zero of specification (1)). Moreover, the results indicate that West German civil servants have a lower probability to report zero sick days than workers in the private economy. For civil servants with an East German background the same qualitative effect is derived although the quantitative estimate is around 50% smaller. Similar results are found if we additionally control for state-year fixed effects in specification (2) and add control variables for job characteristics in specification (3).

Note that reporting zero days of absence may be a particularly good proxy for

intrinsic worker motivation since attending work every day, despite reasons for being absent on some days (e.g. minor illnesses), indicates particular job commitment and motivation. The logit model in specification (3) suggests that both, civil service workers in the West and East German sample, observe a lower probability to report zero days of absence than private sector workers, whereas the effect is however by around two thirds smaller for the group of East German civil servants. Put differently, the results point towards moral hazard problems in civil service employment as one third of the effect is common to both, West and East German civil servants. However, since the effect of civil servant status is significantly larger for the group of West German workers, the findings also suggest that adverse selection plays a role in explaining civil servant worker absenteeism.

Concluding, the results are in line with our hypothesis that differing degrees of employment protection for public and private sector workers may distort the occupational choice. Precisely, taking absenteeism as a measure for intrinsic job motivation and productivity, the findings suggest that high employment protection and life time tenure in the public sector induces individuals to select into public sector work even if they have a low intrinsic motivation for this type of occupation.

6.2 Falsification Test

As an additional robustness check, we run a falsification test and reestimate our model for workers in East and West Germany who made their occupational choice after 1990. Precisely, we restrict the sample to individuals who were aged below 17 in 1989. Plausibly, these individuals had not made their final occupational choice before the German reunification and we expect that both, workers in East and West Germany, anticipated at the time of their occupational choice that they would in their future job be employed in a Western market economy with higher employment security in civil servant occupations compared to private sector work.

The results of this falsification test are presented in Table 5. In specification (1), we reestimate our baseline OLS model (specification (3) in Table 3). The coefficient estimate for the civil servant dummy exhibits a positive sign, while the interaction term ce_i does not gain statistical significance and even has a positive sign. This suggests that both, civil servants in West Germany as well as civil servants in East Germany, report a higher number of days absent from work than employees in the private sector. As the effect does not statistically differ between workers in East and West Germany, the falsification test suggest that our baseline results do not reflect other systematic differences between East and West German employees. Similar results are found if we estimate a negative binomial model in specification (2) and a zero-inflated negative binomial model in specification (3).

7 Conclusion

This paper investigates whether civil servant status and life-time tenure for public sector employees impacts on the selection into public sector employment. In a simple theoretical model, we show that risk averse individuals may have an incentive to select into civil service work despite a lack of talent and intrinsic motivation if the public sector employment offers a lower risk to be dismissed in case of low-productivity outcomes.

To test for this effect, we exploit the natural experiment of the German reunification in 1990. While individuals who made their occupational choice in Western Germany prior to 1990 faced a situation in which employment protection in the public sector was significantly larger than employment protection in the private economy, this was not the case for individuals who made their employment decision in the former GDR where employment was guaranteed irrespective of the occupation.

Using information from the German Socio-Economic Panel and employing absenteeism as proxy for a worker's productivity and intrinsic motivation, we find a significant selection effect: civil servant workers who made their employment decision in West Germany prior to 1990 report significantly more sick days than civil servant workers who made their employment decision in East Germany prior to 1990. The difference partly reflects a higher probability of the former group to report zero days of absence. Interpreting the number of sick days as measure for intrinsic motivation and job productivity, this result runs counter to existing arguments which suggest that it is primarily workers with a high intrinsic motivation who select into public sector employment due to comparably low wage levels relative to the private economy. From a policy perspective, our results support recent proposals and attempts in several countries to abolished life-time tenure status of public service employees (see e.g. OECD, 2008).

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Appendix A

In the following, we will provide more information on the legal and institutional background which is relevant for our identification strategy.

Civil Servant Status in Germany/the FRG

Our analysis relies on the assumption that civil service workers in the FRG have faced a lower dismissal risk than their colleagues in the private sector. In Germany, civil servant workers receive life-time tenure status after a probationary period. According to civil service law, a civil servant can moreover only be dismissed if he is sentenced to at least one year of prison for any criminal charge or if he is sentenced to six months in prison for any charges associated with treason. In contrast, workers in the private sector face a positive risk of losing their job in the absence of criminal charges as they can be dismissed at any time subject to legal and contractual dismissal periods that may vary with the worker's tenure.

