Gender Wage Gap and Segregation in Late Transition

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Abstract

Transition countries hoping to join the European Union are in the process of introducing western-type anti-discrimination policies aimed at reducing the gender wage gap. The efficacy of these policies depends on the relative size of the gap's elements they target; therefore, it is important to quantify these parts. In this paper, large matched employer-employee data sets from the Czech Republic and Slovakia are used to provide such detailed gender wage gap decomposition. The results, based on 1998 data, suggest that various forms of employment segregation are related to over one third of the overall pay difference between genders in both countries. In the non-public sector, however, almost two thirds of the total gap remains attributable to the individual's sex, suggesting much of the gap is due to violations of the equal pay policy.

Abstrakt

Transformační ekonomiky doufající ve vstup do Evropské unie zavádějí právní úpravy podporující rovné zacházení s muži a ženami na trhu práce. Každé z těchto opatření ovlivňuje jiný zdroj (příčinu) platových rozdílů mezi muži a ženami. Je proto důležité kvantifikovat relativní závažnost těchto zdrojů. V tomto článku je proto proveden detailní rozklad platových rozdílů podle pohlaví s pomocí rozsáhlého datového souboru z České Republiky a Slovenska z roku 1998. Výsledky naznačují, že segregace žen do nízkopříjmových povolání a firem zapříčiňuje přibližně jednu třetinu celkového platového rozdílu. Mimo rozpočtový sektor ale nelze zbývající dvě třetiny vysvětlit rozdílnými charakteristikami mužů a žen (např. vzděláním) ani rozdílnými charakteristikami jejich zaměstnavatelů (např. průmyslovým odvětvím firem), což naznačuje porušování pravidla stejné mzdy za stejnou práci.

1. Introduction

The legislation of most transition economies (TEs) has long included fundamental clauses about equality of men and women. Until recently, however, western-style anti-discrimination labor market policies were either not introduced or enforced.[1] Since one of the pre-requisites of accession to the European Union is harmonization of legislation, many TEs, including the Czech Republic and Slovakia, are now in the process of enacting policies of comparable worth, equal pay, and equal employment opportunity.[2]

Each of these anti-discrimination policies affects a different source of the overall wage gap between men and women. The comparable worth policy attempts to equalize wage rates across occupations and job cells of equal worth, where a job cell is defined as a group of workers with the same occupation within a firm and "worth" is defined in terms of the job's skill requirements and other attributes. The equal pay provisions target wage differences within job cells. Finally, the equal employment opportunity clauses affect all forms of segregation–the discriminatory hiring, firing, and promotion practices that result in high concentration of women in low-paying occupations, firms, or job cells. Which of the anti-discrimination policies is the most important in narrowing the gender wage gap therefore depends on the relative size of the gap's elements.

Occupational segregation has been the subject of much research, e.g. Killingsworth (1990) and Macpherson and Hirsh (1995), which finds that not only female, but also male wages are lower in predominantly female occupations. Johnson and Solon (1986) suggest that employer segregation in the U.S. may be more important than occupational segregation, implying that the comparable worth policy applied within firms has little effect. Further, Blau (1977) and Bielby and Baron

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[1] The constitutions of TEs typically include a "no discrimination in remuneration" clause and in some countries, e.g. Ukraine, Estonia, and Hungary, the Labor Law guarantees "equality of labor rights." However, these rights are not specified in detail and not enforced in courts. For example, until recently Czech employers stated gender requirements when posting hiring ads, etc.

[2] These amendments of the Czech Labor Code and Wage Law were legally enacted in 2000. In Slovakia, similar amendments are expected to become legally enacted in 2002.

(1984) point to the presence of significant job-cell segregation.[3] Matched employer-employee data-sets now allow researchers to simultaneously condition on the extent of all of these types of gender segregation when estimating the effect of gender on wages. See Groshen (1991), Carrington and Troske (1998), and Bayard et al. (1999) for analysis of such data from the U.S. The results of the last study, based on a large data set covering all industries and occupations, suggest that both the effect of the individual's sex within a job cell and various forms of gender segregation are important in accounting for the total U.S. gender pay gap.

Even though the pre-accession TEs are now introducing anti-discrimination labor market policies potentially affecting gender employment segregation, little is known about the importance of segregation for the gender wage gap in these countries. There is a wealth of research studying the evolution of gender-specific wages during early transition when wage differentiation increased dramatically and when labor force participation rates decreased from the artificial high levels of the communist era (see Section 2). With one exception, however, this research did not focus on the effects of occupational segregation, and no evidence exists on the contribution to the wage gap of within-establishment and job-cell segregation.

Ogloblin (1999) analyzes gender pay differences and occupational segregation in Russia during 1994-1996 and concludes that most of the total gap is attributable to occupational segregation, a legacy of the Soviet era. Due to the uniformity of labor market practice across the former communist countries, one could expect segregation to have a sizeable effect on gender wage differences in other TEs as well. Further, understanding and quantifying sources of the wage gap helps to identify the policies most relevant for reducing the gap. In particular, to combat the segregation-related gender pay gap, it is crucial to understand whether it arises within or across firms. It is therefore important to guide the enforcement of the newly introduced anti-discrimination policies in the TEs by decomposing the overall wage gap into its parts which are attributed to detailed forms of gender segregation and to violations of the equal pay act.

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[3]A recent survey of the gender-related economic literature is provided in Altonji and Blank (1999).

This paper provides such a decomposition using matched employer-employee data sets including hourly wage records of almost 1 million Czech and Slovak workers in 1998. I follow Groshen (1991) and Bayard et al. (1999) and describe the wage structure using wage regressions conditioning not only on the female dummy, but also on the fraction of women within a given occupation, establishment or job cell. The estimated coefficients are used together with the mean differences in explanatory variables by gender to calculate a standard Oaxaca-Blinder mean wage gap decomposition. The regression estimates account for the clustering of regression residuals by firms and for coefficient heterogeneity across sample strata. To my knowledge this is the first analysis of the gender wage gap in transition countries using a matched employer-employee data set and capturing within-establishment segregation effects. Finally, the paper offers separate policy implications for the unregulated non-public sector[4] and for the budgetary public sector, where wages are set according to wage grids specified by the government administration.

2. Background and Previous Literature

At first glance, the level of gender equality under communism has been impressive. Indeed, the equality of men and women was one of the proclaimed advantages of the communist system. The system supporting this equality was, however, authoritative, rather than rights-based. The "full employment" policy stipulated that all able-bodied individuals had to (go to) work and wages and prices were set so that only one income per family meant near poverty. Most women therefore worked,[5] but they also had full access to education and health care. As many other "rights" imposed under central planning, the right to gender equality resulted in what has been sometimes

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[4]The non-public sector includes private and state-owned enterprises as opposed to the budgetary public sector, where wages are funded directly from the state budget.

[5]Labor force participation rates were artificially high for both sexes under central planning and declined during early transition. The decline was somewhat faster for women than for men (see Ham et al., 1999, and the references therein). In 1998, the Czech (Slovak) participation rate for ages 15-64 was 80 (73) percent for men and 64 (60) percent for women.

termed an "allergy to feminism." See Ogloblin (1999) and Brainerd (2000), who provide a detailed discussion of the relevant institutional background on gender in communism.

In accordance with the official policy of gender equality, pay differentiation based on gender was restricted under central planning. Wages were set according to industry-specific wage grids varying only with the difficulty of the job and with the worker's education and experience, not gender (Münich et al., 1999). Even though the possibility of gender wage discrimination was severely limited in communist Czechoslovakia by the imposition of these wage grids, gender wage gaps were substantial. In 1988, women earned on average about 70 percent of men's wages (Ham et al., 1995) and these differences are generally attributed to discriminatory promotion practices and to the segregation of women into low-paying occupations.

Following the collapse of communism, wage regulations were quickly abolished and a wealth of studies summarized by Svejnar (1999) documents a rapid increase in wage dispersion during transition, underlined in part by increases in returns to education. Skill-related wage differentials kept rising even in the mid to late 1990s, but the process seems to have converged to a relatively stable wage structure at least in the Czech Republic and Slovakia (Filer et al., 1999). Today, wage grids, restraining gender pay differentiation, are used only in the budgetary sector (public administration, education, and health), and room for pay discrimination is open in the unregulated non-budgetary sector. This is likely to change with the introduction and enforcement of the western-style anti-discrimination policies.

The literature investigating the wage position of women in transition is rapidly growing. Most of the existing work studies the impact of early pro-market reforms on relative female wages. See, e.g., Orazem and Vodopivec (1995) for Slovenia, Hunt (1998) for East Germany, and Newell and Reilly (1996), Brainerd (1998), Ogloblin (1999) and Reilly (1999) for Russia. Brainerd (2000) contrasts female relative wages under communism and early-reform in seven TEs. She shows that during early transition the gender wage gap diminished in Eastern Europe but widened in Russia and Ukraine where women "have been penalized by the tremendous widening of the wage distribution."

On the other hand, Newell and Reilly (2000) suggest that the gender wage gap has been relatively stable through the 1990s in a number of TEs.