Note moreover that since 1976 the civil service law has been unified across the states of the FRG. Thus, since then the national legislature defined the basic legal conditions for all German civil service workers at the national, state and municipality level. This includes the general rights and duties of civil servant workers and their life-time tenure status after a probationary period. The national legislature also decided

about remuneration schemes for civil servants and supply in case of need like retirement pay and care in case of accident. This law has been extended to public sector workers in East Germany in 1990. However, some issues have also been regulated at the state level, mainly the work hours of civil servant workers, their entitlement to holidays, special payments like Christmas and vacation bonus. The state regulations are very similar in most respects. Potential deviations may arise only through differences in the work hours and special payments for civil servant workers. We thus control for the latter factors in our regression analysis.

Occupational Choice in the GDR

Moreover, employment security in the GDR did not differ between 'public' and 'private' sector occupation as job security was guaranteed through the constitution of the GDR. Consequently, workers did not face any risk with respect to their future employment situation irrespective of their occupational choice. Although individuals could choose their occupation in both the FRG and the GDR, it is well-known that children from working class families had privileged access to the limited places at the GDR's universities. However, we are not too concerned about this since these types of interventions are primarily expected to lead to inferior matches between individuals and occupations in terms of intrinsic motivation and productivity characteristics, and are expected to bias our results against us.

Furthermore, as described above, the Unification Treaty regulated that the West German civil service laws were extended to the East German states. Individuals in the former GDR who had worked in occupations for which civil servant status was granted under the law of the FRG had to go through a review process. Reports on this revision process largely suggest that it was based on *formal* qualifications (e.g. a teacher diploma if a person applied for a civil servant position as a teacher) only (Quint, 1997). Furthermore, the GDR state undertook a broader range of tasks than those performed by the FRG and thus, the Unification treaty provided the method of winding up entire administrative divisions and dismissing the associated civil service employees ('Abwicklung', see Quint, 1997). The German Unification Treaty e.g. allowed for dismissal of public sector employees if there was no longer any objective need for the employee's services and it was possible to close entire administrative divisions and dismiss the personnel. Last, employees in the former GDR could be laid off if they had violated the principles of humanity or rule of law as defined under the provision of the Universal Declaration of Human Rights or if they had been active on behalf of the Ministry of State Security in the former GDR ('Stasi'). Public service workers from East Germany who remained in their position underwent a review after a three-year probationary period before receiving life-time tenure and the status of civil servant (Fuchs-Schündeln and Schündeln, 2005; Quint, 1997). Since we do not think that there is reason for a plausible correlation between an individual's political activity in the GDR or their job function and the job productivity and motivation which we use as dependent variable in our analysis, we do not consider our results to be affected by this review process in any substantial way.⁹

⁹Nevertheless, even if this assumption was not to hold, the screening process just adds a 'market' element into our analysis reflecting the possibility of the government to dismiss workers from their positions in case of low productivity outcomes, i.e. the government may act like a private firm in a market economy. This would equally lead to the conclusion that the productivity in the public sector could be enhanced if the civil servant status was to be abolished.





Table 1: Student Questionaire: Importance of Leisure Time								
Variable	Obs.	Mean	Std.Dev.	95% Confid	dence Interval			
Teacher	585	2.263	.038	2.553	2.701			
Cultural Studies	646	2.821	.034	2.754	2.888			
Economies and Social Science	1,119	2.770	.028	2.715	2.824			
Math and Natural Science	772	2.744	.033	2.679	2.808			
Medicin	251	3.138	.057	3.025	3.251			
Agriculture and Food	163	2.883	.070	2.774	3.022			
Engineering	821	2.729	.030	2.669	2.788			
Art	106	2.991	.097	2.799	3.183			
Law	163	2.886	.071	2.745	3.027			

This table exhibits sample statistics for a survey of university students undertaken by the Higher Education Information System (HIS). The students were asked to indicate their preference for leisure time in categories between 1 and 5, with 1 indicating high preference levels and 5 indicating low preference levels. *Obs.* indicates the number of observations, *Mean* is the unweighted average of observations, *Std.Dev.* the standard deviation and *95% Confidence Interval* the 95% Confidence Interval.