Ogloblin's 1999 study is closely related to the present research in its attempt to capture the effect of occupational segregation on wages. Using a nationally representative Russian household survey from 1992-1996, he finds, similar to Newell and Reilly (1996), that the gender pay gap cannot be explained by gender differences in education and experience alone. Ogloblin then further conditions on industry and firm ownership dummies as well as on a class of occupational dummies, capturing overwhelmingly "male" and "female" occupations. He finds that these additional controls account for over 80% of the wage gap and singles out occupational segregation as the most important determinant of gender earnings differentials in Russia.

This study extends the existing literature by controlling for within-establishment forms of workplace segregation and by offering recent and policy-targeted evidence on the structure of the gender wage gap in transition. Equally importantly, the results presented below also allow for a comparison of gender segregation and wages in Eastern Europe to that described by Ogloblin (1999) for Russia.

3. Data

The data come from national employer surveys, called Information System on Average Earnings (ISAE), in which firms report hourly wages of their employees.[6] (Both countries also conduct household surveys of individuals, but these Labor Force Surveys do not ask about wages.) For each firm, the data includes the industry of operation and the firm's ownership type (private, state, foreign, or mixed), while the region of operation is recorded separately for each establishment of a multi-unit firm. Only firms with more than 10 employees are covered in the sample. Participating firms report hourly wages, gender, education, age, and a detailed occupational classification (based

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[6]The surveys, included by the Czech and Slovak Statistical Offices among the national obligatory inquiries, are collected by a private agency on behalf of the Czech Ministry of Labor and Social Affairs and the Slovak Ministry of Labor, Social Affairs and Family. They are compatible with the European Earnings Cost Index and are coordinated by the European Statistical Office.

on the International Standard Classification of Occupations 1988) for all workers they employ except top management. The data records are drawn directly from companies' personnel databases using software developed by the data-collection agencies. Having available a measure of hourly wage rates is ideal for the purpose of estimating differences in the pay of men and women because of the gender differences in hours worked. Furthermore, the definition of hourly wage is detailed and fully consistent across firms.[7] The uniformity of the wage definition and the use of personnel records, minimizing the extent of reporting errors, make the data unique at least in the transition context.

The data obtained for the analysis consists of employees from participating firms from the first quarter of 1998 for the Czech Republic and a randomly drawn one-in-three sub-sample of employees from Slovak firms from the third quarter of 1998. The original ISAE samples from this period cover approximately 35 and 22% of the entire Czech and Slovak enterprise employment respectively. In the Czech Republic, the sample includes 1614 firms and establishments, which form a total of 999 firms, some multi-unit. In the Slovak sample, there are 658 firms, consisting of 735 firms and their establishments.[8]

Participating firms were drawn randomly within sampling strata, defined by the product of an industry classification and employment-size categories. However, the strata-specific population coverage, defined as the ratio of the number of sampled establishments to the number of establishments in the economy within a given sampling strata, is the result of a number of discretionary decisions on the part of the data collection agencies. Collection of this data began in 1993 when the sample contained a few large firms. The samples were gradually enlarged in each country by random sampling in strata where coverage was relatively low. This is far from an ideal sampling strategy. It under-represents newly born firms and does not fully correspond to modern probability sampling

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[7]Each quarter, employers in the Czech and Slovak Republics are legally required to calculate for each worker an average hourly wage, defined as total cash compensation including bonuses and other special payments divided by total hours worked for that quarter. This average wage is then used for calculating sickness and unemployment benefits.

[8]A majority of the establishments belong to a few large public or state-owned firms, such as the national railroads.

procedures. The resulting samples lack representativeness with respect to both sampling criteria: the industrial structure and size. The structure of each sample is presented in the appendix Tables A-1 and A-2. The composition of the data is weighted toward large establishments and manufacturing industries, similar to the matched employer-employee data used by Bayard et al. (1999).[9] The data covers, however, essentially all industries and occupations in both countries. The ISAE samples not only provide the only source of recent wage information in the Czech Republic and Slovakia, but to my knowledge, they are also the only matched employer-employee data from any transition country.

To recover population statistics as closely as possible, weights reflecting the sampling procedure were calculated by dividing the population frequency of firms within strata cells by the corresponding sample frequency.[10] The population distribution is based on end-of-year firm registers, which are compiled by the Statistical Offices of each country and contain summary information on all existing firms in the economy.[11] The firm registers are also used as sampling frames by the data collection agencies. Unfortunately, the registers appear to be of problematic quality for the smallest firm-size categories. (Revised statistics are often published with significant delay, which differ greatly from the originally published results.) Further, the ISAE samples include only a very small fraction of existing firms with fewer than 100 employees. The analysis is therefore based on a sample of firms employing more than 100 workers, containing 726,635 workers in 663 Czech firms and 112,698 workers in 443 Slovak firms.

Much of the analysis conditions on the workers' attained education level,[12] which is however

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[9] See Abowd and Kramarz (1999) who provide a survey of the existing matched employer-employee data sets.

[10] For Slovakia, I also had access to population employment figures by strata. Weights based on strata employment were fully comparable, however, to weights based on the strata-specific number of firms. For the Czech Republic, only the firm frequencies are available; therefore, I use the firm-level weights in both countries.

[11] For the Czech Republic, I use the 1997 register to approximate the population of firms in the first quarter of 1998. For Slovakia, the 1998 register is used to approximate the 3rd quarter 1998 population.

[12] As with most other data from transition economies, education is reported as the highest degree obtained rather than as years of schooling actually attended. See Filer et al. (1999) for a brief description of the Czech and Slovak

missing for a large fraction of workers (25% in Czech and 12% in Slovak data). Education has therefore been imputed based on the in-sample information. Five broad educational attainment categories were formed and the most frequent value for those workers reporting education within 4-digit occupational categories has been assigned as the predicted value separately for each sex and country. The gender mean wage differences by education degree based on either the reported or the imputed measure of education are in most cases almost identical.

Appendix Tables A-2 and A-3 compare weighted and unweighted means based on the ISAE data. Weighting in most cases lowers the mean wage estimate as more weight is given to smaller firms, which pay lower wages. The average hourly wage in the Czech non-public sector decreases by about 6 Czech Crowns (CZK) for both sexes as a result of weighting. The effect is smaller in the Czech public sector and Slovak non-public sector and is actually reversed for public wages in Slovakia, where coverage is much lower than elsewhere. Except for firm total employment, which corresponds to one of the weighting dimensions, other variables are little affected by weighting.

Comparing the two economies, the differences in educational attainment and other characteristics are relatively minor. (Both countries were part of a federation until 1993 and shared the same institutional infrastructure.) There are more private firms in the Czech economy, however, and a relatively larger portion of Slovak employment is in state-owned business. This reflects the general progress of marked-oriented transformation in the two countries (see Svejnar, 1999).

4. Econometric Approach

A vast literature aimed at measuring the extent of wage discrimination has followed Oaxaca (1973) in decomposing the overall mean wage difference between the advantaged (men) and disadvantaged (women) into two parts: the first reflecting the difference in average productive endowments of individuals in each group and the second part due to the differences in coefficients. Following this approach, one first estimates logarithmic wage regressions separately for each gender, controlling

educational system and its several paths that students may follow.

for explanatory variables. The decomposition technique relies on the fact that the fitted regressions pass through the sample means as follows:

$$\overline{\ln w_j} = \widehat{\beta_j}' \overline{X_j}, \quad j \in \{f, m\}, \tag{1}$$

where f denotes females and m denotes males, $\overline{\ln w_j}$ is the gender-specific mean of the natural logarithm of hourly wage, and where $\overline{X_j}$ represents the respective vectors of mean values of explanatory variables for men and women. Finally, $\widehat{\beta_m}$ and $\widehat{\beta_f}$ are the corresponding vectors of estimated coefficients. A general form of the mean wage decomposition is as follows:

$$\overline{\ln w_m} - \overline{\ln w_f} = (\overline{X_m} - \overline{X_f})' \widetilde{\beta} + [\overline{X_m}'(\widehat{\beta_m} - \widetilde{\beta}) + \overline{X_f}'(\widetilde{\beta} - \widehat{\beta_f})], \tag{2}$$

where $\widetilde{\beta}$ represents a counter-factual non-discriminatory wage structure. The first term on the right hand side of equation 2 represents that part of the total logarithmic wage difference which stems from the difference in average productive characteristics across gender. The second term originates in the differences in gender-specific coefficients from the non-discriminatory wage structure and is often interpreted as reflecting wage discrimination.[13]

There are a number of variants of this method depending on how one simulates the non-discriminatory wage structure. Oaxaca and Ransom (1994) suggest the use of regression coefficients obtained by estimating a wage regression on a pooled data-set including both men and women, arguing that they provide a good estimate of a competitive non-discriminatory norm. I follow their suggestion and estimate standard logarithmic wage regressions of the following form:

$$\ln w_{ij} = \alpha F_{ij} + X_{ij}'\beta + P_{ij}'\gamma + \epsilon_{ij}, \text{ with } i = 1, ...N_j, \text{ and } j = 1, ..., J, \tag{3}$$

where w_{ij} denotes the hourly wage of the i-th worker in the j-th firm, and where $F_{ij} = 1$ if the worker is female and equals 0 otherwise. J denotes the number of firms in the sample and N_j is the

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[13]There have been objections to this decomposition approach. First, by focusing on the mean gap, it ignores meaningful differences in gender-specific wage distributions. Second, if characteristics which might differ between males and females are omitted in the vector of regressors, the contribution of these characteristics will be captured by the constant term and will erroneously appear in the measure of discrimination.

number of workers in the j-th firm. Following Groshen (1991) and Bayard et al. (1999), the effect of gender segregation on wages is captured by conditioning on the "femaleness" of occupations, establishments, and job cells. "Femaleness" is then measured by the percent of females (P) in a given group of employees: the elements of the P_{ij} vector are the fraction of female employment in the ij-th worker's occupation, firm, and job cell.