Table 2a: Descriptive Statistics - Full Sample						
Variable	Obs.	Mean	Std. Dev.	Min	Max	
Number of Sick Days (Continous)	19,054	5.2208	8.5243	0	49	
Number of Sick Days (Binary)	19,054	0.4920	0.4999	0	1	
Civil Servant	19,054	0.1171	0.3216	0	1	
East Education	19,054	0.2719	0.4450	0	1	
Male	19,054	0.5914	0.4916	0	1	
Spouse	19,054	0.8694	0.3370	0	1	
Highest School Leaving Degree						
No Degree	19,054	0.0080	0.0893	0	1	
Low Secondary School ('Hauptschule')	19,054	0.2974	0.4571	0	1	
Middle Secondary School ('Realschule')	19,054	0.3599	0.4800	0	1	
Technical School ('Fachschule')	19,054	0.0598	0.2371	0	1	
University Entry Certification ('Abitur')	19,054	0.2187	0.4134	0	1	
Other Degree	19,054	0.0424	0.2014	0	1	
Highest Vocational Degree						
No Degree	19,054	0.0795	0.2705	0	1	
Vocational Training	19,054	0.6322	0.4822	0	1	
Master Craftsman	19,054	0.0871	0.2819	0	1	
University	19,054	0.2161	0.4116	0	1	
Disabled	19,054	0.0423	0.2013	0	1	
Number of Children	19,054	0.8371	0.9998	0	1	
Age	19,054	45.0651	5.0848	34	54	
Job Function						
Simple Tasks, No Education Required	19,054	0.1610	0.3675	0	1	
Simple Tasks, Education Required	19,054	0.2423	0.4285	0	1	
Complex Tasks	19,054	0.2925	0.4549	0	1	
Highly Complex Tasks	19,054	0.2365	0.4249	0	1	
Team Leading Role	19,054	0.0670	0.2500	0	1	
Tenure	19,052	12.3007	9.3639	0	41.3	
Part-time Work	19,054	0.2045	0.4033	0	1	
Weekly Hours	17,150	35.1198	8.1487	1.5	75	
Hourly Wage in Euro	15,729	21.9492	12.6330	5.0370	195.5556	

Table 2b: Descriptive Statistics - Split Sample						
	Civil Servants, East		Civil Serv	vants, West	Workers	Priv. Sector
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Number of Sick Days (Continous)	4.9699	7.6567	6.1185	8.2846	5.4380	8.7542
Number of Sick Days (Binary)	0.4962	0.5009	0.6554	0.4754	0.4968	0.5000
Male	0.6353	0.4822	0.5997	0.4901	0.5870	0.4924
Spouse	0.9586	0.1995	0.9048	0.2936	0.8608	0.3461
Highest School Leaving Degree						
No Degree	0	0	0.0019	0.0441	0.0092	0.0955
Low Secondary School ('Hauptschule')	0.0113	0.1058	0.1075	0.3099	0.3233	0.4678
Middle Secondary School ('Realschule')	0.4736	0.5002	0.2759	0.4471	0.3773	0.4847
Technical School ('Fachschule')	0.0902	0.2870	0.0829	0.2758	0.0558	0.2296
University Entry Certification ('Abitur')	0.4060	0.4920	0.5078	0.5001	0.1721	0.3775
Other Degree	0.0188	0.1361	0.0065	0.0802	0.0490	0.2159
Highest Vocational Degree						
No Degree	0.0075	0.0865	0.0214	0.1447	0.0877	0.2828
Vocational Training	0.5827	0.4940	0.5253	0.4995	0.6555	0.4752
Master Craftsman	0.0827	0.2760	0.0214	0.1447	0.0953	0.2936
University	0.3609	0.4812	0.5563	0.4970	0.1627	0.3691
Disabled	0.0263	0.1604	0.0544	0.2269	0.0424	0.2015
Number of Children	0.5602	0.7808	0.9132	0.9861	0.8281	1.0000
Age	46.0489	5.0791	46.4955	5.0040	44.7620	5.0355
Job Function						
Simple Tasks, No Education Required	0	0	0	0	0.1782	0.3827
Simple Tasks, Education Required	0.0301	0.1711	0.0201	0.1403	0.2806	0.4493
Complex Tasks	0.3835	0.4871	0.2772	0.4478	0.3088	0.4620
Highly Complex Tasks	0.3684	0.4833	0.4443	0.4970	0.2068	0.4051
Team Leading Role	0.2180	0.4137	0.2584	0.4379	0.0252	0.1568
Tenure	14.3876	6.6786	20.9483	8.8248	11.3630	8.9897
Part-time Work	0.0714	0.2580	0.2170	0.4123	0.1981	0.3986
Weekly Hours	38.0774	5.8243	34.6314	8.3659	35.2137	7.9874
Hourly Wage in Euro	22.0779	9.0104	27.2513	11.8746	21.3586	12.6373