Under the assumption of equality of male and female coefficients ($\beta_{m} = \beta_{f} = \widetilde{\beta}$), the estimated female effect $\widehat{\alpha}$ can be interpreted as the pure (percentage) effect of gender on wages to the extent that the effect of other characteristics have been accounted for by the vector X_{ij}, which consists of all other observed worker and firm specific characteristics. Most of the results presented below are based on the pooled specification, which is used for wage gap decompositions, but I also report parameters of interest from key specifications run separately for men and women.

The specific nature of the sampling procedure discussed in Section 3 results in a lack of representativeness of the ISAE data across strata. For instance, small firms, which typically pay lower wages, are relatively under-represented in the samples. To the extent that wage setting differs across strata, this lack of representativeness should be reflected in calculating mean wages (and mean wage differences between men and women) by properly re-weighting means from each strata. Weighting in regression, however, is not only an old but also a controversial topic.[14] Under the assumption that regression coefficients are identical across strata, both OLS and WLS (weighted least squares) estimators are consistent, and OLS is efficient. If the parameter vectors differ for each sampling strata $s = 1, ..., S$ so that $\delta_{s} \neq \delta$, where $\delta^{'} \equiv (\alpha, \beta', \gamma')$ from equation 3, a regression slope estimator analogous to the mean estimator is a weighted average of strata-specific regression estimates:

$$\widehat{\delta} = \sum_{s=1}^{S} W_{s}\widehat{\delta}_{s}, \qquad \widehat{V}(\widehat{\delta}) = \sum_{s=1}^{S} W_{s}^{2}\widehat{V}(\widehat{\delta}_{s}), \tag{4}$$

where $W_{s} = n^{-1}n_{s}$ are weights reflecting the population shares of employees in each strata,[15] and

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[14] The following discussion relies heavily on Deaton (1997, pp. 67-72).

[15] The population counts of employees by strata are not available for the ISAE data and they have to be constructed from the population number of firms by strata, N_{s}. Denoting the sample values of the strata-specific number of firms

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where $\widehat{\delta}_s$ is an OLS estimate based on observations from stratum s.

In contrast, the WLS procedure applied to pooled data from all strata results in an estimator $\widehat{\delta}_{WLS}$,

$$\widehat{\delta}_{WLS} = \left(\sum_{s=1}^{S} \widetilde{W}_s Z_s' Z_s \right)^{-1} \sum_{s=1}^{S} \widetilde{W}_s Z_s' \ln w_s = \left(\sum_{s=1}^{S} \widetilde{W}_s Z_s' Z_s \right)^{-1} \sum_{s=1}^{S} \widetilde{W}_s Z_s' Z_s \widehat{\delta}_s, \qquad (5)$$

which is in general not consistent for the weighted average of the strata parameters δ. Here, $\widetilde{W}_s = (\widetilde{n_s})^{-1} n_s$, where $\widetilde{n_s}$ represents the sample values of the strata-specific number of employees, Z_s is the data matrix for stratum s conformable to the definition of δ given above, and $\ln w_s$ is the column vector of $\ln w_{ij}$ for $i, j \in s$. Note that the WLS regression weights the strata-specific coefficient $\widehat{\delta}_s$ not only by $\widetilde{W}_s$, but also by matrix weights $Z_s' Z_s$ corresponding to the precision of $\widehat{\delta}_s$. The WLS estimator is consistent for δ if the parameter variation across strata is independent of the moment matrices and if the number of strata is large (see, e.g., Deaton, 1997, p. 70).

Each ISAE strata can be thought of as an independent survey, albeit sampled cumulatively over time, but the extent of sampling across strata (and the precision of each $\widehat{\delta}_s$) is ad hoc. This may affect the WLS estimator. Further, Pesaran et al. (2000) note that neglecting coefficient heterogeneity can result in significant estimates of incorrectly included regressors and bias other parameters even if the erroneously included variables are orthogonal to the true regressors. One may therefore be interested in testing for the presence of parameter heterogeneity. Such tests are based on comparing $\widehat{\delta}_{WLS}$ with $\widehat{\delta}_{OLS}$ estimated off pooled unweighted data. Both estimators will be consistent in the absence of heterogeneity, but they will differ if parameters vary across strata. A version of the test based on Hausman (1978) can be conducted by running an auxiliary regression,

$$\ln w_s = Z_s \theta + \widetilde{W}_s Z_s \lambda + v, \text{ with } s = 1, ..., S, \qquad (6)$$

and testing the null hypothesis $H_0 : \lambda = 0$. (With hundreds of thousands of data points, it is very likely that any hypothesis will be rejected.)

In the subsequent analysis, I present two types of regression estimates. The first is based on

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and employees as $\widetilde{N}_s$ and $\widetilde{n_s}$ respectively, I estimate the population counts as $\widehat{n_s} = \left(\widetilde{N}_s \right)^{-1} N_s \widetilde{n_s}$ and $\widehat{n} = \sum_s \widehat{n_s}$.

a traditional WLS regression estimated using pooled data from all strata. The second is based on equation 4, which I refer to as split-sample weighting. The calculation of standard errors for both sets of results allows for any form of unconditional heteroscedasticity as well as interdependence of error terms within firms. This is important because person specific error terms will not be independent within firms in matched employer-employee data such as the ISAE. To capture this firm-level clustering I use a panel data version of the Huber/White estimator:

$$\widehat{V}(\widehat{\delta}_{\mathsf{s}}) = (Z'_{\mathsf{s}}Z_{\mathsf{s}})^{-1}\left(\sum_{\mathsf{j}\in\mathsf{s}} Z'_{\mathsf{sj}}\widehat{\epsilon}_{\mathsf{sj}}\widehat{\epsilon}'_{\mathsf{sj}} Z_{\mathsf{sj}}\right)(Z'_{\mathsf{s}}Z_{\mathsf{s}})^{-1}, \tag{7}$$

where $\widehat{\epsilon}_{\mathsf{sj}} = \ln w_{\mathsf{sj}} - Z_{\mathsf{sj}}\widehat{\delta}_{\mathsf{s}}$ is the column vector of estimated error terms for employees of the j-th establishment in stratum s. (The subscript s is dropped when calculating the WLS variance covariance matrix.)

5. Results

5.1. Descriptive Evidence on Wage Gap and Segregation

The simplest comparison of male and female wages conditions on only one explanatory characteristic at a time. The top panel of Table 1 offers such comparison, based on weighted data in each country and sector. Each table entry is a percentage mean-wage disadvantage of women for a particular worker or firm category. There appears to be a lower mean gender wage gap for workers with only primary education (representing 8 to 9 years of schooling), except for the Slovak public sector, where relatively little data is included in the sample. Further, higher age seems to imply larger gender pay differentials, except for workers above 50 years of age. The overall gap is smallest for employees of cooperatives in both countries and higher in all ownership categories in the Czech Republic compared to Slovakia. There does not appear to be a strong pattern with respect to firm size, except perhaps for the presence of somewhat lower pay gaps in smaller firms.

While these results may be interesting, they do not provide enough guidance for policy purposes since they do not point to the sources of the gender pay differences. One of these potential sources

is gender segregation, which is measured in this paper by the fraction of females in a particular occupation, firm, or job cell (defined as a group of workers with the same occupation within a firm). Further, to capture the extent to which women are employed as supervisors, the fraction of females among each firms' supervisory workforce is also calculated. (This statistic is of additional interest as female supervisors may be able to lower the overall pay gap within the firms they work for.) A detailed picture of gender employment segregation is offered in Figures 1 to 3, where the weighted-sample distribution of the fraction-female statistics is plotted for each sector. (The mean values of the fraction-female statistics are reported in appendix Tables A-3 and A-4.) However, note that the strongest segregation of female and male employment occurs across sectors. As the bottom panel of Table 1 reports, the public sector employs more than 3 times as many women as men in both countries. While there are more men than women working in the non-public sector, the ratio is not as dramatic.

Figure 1 compares the distribution of the fraction of female employment in 27 2-digit occupations across sectors and countries.[16] The overall pattern is remarkably similar in the two economies. In the public sectors, very few workers are employed in occupations where less than a half of the employees are women. In the non-public sectors, the distribution of "femaleness" of occupations is relatively uniform. This is in stark contrast to a hypothetical segregation-free distribution. If the sample workers were assigned randomly to occupations (and sectors), the distribution would collapse around the fraction female in the whole sample, which is about 45% in both countries after weighting and combining the two sectors.

The distribution of segregation of men and women into different firms is captured in Figure 2. Again, the two countries appear very similar with respect to this measure of workplace segregation, although in the public sector, the Czech distribution is more skewed toward 'female' firms. Again,

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[16]In the Czech Republic, I was also able to form an occupational segregation measure using the 1996 Microcensus dataset, which is a household survey conducted by the Czech Statistical Office every four years. It includes 12 thousand employed women and 13 thousand employed men, for whom the mean values of the fraction female in 2-digit occupation in 1996 are 0.648 and 0.330 respectively, quite comparable to the ISAE statistics for 1998.

given the large average firm size in the sample, random assignment of workers to these firms would result in almost all workers being employed in firms where 45% of employees are women.

Job-cell segregation appears to be quite intense in Figure 3, in that about a third of public-sector workers in both countries works in job cells where almost all employees are women. Furthermore, despite the relatively uniform distribution of occupational segregation in the non-public sectors, large spikes appears in the non-public job-cell distributions as about 25% of workers are employed in almost fully 'male' job cells. These spikes are preserved when only job cells with 10 or more workers are used in generating the distributions since less then 10% of workers in the Slovak data and about 3% of Czech-sample employees work in such small job cells.[17] Superimposed on the histograms of job-cell segregation are simulated distributions based on random assignment of sample workers to job cells.[18] The comparison to these segregation-free distributions points to significant gender segmentation of job cells.

5.2. Accounting for the Wage Gap

The fraction-female measures will later be used to account for a part of the overall gender pay gap. But first, I will explore the standard human capital explanations, as well as sources of the pay differences that are linked to firm characteristics. The simple wage comparisons presented in Table 1 fail to point to the source of the female/male wage gap. The subsequent analysis will therefore be based on logarithmic wage regressions, gradually expanding the set of explanatory variables. Table 2 presents the estimates of the female dummy from a sequence of specifications. In column (1), the female dummy estimate is reported based on a regression where no other explanatory variables are used. This overall, WLS logarithmic wage gap is about 0.24 in the Czech public sector and almost 0.30 in the Czech non-budgetary sector. The size of the difference between the two gaps suggests

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[17]Recall that the Slovak data consists of a random one-in-three subsample of workers from participating firms.

[18]These distributions are simulated by taking the sexes' overall sample shares and the sample size distribution of job cells as given. Unlike in the case of firm and occupational segregation, the job-cell distributions do not nearly collapse on the fraction of women in the sample. This is caused by the smaller number of workers per job cell.

that the primary cause of the Czech wage gap does not have to do with the division of labor between the low-paying budgetary and high-paying entrepreneurial sectors as one might expect in light of the dramatic difference in the female fraction of employment in each sector. The unadjusted WLS gap is substantially smaller in Slovakia: 0.15 in the public sector and about 0.23 elsewhere.

The next question is how much of the logarithmic wage gap (represented by the female dummy) can be accounted for by gender differences in workers' productive characteristics? In column (2), I therefore condition on workers' age and education. This reduces the WLS estimate of the Czech public-sector female dummy by about 6 percentage points as women are more likely to have secondary education, while the fraction of college educated is higher for men (see Table A-3 for more details and recall that the wage grids used in the budgetary sector cement the dependence of wages on education). In Slovakia's public sector, the reduction in the female dummy estimate is even more pronounced and results in a strikingly low coefficient of about 0.08. This is again due to an unevenly high fraction of college educated male public employees. In contrast, the wage gap is actually increased by conditioning on human capital characteristics in both the Czech and Slovak non-budgetary sectors, as the overall distribution of education degrees is mildly favorable for women. (A similar result was obtained by Ogloblin, 1999.)

Ogloblin (1999) suggests that most of the Russian gender pay gap can be explained by conditioning on industrial and ownership dummies, as well as on the extent of segregation by occupation. Column (3) of Table 2 reports a specification exploring the first half of his finding for the Czech and Slovak Republics. It appears that controlling for a quadratic in firm size (employment) as well as for a set of dummy variables reflecting 2-digit industrial classification, ownership type, and geographical location of the firm or its establishment does not take away most of the female dummy estimate. In both of the Czech sectors, and in the Slovak non-public economy, the reduction in the unweighted female dummy is about 3 to 4 percentage points.

Further evidence on how much of the gender wage gap is due to between- as opposed to within-establishment components is presented in column (4) of Table 2. This specification includes not

only worker-specific productive characteristics, but also a set of firm fixed effects.[19] The female dummy estimates change little. It appears that the firm-level controls used in the previous columns captured most of the firms' impact on gender pay differences in all four sectors. In summary, employer identity plays a secondary but still an important role in the determination of the gender pay gap in both countries.

The first columns of both the Czech and Slovak panel of Table 3 explore the extent to which occupational segregation drives the gender wage differences by conditioning on the percent of female employment within the 2-digit occupational classification as well as on all workers' and firms' characteristics. Occupational segregation in all cases except for the Slovak public sector significantly lowers both female and male wages in occupations, where a larger fraction of women is employed. The Czech female dummy coefficients are reduced as a result of introducing the occupational segregation measure by about 2 to 4 percent, while the decrease in the Slovak estimates is negligible. These results therefore suggest that occupational segregation is not the primary source of wage differences between men and women in Central European transition economies, in stark contrast to Ogloblin's (1999) analysis of Russian wages.[20]

Columns (2) and (8) of Table 3 ask whether occupational segregation affects wages across firms or within firms. The newly introduced regressor captures the percent of female employment within narrowly defined job cells. The regression estimates suggest that job cell segregation is at least as important as occupational segregation as it further lowers the female dummy coefficient estimate and in one case drives the occupational coefficient out of statistical significance.

The ISAE samples cover 27 2-digit occupations in both countries, while at the 4-digit level,

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[19]See Carrington and Troske (1998) for a similar analysis conducted for U.S. manufacturing, where a large portion of the wage gap can be explained by controlling for employer identity.

[20]Ogloblin (1999) does not use fraction-female controls, but captures occupational segregation by including fifteen occupational dummy variables capturing 4-digit occupations within each one-digit occupational group which have more than 70% of either female or male workers. Including such dummy variables into the specifications with female-fraction controls in Table 3 has a negligible effect on the estimates.

there are 541 occupations in the Czech data and 497 in the Slovak sample. The choice of the 2-digit occupational classification for capturing segregation is relatively arbitrary. In particular, segregation measures based on a more detailed classification suggest more segregation (see Tables A-3 and A-4). Columns (3) and (9) therefore offer a direct comparison to columns (2) and (8) by estimating the same specification, but using a 4-digit occupational classification for calculating segregation measures. Even though some of the coefficients change, the qualitative results remain unaffected; therefore, I proceed with the 2-digit classification.

The richest specification is presented in columns (4) and (10), where a firm-level segregation measure is added to the list of covariates, together with the fraction of females among each firm's supervisory workers.[21] In both sectors of the Czech economy, the female dummy and the job-cell segregation coefficient are statistically significant at the 1% level, and the firm-level segregation parameter is significant in the non-public sector. In the Slovak public sector, both the negative effect of job cell segregation and the positive coefficient of the female fraction of the supervisory workforce are significant, together with the female dummy. In the Slovak non-public sector, on the other hand, the important effects appear to be those of occupational and job-cell segregation. Further, note that in both public sectors, over one third of the original female dummy coefficient from column (1) of Table 2 remains after conditioning on all forms of segregation as well as on all other available explanatory characteristics. This 'unexplained' fraction reaches about two thirds in both the Czech and Slovak non-public sectors, suggesting that potential violations of the equal pay provision are much more important outside of the budgetary sectors. In Slovakia's public sector, the female dummy estimate of column (7) is less than one quarter of the total pay gap, suggesting very little scope for gender pay discrimination. Unfortunately, the ISAE data does not provide full coverage of the Slovak public sector, so this result, while interesting, should be given less weight in terms of policy implications than the estimates from the other three sectors.

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[21] No supervisory workforce was reported for a fraction of firms and these firms were omitted from the subsequent analysis. This lack of data on supervisors may be a result of firms not reporting on their top management and/or miscoding the occupational classification.

Similar to the data used by Ogloblin (1999) in Russia, the Czech and Slovak ISAE surveys do not include information on actual length of labor market experience and/or the number of children. It is therefore impossible to accurately capture the different labor market experience of men and women[22] and to control for important productivity-related characteristics. This is most likely to bias the female dummy coefficient upward. Maternity-related gender differences in labor market experience can be expected to be smallest for both older cohorts of workers, where the effect of previous labor market interruptions may already be wiped out, and younger cohorts, which have had relatively few leaves from the labor market.[23] To the extent that these gender differences are presumably lower in the younger and older cohorts, I attempt to minimize the maternity-related bias by separately estimating the preferred specification (columns 4 and 10 of Table 3) for workers aged over 45 and under 25. These results are presented in the remaining columns of Table 3. The female dummy estimates based on the older workers are only somewhat lower than the overall results. The results for the younger cohort, however, offer a very different picture, especially in the Slovak public sector, where the scope for equal pay act violations is eliminated. There are two potential explanations for these results. Younger women may be paid relatively more equally to men as a result of having had fewer labor market interruptions. Alternatively, their career paths and remuneration practices may differ fundamentally from those of older women who had spent most of their working life under communism. The second explanation is particularly interesting and deserves further attention in future research.

In Slovakia, only a random one-in-three subsample of workers from surveyed firms was used in the analysis. This implies that the segregation measures, especially those related to individual firms, may be measured with error (see Bayard et al., 1999). Therefore, I also compare the female

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[22]Women in the Czech and Slovak Republics rely on an extensive public system of child-care, generous family allowances, and guaranteed maternity leaves of up to 3 years.