Table 3: Number of Days of Absenteeism							
Variable	(1)	(2)	(3)	(4)	(5)	(6)	
Civil Servant	1.7491***	1.7609***	2.2409***	0.3563***	0.3626***	0.4576***	
	(0.2889)	(0.2892)	(0.3401)	(0.0513)	(0.0511)	(0.0595)	
Civil Servant * East	-1.7217^{***}	-1.7287^{***}	-1.5870^{**}	-0.3341^{***}	-0.3516^{***}	-0.3303**	
	(0.6640)	(0.6655)	(0.7196)	(0.1378)	(0.1397)	(0.1507)	
East	0.4277^{**}	0.5309	-0.0785	0.1019**	0.1089	0.0141	
	(0.2154)	(0.3623)	(0.3865)	(0.0426)	(0.0689)	(0.0697)	
Male	-0.3326^{**}	-0.3504^{**}	-1.6130^{***}	-0.0732^{***}	-0.0728^{**}	-0.2952^{***}	
	(0.1708)	(0.1710)	(0.2517)	(0.0330)	(0.0331)	(0.0430)	
Spouse	0.1304	0.1124	0.4277	0.0182	0.0075	0.0590	
	(0.2495)	(0.2517)	(0.2773)	(0.0474)	(0.0474)	(0.0507)	
Highest School Leaving Degree							
(Base Cat.: No Degree)							
Low Secondary School	-0.1941	-0.1626	0.2561	-0.0492	-0.0386	0.0462	
	(0.3822)	(0.3793)	(0.4097)	(0.0672)	(0.0670)	(0.0691)	
Middle Secondary School	-0.7483^{***}	-0.7315^{*}	0.0229	-0.1644^{**}	-0.1525^{**}	-0.0081	
	(0.3877)	(0.3849)	(0.4223)	(0.0706)	(0.0706)	(0.0745)	
Technical School	-1.3280^{***}	-1.3042^{***}	-0.7267	-0.3120***	-0.3062^{***}	-0.1975^{**}	
	(0.4486)	(0.4464)	(0.4908)	(0.0912)	(0.0901)	(0.0946)	
University Entry Certification	-1.2733^{***}	-1.2772^{***}	-0.4698	-0.2697^{***}	-0.2609^{***}	-0.1196	
	(0.4073)	(0.4066)	(0.4612)	(0.0790)	(0.0787)	(0.0861)	
Highest Vocational Degree							
(Base Cat.: Voc. T.)							
No Degree	0.7157^{**}	0.7155^{*}	0.7365^{*}	0.1158^{*}	0.1061^{*}	0.1145**	
	(0.3472)	(0.3444)	(0.3913)	(0.0558)	(0.0559)	(0.0589)	
Master Craftsman	-0.0813	-0.0770	0.2167	-0.0070	-0.0070	0.0441	
	(0.2893)	(0.2910)	(0.3290)	(0.3459)	(0.0588)	(0.0597)	
University	-1.0059^{***}	-0.9998^{***}	-0.8719^{***}	-0.2418^{***}	-0.2455^{***}	-0.1714***	
	(0.2498)	(0.2528)	(0.2808)	(0.0544)	(0.0546)	(0.0589)	
Disabled	4.1283***	4.0930***	3.6954^{***}	0.6136^{***}	0.6123^{***}	0.5495***	
	(0.5272)	(0.5247)	(0.5533)	(0.0604)	(0.0610)	(0.0669)	
Number of Children	-0.2520^{***}	-0.2438^{***}	-0.0909	-0.0498^{***}	-0.0507^{***}	-0.0209	
	(0.0838)	(0.0842)	(0.0918)	(0.0168)	(0.0170)	(0.0176)	
Age	-0.0283	-0.0270	-0.0088	-0.0049	-0.0052	-0.0020	
	(0.0183)	(0.0184)	(0.0207)	(0.0034)	(0.0034)	(0.0037)	