[23]During transition, young women became more likely to substitute careers for early motherhood. Between 1993 and 1997, the number of children born per 1000 women aged 20-24 decreased from 145.6 to 85.5 in the Czech Republic and from 166.7 to 106.2 in Slovakia (Charles University, 1999; Slovak Statistical Office, 1998).

dummy coefficient from the preferred specification of columns (4) and (10) of Table 3 to its estimate from a job-cell fixed effect specification from column (5) of Table 2. Job cell fixed effects absorb all industry, occupation, and firm effects and account for any form of segregation in a fully unrestricted fashion. The female dummy estimates from the job-cell fixed effect specifications are only somewhat larger, suggesting a minor effect of measurement error.

It was argued in Section 4 that the WLS estimator imposes the parameter variation across strata to be independent of the data moment matrices. To assess the sensitivity of the estimates to this assumption I compare the WLS estimates to alternative results based on the split-sample weighting procedure (see Equation 4). The Hausman-type test for presence of important parameter heterogeneity across strata (based on Equation 6 and using estimates of the covariance matrix from Equation 7) signals the need for weighting in every estimated specification.[24] The split-sample weighting estimates are presented in Table A-5. All of the female dummy coefficients are somewhat lower, compared to the WLS results, but the changes across specifications mirror the pattern of the WLS estimates. Furthermore, the richest specification estimable using the split-sample procedure in column (6) of Table A-5 is fully comparable to the preferred WLS specification in columns (4) and (10) of Table 3.[25]

While the pooled specifications estimated above will be used below in the wage gap decompositions, it is interesting to compare the effects of segregation on wages across gender. The equality of coefficients across gender is relaxed in Table A-6, which presents the coefficients on the fraction female within each employment category. Most of the estimated segregation effects in the non-public sectors are similar for men and women (relative to the size of standard errors), which is in contrast to the findings of Bayard et al. (1999) for the U.S. On the other hand, there are larger differences in

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[24]The test is highly statistically significant in every specification and sector; therefore, I do not report the test values. They are available upon request.

[25]Note that estimating a full set of the firm-specific coefficients using the split-sample weighting procedure is infeasible due to the small number of firms within many strata (see Tables A-1 and A-2). In most of the split-sample specifications I therefore condition on a set of firm fixed effects.

the public sectors. For example, the significantly estimated positive effect of the fraction of female supervisors within firms in the Slovak public sector is much larger for women than for men.

5.3. Decomposing the Wage Gap

The sensitivity tests given above do not reject columns (4) and (10) of Table 3 as a preferred specification; therefore, I use it in all four sectors to calculate a mean wage decomposition. Table 4 reports the decomposition results based on equation 2 for the Czech public sector. The first column lists the unadjusted overall pay gap from the first column of Table 2, while column (2) of Table 4 reports most of the parameter estimates from the specification reported in column (4) of Table 3. Over a third of the overall gender wage gap is due to gender differences in wages that remain after controlling for all available explanatory characteristics. Another third is explained by the segregation of women into low-paying occupations and job cells. Finally, the last third of the pay gap is attributable to the uneven distribution of education among men and women in the Czech budgetary sector. Specifically, men are much more likely to have a university education than women.

As mentioned earlier, the picture is dramatically different in both the Czech and Slovak non-public sector (see Tables 5 and 7). Here, almost two thirds of the overall pay gap remain unexplained by other factors and the potential scope for gender pay discrimination appears high. If all of this female dummy estimate was due to discrimination, female wages would be raised by about one fifth through full compliance with the equal pay act. A substantial part of this unexplained gap is, however, likely to be due to maternity-related differences in the labor market experience of men and women, which none of the estimated regressions controls for.

Similar to the results for the Czech public sector, the decompositions in Table 5 and 7 suggest that employment segregation is related to over one third of the total gender pay gap in Czech and Slovak non-public employment. The channels of the effect are different, though, between the two countries. While in the Slovak non-public sector, it is the occupational and job cell segregation

that drives the pay wedge between genders, firm-level segregation is equally important in the Czech non-public sector. The wage impacts of gender differences in educational attainment average out across the different degrees to a negligible effect. Other worker- or firm-specific characteristics also attribute little to the mean wage difference between genders.

The overall gender pay difference, as well as the potential extent of pay discrimination are lowest in the Slovak public sector as shown in Table 6, which also documents the relatively small effect of segregation on the female dummy estimate. Even though the coefficient on the female fraction among the firm's supervisory workforce is statistically significant, its effect on the mean wage gap is relatively small. The largest part of the gap is attributable to a higher fraction of male college-educated public employees. Unfortunately, the Slovak public-sector results are based on a relatively small sample and in particular say little about gender pay differences in Slovakia's public administration.

5.4. Cross-Country Comparison and Discussion

The analysis presented above naturally leads into three types of cross-country comparison.

First, one can compare the Czech results to Slovak. Overall, the structure of the gender wage gap appears relatively similar across the two countries, but the extent of both gender segregation and wage gap is smaller in Slovakia. The differences in female relative wages in two economies that until recently formed one country calls for future research.[26] It may be a consequence of the faster

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[26] The comparison between the Czech and Slovak Republics is interesting for at least three reasons. First, until 1993 they formed a federation and shared a common institutional framework, currency, and legal system. Much of this common institutional past remains in place and offers a comparative laboratory which automatically controls for many otherwise elusive country-specific factors. Second, even though the two countries shared similar initial conditions, it is generally acknowledged that transformation from central planning into a market economy (including privatization) started earlier and progressed further in the Czech Republic (see Svejnar, 1999, and the references therein). Third, the unemployment rates were much higher in Slovakia than in the Czech lands from the outset of transition. (The unemployment rates were 4.8% for Czech men and 7.3% for Czech women and 12.2% for Slovak men and 13.4% for Slovak women in the sample-period quarters of 1998.) The comparison between these two countries is therefore one between a rapid and successful reform and a sluggish transformation.

free-market transformation of the Czech economy, where wage setting may have departed farther from the communist wage grid. However, the decompositions suggest that little of the cross-country difference in the gender wage gap is driven by differences in worker or firm characteristics including firm ownership, which represents the main observable difference in the characteristics of the two economies.

Second, one can compare the present findings to those of Bayard et al. (1999) based on a similar data set from the U.S. Apparently, the Czech, and to a lesser degree Slovak, gender segregation and wage gap structure are quite similar to those of the U.S. The mean difference between women and men in the fraction female in occupation (job cell) based on the highest level of occupational disaggregation[27] is 0.396 (0.744) in the U.S. while it is 0.460 (0.623) in the Czech non-public sector and only 0.252 (0.489) in Slovak non-public firms. The main difference in the structure of the wage gap is in the importance of its unexplained part. In the non-public sectors of the Czech and Slovak Republics, about two thirds of the wage gap is unexplained and potentially related to discrimination, which compares unfavorably to less than one third in the U.S. (In the U.S., however, the overall gap is larger at over 40%.) It is possible that this difference is driven by the lack of information in the Czech and Slovak data on the number of children and labor market experience. The estimated female dummy coefficients for the youngest cohort are indeed lower than the all-sample estimate and resemble the U.S. coefficients.

Third, it is interesting to compare the conclusions of this research using enterprise employment data from Eastern Europe to that based on household survey data from Russia. This comparison is offered in the concluding section.

Finally, it is important to note that the empirical findings of this paper are descriptive in their nature. They identify the channels, by which segregation affects gender wage differences, but not the fundamental causes of segregation. One interpretation of the effect segregation has on wages is

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[27]In the U.S. data, one can distinguish 491 occupations while in the Czech (Slovak) samples, there are 541 (497) occupational classes.

employer discrimination in hiring and promotion. Another is suggested by Macpherson and Hirsh (1995) who account for most of the wage effect of occupational gender segregation in the U.S. by conditioning on skill-related occupational characteristics and unmeasured skill or taste differences of workers. They imply that the relative proportion of female employment in an occupation reflects these characteristics and taste differences and should not be of major policy concern. However, as argued in Ogloblin (1999), occupational segregation under central planning was to a large extent the result of communist policies treating women as a "specific labor force" and institutionalizing gender segregation. Much of this legacy of communism remains visible in today's transition labor markets.[28] It is unlikely that central planners understood and reflected the fundamental taste differences and unmeasured skills of their workers; therefore, occupational segregation in transition countries is relatively unlikely to be driven mainly by unobservables.

6. Conclusion

This paper sheds light on the channels through which gender segregation and an individual's sex affect the overall gender wage gap in the Czech and Slovak Republics. These countries, similar to other transition economies aiming at joining the EU, are now in the process of enacting standard western-style anti-discrimination labor market policies. The empirical results presented here provide a measure of the potential efficacy of these policies in reducing the overall gender pay differential. By capturing the situation immediately before the anti-discrimination rules are legally enacted, the present analysis also serves as a detailed benchmark for future measurement of the actual effect of the anti-discrimination efforts in transition countries. Pre-accession countries provide a laboratory where anti-discrimination laws are introduced at varying levels of development and where rich micro data will often be available to observe the impact of all of these policies in detail.

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[28]E.g., the overwhelming fraction of female employees in the budgetary sector. Further, the fraction of workers employed in each major occupation group as well as the fraction of women within each of these groups was almost constant between 1993 and 1998, when measured using the earliest and latest available wave of the Czech Labor Force Survey. These results are available upon request.

The initial evidence given here on hourly wage rates in Czech and Slovak medium and large enterprises suggests that on average female wages are about 30% lower than male wages in the Czech Republic. This difference is somewhat lower in the Czech budgetary sector. The gender wage gap is generally lower in Slovakia and appears particularly low in the Slovak public sector. A substantial part of the gender pay gap is attributable to differences in educational attainment of men and women in the Czech and Slovak public sectors, where hiring and promotion practices should be particularly easy to affect.

The evidence on gender segregation implies that even though wages are typically lower in the public sectors, which employ over three times as many women as men, this imbalance is not the primary cause of the overall gender pay gap. Segregation of women into low-paying occupations, firms and job cells appears responsible for over one third of the total wage gap. Furthermore, in the non-public sectors of the Czech and Slovak Republics, about two thirds of the total wage gap appears to be due to gender differences in wages that remain after accounting for most forms of workplace segregation as well as for other explanatory variables. However, the estimated 'pure' (unexplained) wage effect of the individual's sex is likely to be affected by the lack of information in the Czech and Slovak data on the actual length of labor market experience and the number of children.

The policy implications of these results are different from those that Ogloblin (1999) presents for Russia.[29] In the Czech and Slovak Republics, it is not occupational segregation that is to blame for most of the gender wage gap, but rather within-occupation within-establishment phenomena. This implies a different strategy for reducing the gender pay gap. Attention should not be paid primarily to differences in remuneration across occupations (comparable worth policies), but rather to potential within-establishment pay discrimination, especially violations of the equal pay clause.

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[29]This may be in part caused by the different samples used in the two studies. While this paper relies on enterprise employment in medium and large firms, Ogloblin (1999) uses a household survey. On the other hand, this contrast between the Russian findings and those for the Czech and Slovak Republics corroborates the differences between the gender wage gap in Eastern Europe and the Former Soviet Union painted by Brainerd (2000).

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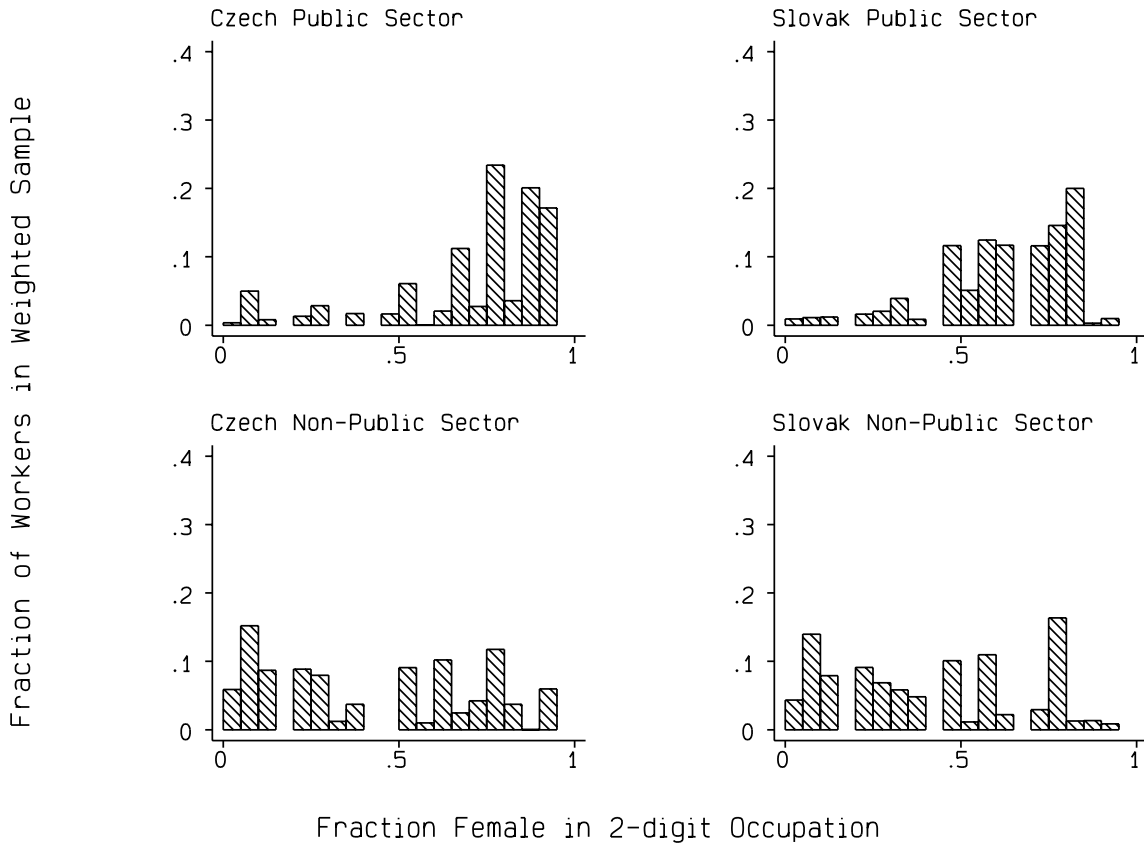
Figure 1: Distribution of Occupational Segregation
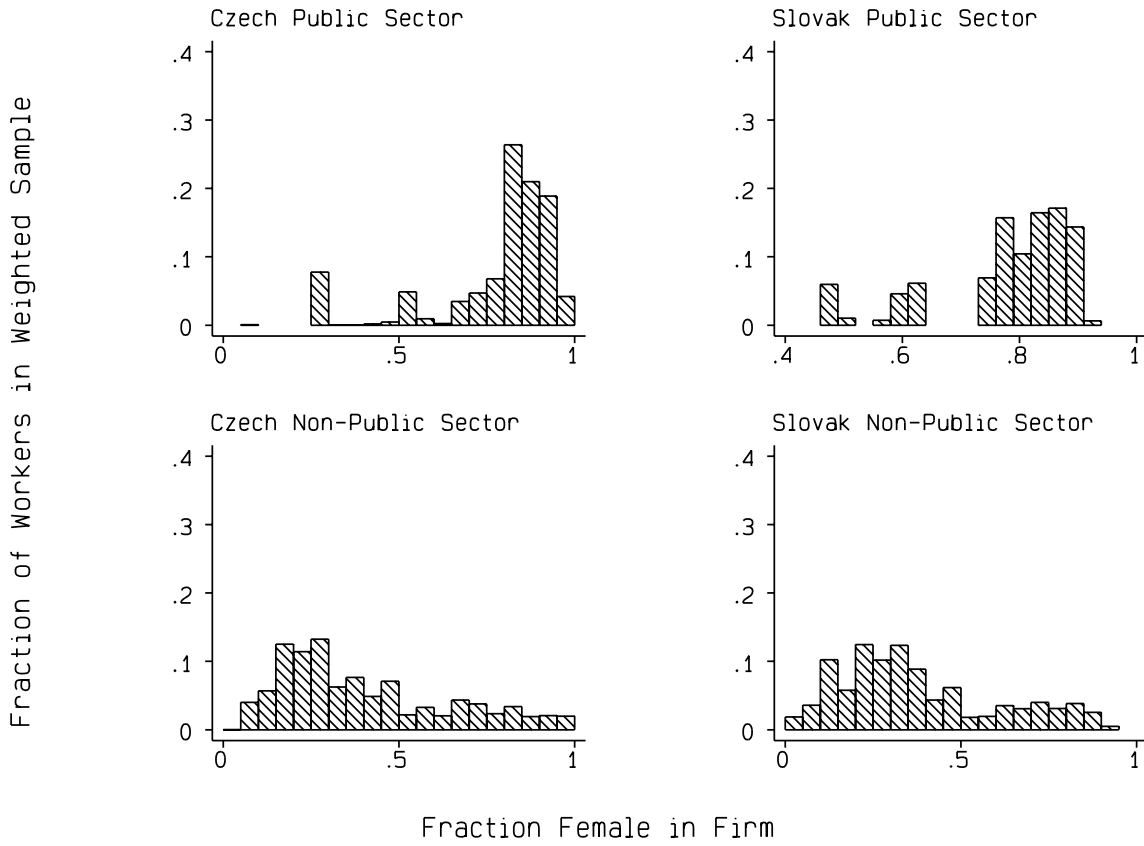
Figure 2: Distribution of Firm Segregation
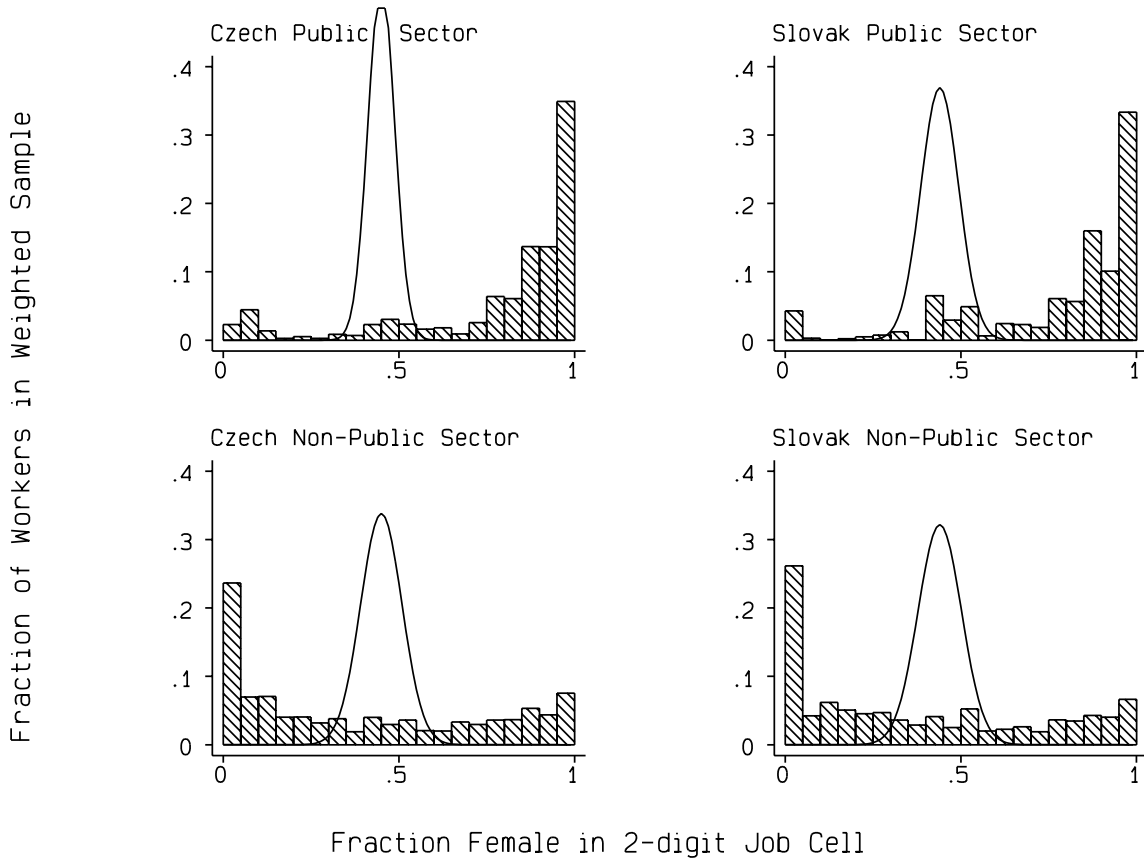
Figure 3: Distribution of Job-Cell Segregation