Table 3: Number of Days of Absenteeism, continued							
Variable	(1)	(2)	(3)	(4)	(5)	(6)	
Job Function							
(Base Cat.: Simple Tasks, No Ed.)							
Simple Tasks, Ed. Requ.			-0.9798^{***}			-0.1434^{***}	
			(0.3346)			(0.0519)	
Complex Tasks			-1.8105^{***}			-0.3028^{***}	
			(0.3471)			(0.0547)	
Highly Complex Tasks			-2.4622^{***}			-0.4535^{***}	
			(0.4108)			(0.0689)	
Team Leading Role			-4.5500^{***}			-0.9169^{***}	
			(0.5075)			(0.1113)	
Tenure			0.0026			0.0013	
			(0.0109)			(0.0021)	
Part-time Work			0.2096			0.1108	
			(0.4158)			(0.0722)	
Weekly Hours			0.1099***			0.0251***	
			(0.0185)			(0.0041)	
Log Wage			1.4461***			0.3035***	
			(0.2673)			(0.0564)	
State-Year Effects		\checkmark	\checkmark		\checkmark	\checkmark	
Estimation Technique	OLS	OLS	OLS	NB	NB	NB	
Number of Observations	19,054	19,054	15,729	19,054	19,054	15,729	
Number of Individuals	5,832	5,832	5,137	5,832	5,832	5,137	

Dependent variable: number of days unable to work due to illness (per year). Robust standard errors adjusted for clusters at the level of the individuals in parentheses. *** / ** / * indicates statistical significance at the 1% / 5% / 10% level. All specifications include a full set of year effects.

Table 4: Zero Inflated Negative Binomial Model							
	(1)			(2)	(3)		
Variable	Non-Zero	Zero	Non-Zero	Zero	Non-Zero	Zero	
Civil Servant	0.0883**	-0.6695^{***}	0.0812**	-0.6882^{***}	0.1602***	-0.7624^{***}	
	(0.0433)	(0.0873)	(0.0423)	(0.0878)	(0.0488)	(0.1046)	
Civil Servant * East	-0.2168^{**}	0.3890^{*}	-0.2343^{***}	0.3756^{*}	-0.1611	0.4863**	
	(0.0943)	(0.2128)	(0.0946)	(0.2121)	(0.1019)	(0.2192)	
East	0.2435***	0.2820***	0.1335***	0.0342	0.0448	0.0742	
	(0.0323)	(0.0572)	(0.0515)	(0.0978)	(0.0551)	(0.1041)	
Male	-0.0557^{**}	0.0312	-0.0516^{**}	0.0366	-0.1054^{***}	0.4168***	
	(0.0255)	(0.0464)	(0.0251)	(0.0466)	(0.0326)	(0.0648)	
Spouse	0.0444	0.0485	0.0387	0.0539	0.0629*	-0.0153	
	(0.0361)	(0.0656)	(0.0352)	(0.0661)	(0.0375)	(0.0728)	
Highest School Leaving Degree							
(Base Cat.: No Degree)							
Low Secondary School	-0.0137	0.0716	0.0176	0.1028	0.0970^{*}	0.1099	
	(0.0515)	(0.0909)	(0.0507)	(0.0908)	(0.0541)	(0.0984)	
Middle Secondary School	-0.1542^{***}	0.0166	-0.1260^{***}	0.0423	0.0234	0.0495	
	(0.0542)	(0.0954)	(0.0536)	(0.0955)	(0.0585)	(0.1062)	
Technical School	-0.2592^{***}	0.0843	-0.2356^{***}	0.1039	-0.0750	0.2067	
	(0.0712)	(0.1279)	(0.0691)	(0.1283)	(0.0740)	(0.1431)	
University Entry Certification	-0.2925^{***}	-0.0762	-0.2723^{***}	-0.0606	-0.0902	0.0052	
	(0.0615)	(0.1083)	(0.0604)	(0.1088)	(0.0678)	(0.1258)	
Highest Vocational Degree							
(Base Cat.: Voc. T.)							
No Degree	0.0941**	-0.0297	0.0912**	-0.0411	0.0466	-0.1388	
	(0.0427)	(0.0822)	(0.0425)	(0.0820)	(0.0458)	(0.0912)	
Master Craftsman	0.0121	0.0408	0.0031	0.0246	0.0530	0.0257	
	(0.0447)	(0.0758)	(0.0442)	(0.0763)	(0.0467)	(0.0831)	
University	-0.2390^{***}	0.0276	-0.2375^{***}	0.0386	-0.1757^{***}	0.0555	
	(0.0438)	(0.0748)	(0.0432)	(0.0756)	(0.0475)	(0.0852)	
Disabled	0.4052***	-0.4933^{***}	0.4049***	-0.4863^{***}	0.3722***	-0.4204^{***}	
	(0.0467)	(0.1041)	(0.0462)	(0.1045)	(0.0504)	(0.1138)	
Number of Children	-0.0416^{***}	0.0308	-0.0397^{***}	0.0316	-0.0226	0.0021	
	(0.0134)	(0.0258)	(0.0136)	(0.0262)	(0.0145)	(0.0281)	
Age	0.0079***	0.0274***	0.0077***	0.0266***	0.0125^{***}	0.0305***	
	(0.0026)	(0.0050)	(0.0026)	(0.0050)	(0.0028)	(0.0055)	