Table A-1: Czech ISAE Sample Description by Sampling Strata

Number of Employees in Sample, (Number of Firms in Sample) , and {Number of Firms in Population}.

Firm Employment	100 - 249	250 - 499	500 - 999	over 1000	Total
Industry Category					
Agriculture, Forestry, and Fishing	2,820	1,597	763	6,820	12,000
	(17)	(5)	(1)	(3)	(26)
	{116}	{637}	{124}	{7}	{884}
Mining, Quarrying, and Metalurgy	113	767	1,187	26,399	28,466
	(1)	(2)	(2)	(5)	(10)
	{12}	{56}	{33}	{27}	{128}
Food, Textile, and Leather	3,007	5,177	13,741	27,373	49,298
	(17)	(15)	(19)	(14)	(65)
	{77}	{357}	{146}	{46}	{626}
Paper and Chemicals	3,571	7,977	20,383	75,621	107,552
	(21)	(22)	(29)	(25)	(97)
	{59}	{243}	{105}	{45}	{452}
Machinery	5,140	11,812	25,231	59,799	101,982
	(30)	(31)	(34)	(32)	(127)
	{95}	{523}	{230}	{92}	{940}
Utilities	1,081	1,467	6,936	29,453	38,937
	(6)	(4)	(10)	(13)	(33)
	{11}	{55}	{28}	{20}	{114}
Construction	1,544	6,775	7,443	17,970	33,732
	(11)	(18)	(11)	(8)	(48)
	{54}	{320}	{116}	{16}	{506}
Wholesale and Retail Trade, and Repair Services	1,637	2,943	4,181	12,671	21,432
	(10)	(8)	(6)	(6)	(30)
	{40}	{298}	{111}	{14}	{463}
Transportation and Communications	2,513	3,342	6,219	71,528	83,602
	(18)	(9)	(11)	(10)	(48)
	{22}	{122}	{50}	{20}	{214}
Banking and Insurance	1,453	1,926	1,868	37,132	42,379
	(9)	(6)	(3)	(6)	(24)
	{9}	{35}	{8}	{8}	{60}
Real Estate, R&D, Data Processing, and other Business Activities	3,308	1,951	3,260	4,355	12,874
	(22)	(6)	(5)	(2)	(35)
	{58}	{264}	{75}	{8}	{405}
Public Administration, and Social Security	2,035	1,174	4,550	28,863	36,622
	(12)	(3)	(6)	(7)	(28)
	{33}	{134}	{37}	{16}	{220}
Education	136	306	4,200	87,281	91,923
	(1)	(1)	(5)	(4)	(11)
	{67}	{8}	{10}	{6}	{91}
Health and Social Work	1,225	5,488	9,991	32,960	49,664
	(7)	(15)	(14)	(17)	(53)
	{36}	{177}	{90}	{35}	{338}
Hotels and Restaurants, Other Community, Social, and Personal Service Activities	1,083	4,783	1,093	9,213	16,172
	(7)	(14)	(2)	(5)	(28)
	{38}	{210}	{54}	{8}	{310}
Total	30,666	57,440	111,046	527,438	726,590
	(189)	(159)	(158)	(157)	(663)
	{727}	{3439}	{1217}	{368}	{5751}

Note: Boxed firms have been merged into a single strata to ensure presence of at least two firms per strata.

Table A-2: Slovak ISAE Sample Description by Sampling Strata

Number of Employees in Sample[*], (Number of Firms in Sample) , and {Number of Firms in Population}.

Firm Employment	100 - 499	500 - 999	over 1000	Total
Industry Category				
Agriculture, Forestry, and Fishing	2,128	238	2,898	5,264
	(24)	(1)	(4)	(29)
	{457}	{8}	{8}	{473}
Mining, Quarrying, and Metalurgy	611	0	2,676	3,287
	(7)	(0)	(1)	(8)
	{22}	{4}	{10}	{36}
Food, Textile, and Leather	2,803	1,619	6,510	10,932
	(33)	(7)	(10)	(50)
	{313}	{43}	{15}	{371}
Paper and Chemicals	2,274	2,949	15,961	21,184
	(25)	(11)	(20)	(56)
	{187}	{22}	{34}	{243}
Machinery	3,358	1,736	10,518	15,612
	(41)	(8)	(15)	(64)
	{387}	{52}	{35}	{474}
Utilities	3,066	179	3,984	7,229
	(42)	(1)	(5)	(48)
	{25}	{5}	{14}	{44}
Construction	1,510	0	2,916	4,426
	(20)	(0)	(4)	(24)
	{221}	{5}	{12}	{238}
Wholesale and Retail Trade, and Repair Services	1,818	242	426	2,486
	(21)	(1)	(1)	(23)
	{251}	{18}	{4}	{273}
Transportation and Communications	3,572	1,980	18,281	23,833
	(43)	(9)	(12)	(64)
	{115}	{9}	{15}	{139}
Banking and Insurance	461	1,517	0	1,978
	(5)	(5)	(0)	(10)
	{29}	{6}	{5}	{40}
Real Estate, R&D, Data Processing, and other Business Activities	1,117	208	0	1,325
	(15)	(1)	(0)	(16)
	{197}	{9}	{2}	{208}
Public Administration, and Social Security	82	0	0	82
	(2)	(0)	(0)	(2)
	{128}	{35}	{42}	{205}
Education	306	463	6,025	6,794
	(4)	(2)	(9)	(15)
	{144}	{22}	{9}	{175}
Health and Social Work	323	836	5,674	6,833
	(4)	(4)	(10)	(18)
	{136}	{33}	{33}	{202}
Hotels and Restaurants, Other Community, Social, and Personal Service Activities	1,095	0	338	1,433
	(15)	(0)	(1)	(16)
	{153}	{8}	{3}	{164}
Total	24,524	11,967	76,207	112,698
	(301)	(50)	(92)	(443)
	{2765}	{279}	{241}	{3285}

[*]The data consists of a randomly drawn one-in-three sub-sample of employees from participating firms.

Note: Boxed firms have been merged into a single strata to ensure presence of at least two firms per strata.