Table 4: Zero Inflated Negative Binomial Model, continued							
Variable	(1)	(2)	(3)	(4)	(5)	(6)	
Job Function							
(Base Cat.: Simple Tasks, No Ed.)							
Simple Tasks, Ed. Requ.					-0.1027^{***}	0.0917	
					(0.0393)	(0.0723)	
Complex Tasks					-0.2389^{***}	0.1562**	
					(0.0421)	(0.0790)	
Highly Complex Tasks					-0.2791^{***}	0.3302***	
					(0.0534)	(0.0984)	
Team Leading Role					-0.5802^{***}	0.7484***	
					(0.0849)	(0.1572)	
Tenure					-0.0020	-0.0053^{*}	
					(0.0016)	(0.0030)	
Part-time Work					0.0235	-0.0457	
					(0.0564)	(0.1110)	
Weekly Hours					0.0083***	-0.0274***	
					(0.0032)	(0.0053)	
Log Wage					-0.0075	-0.5788***	
Log Wage					(0.0443)	(0.0756)	
State Veer Effects				/	(0.0110)		
Number of Observations	10	054	V 10	054	V 15	V 720	
Aumber of Observations	19,	004	19,	004	10,729		
Zero Observations	9,0))) 7 (9	9,0))) 7 7	7,0		
Non-Zero Observations	9,3	375	9,3	375	8,0	198	
Vuong Test	37	.04	38.13		36.02		

Dependent variable: number of days unable to work due to illness (per year). Robust standard errors adjusted for clusters at the level of the individuals in parentheses. *** / ** / * indicates statistical significance at the 1% / 5% / 10% level. All specifications include a full set of year effects and a full set of state-year effects.

Table 5: Job Selection After 1989								
	(1)	(2)	(3)					
Variable			Non-Zero	Zero				
Civil Servant	1.9339***	0.2985^{***}	0.2250^{***}	-0.2846^{*}				
	(0.7148)	(0.0994)	(0.0858)	(0.1579)				
Civil Servant * East	0.8399	0.2207	-0.0965	-0.6773				
	(1.5935)	(0.2438)	(0.1658)	(0.4474)				
East	-0.8179^{**}	-0.1264^{*}	0.0127	0.2947***				
	(0.4219)	(0.0682)	(0.0546)	(0.1052)				
Estimation Technique	OLS	NB	Zero-NB					
Number of Observations	10,964	10,964	10,964					
(Pseudo-) R Squared	0.0348		_	-				

Dependent variable: annual number of days absent from work. Robust standard errors adjusted for clusters at the level of the individuals in parentheses. *** / ** / * indicates statistical significance at the 1% / 5% / 10% level. All specifications include a full set of year effects and a full set of state-year effects.

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