Table A-3: Means in Czech ISAE

Variable	ISAE unweighted		ISAE weighted	
	Women	Men	Women	Men
Public Sector				
Hourly wage (CZK)	53.994	73.188	52.564	68.872
% female in 2-digit occupation	0.779	0.452	0.776	0.489
% female in 4-digit occupation	0.869	0.409	0.865	0.428
% female in firm	0.839	0.594	0.826	0.636
% female supervisors in firm	0.674	0.360	0.615	0.380
% female in 2-digit job cell	0.887	0.418	0.883	0.428
% female in 4-digit job cell	0.900	0.370	0.896	0.379
Age	38.840	36.018	38.876	35.664
Education Primary	0.071	0.025	0.072	0.029
Secondary without GCE	0.175	0.184	0.169	0.206
Secondary with GCE	0.490	0.252	0.546	0.293
University	0.261	0.493	0.210	0.436
Post-graduate	0.003	0.046	0.003	0.037
Total employment in firm/1000	44.3	27.6	29.4	18.1
Prague (capital)	0.198	0.543	0.169	0.400
Number of workers	140,254	37,955	140,254	37,955
Number of firms	92	92	92	92
Non-Public Sector				
Hourly wage (CZK)	59.775	80.745	54.266	74.647
% female in 2-digit occupation	0.629	0.278	0.623	0.294
% female in 4-digit occupation	0.677	0.215	0.673	0.213
% female in firm	0.531	0.301	0.540	0.304
% female supervisors in firm	0.317	0.149	0.309	0.143
% female in 2-digit job cell	0.695	0.196	0.707	0.194
% female in 4-digit job cell	0.755	0.157	0.773	0.150
Age	38.551	38.809	38.096	38.265
Education Primary	0.103	0.048	0.108	0.059
Secondary without GCE	0.403	0.580	0.465	0.604
Secondary with GCE	0.388	0.248	0.340	0.218
University	0.105	0.122	0.084	0.113
Post-graduate	0.001	0.002	0.002	0.006
Total employment in firm/1000	5.102	5.911	2.202	2.836
Prague (capital)	0.278	0.208	0.224	0.184
Ownership Foreign	0.062	0.048	0.036	0.028
Private	0.625	0.617	0.655	0.702
Co-operative	0.036	0.013	0.115	0.061
State	0.271	0.314	0.188	0.201
Mixed	0.006	0.008	0.005	0.008
Number of workers	214,277	334,104	214,277	334,104
Number of firms	571	571	571	571

Table A-4: Means in Slovak ISAE

Variable	ISAE unweighted		ISAE weighted	
	Women	Men	Women	Men
Public Sector				
Hourly wage (SKK)	47.065	58.925	51.107	61.441
% female in 2-digit occupation	0.660	0.498	0.664	0.497
% female in 4-digit occupation	0.784	0.473	0.797	0.463
% female in firm	0.788	0.706	0.795	0.712
% female supervisors in firm	0.708	0.603	0.696	0.608
% female in 2-digit job cell	0.851	0.496	0.865	0.469
% female in 4-digit job cell	0.867	0.444	0.884	0.405
Age	39.632	43.557	39.976	43.549
Education Primary	0.119	0.056	0.107	0.052
Secondary without GCE	0.230	0.302	0.215	0.324
Secondary with GCE	0.470	0.201	0.519	0.215
University	0.163	0.319	0.145	0.275
Post-graduate	0.018	0.122	0.013	0.134
Total employment in firm/1000	1.840	2.147	0.924	0.965
Bratislava (capital)	0.190	0.290	0.150	0.250
Number of workers	10,543	3,166	10,543	3,166
Number of firms	35	35	35	35
Non-Public Sector				
Hourly wage (SKK)	55.331	71.177	52.111	66.273
% female in 2-digit occupation	0.558	0.280	0.567	0.315
% female in 4-digit occupation	0.631	0.221	0.628	0.245
% female in firm	0.506	0.293	0.512	0.301
% female supervisors in firm	0.394	0.240	0.415	0.261
% female in 2-digit job cell	0.679	0.190	0.684	0.195
% female in 4-digit job cell	0.741	0.154	0.743	0.159
Age	38.443	38.922	38.206	38.889
Education Primary	0.165	0.088	0.170	0.094
Secondary without GCE	0.368	0.510	0.381	0.522
Secondary with GCE	0.403	0.326	0.382	0.292
University	0.063	0.074	0.066	0.089
Post-graduate	0.001	0.002	0.001	0.003
Total employment in firm/1000	2.458	3.403	1.289	1.910
Bratislava (capital)	0.147	0.144	0.174	0.137
Ownership Foreign	0.082	0.075	0.088	0.077
Private	0.365	0.348	0.421	0.421
Co-operative	0.029	0.015	0.090	0.060
State	0.453	0.475	0.334	0.340
Mixed	0.072	0.087	0.068	0.103
Number of workers	35,974	63,015	35,974	63,015
Number of firms	408	408	408	408

Table A-5: Estimated Log Wage Differentials by Sex: Split-sample Weighting

	(1)	(2)	(3)	(4)	(5)	(6)
			Czech Public Sector			
Female	-0.208 *	-0.150 *	-0.147 *	-0.100 *	-0.120 *	-0.101 *
	(0.007)	(0.005)	(0.006)	(0.004)	(0.006)	(0.005)
% female in occupation	…	…	…	…	-0.181 *	-0.124 *
					(0.015)	(0.025)
% female in job cell	…	…	…	…	…	-0.112 *
						(0.024)
Number of workers	178,209	178,209	178,209	163,072	178,209	178,209
Number of firms	92	92	92	913[b]	92	92
			Czech Non-Public Sector			
Female	-0.269 *	-0.285 *	-0.255 *	-0.197 *	-0.223 *	-0.189 *
	(0.014)	(0.011)	(0.008)	(0.009)	(0.009)	(0.008)
% female in occupation	…	…	…	…	-0.140 *	-0.034
					(0.011)	(0.019)
% female in job cell	…	…	…	…	…	-0.162 *
						(0.017)
Number of workers	548,381	548,381	548,381	530,807	548,381	548,381
Number of firms	571	571	571	6648[b]	571	571
			Slovak Public Sector			
Female	-0.164 *	-0.071 *	-0.072 *	-0.068 *	-0.055 *	-0.050 *
	(0.018)	(0.017)	(0.018)	(0.010)	(0.014)	(0.010)
% female in occupation	…	…	…	…	-0.078	-0.067
					(0.052)	(0.049)
% female in job cell	…	…	…	…	…	-0.025
						(0.046)
Number of workers	13,709	13,709	13,709	13,662	13,709	13,709
Number of firms	35	35	35	438[b]	35	35
			Slovak Non-Public Sector			
Female	-0.208 *	-0.216 *	-0.186 *	-0.162 *	-0.158 *	-0.147 *
	(0.014)	(0.008)	(0.006)	(0.007)	(0.006)	(0.006)
% female in occupation	…	…	…	…	-0.124 *	-0.097 *
					(0.013)	(0.018)
% female in job cell	…	…	…	…	…	-0.058 *
						(0.016)
Number of workers	98,989	98,989	98,989	94,130	98,989	98,989
Number of firms	408	408	408	3832[b]	408	408
Fixed effects	No	No	Firm	Job cell	Firm	Firm
Worker controls[a]	No	Yes	Yes	Yes	Yes	Yes
Firm controls[b]	No	No	Yes	Yes	Yes	Yes

* statistically significant at the 1% level

[a] Worker's education degrees, age and age square.

[b] Firm's employment and its square, ownership and 2-digit industry, establishment's region.

[c] Number of job cell fixed effects. For comparison with column (5) of Table 2, only observations where `% female supervisors in firm' is available are used.

Note: Standard errors in parenteses.

Table A-6: Effects of Sex Segregation on Log Wages by Sex: WLS Regression

Country	Czech Republic				Slovak Republic			
Sector	Non-public		Public		Non-public		Public	
Gender	Men	Women	Men	Women	Men	Women	Men	Women
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% female in occupation	-0.116	-0.106 *	-0.184 *	-0.063	-0.085 *	-0.117 *	0.018	-0.027
	(0.061)	(0.038)	(0.065)	(0.039)	(0.028)	(0.031)	(0.089)	(0.078)
% female in job cell	-0.132	-0.085 *	-0.062	-0.22 *	-0.07 *	-0.064 *	-0.004	-0.137
	(0.053)	(0.033)	(0.054)	(0.046)	(0.024)	(0.026)	(0.074)	(0.068)
% female in firm	-0.259 *	-0.226	-0.123	0.063	-0.234 *	-0.106	-0.445 *	-0.298
	(0.089)	(0.099)	(0.119)	(0.102)	(0.087)	(0.075)	(0.16)	(0.146)
% female supervisors in firm	-0.013	-0.016	0.044	0.076	-0.129 *	-0.070	0.151 *	0.326 *
	(0.068)	(0.046)	(0.074)	(0.061)	(0.048)	(0.043)	(0.037)	(0.074)
R-squared	0.464	0.453	0.552	0.575	0.465	0.457	0.698	0.660
Number of workers	323,306	207,501	35,018	128,054	59,323	34,807	3,154	10,508
Number of firms	522	527	71	71	390	385	34	34

* statistically significant at the 1% level

Note: Standard errors in parentheses. All specifications include the following set of control variables: workers' education degrees, age and age square; firms' employment and its square, ownership and 2-digit industry, establishments' region. No fixed effects are used in any of the specifications

Table 1: Weighted Means of Hourly Wage Differences by Gender

		Czech ISAE		Slovak ISAE	
		Public Sector	Non-public Sector	Public Sector	Non-public Sector
		(1)	(2)	(3)	(4)
		Female wage disadvantage as fraction of male wage (1 - w_f / w_m)			
Education	Primary	0.123	0.234	0.233	0.178
	Secondary without GCE	0.179	0.269	0.078	0.239
	Secondary with GCE	0.137	0.263	-0.062	0.187
	University	0.163	0.327	0.165	0.200
	Post-graduate	0.209	0.221	0.018	0.310
Age	-19	-0.026	0.142	-0.078	0.113
	20-29	0.183	0.198	-0.022	0.180
	30-39	0.301	0.301	0.093	0.219
	40-49	0.286	0.292	0.213	0.221
	50-59	0.195	0.270	0.215	0.222
	60-	-0.100	0.120	0.114	0.417
Ownership	Foreign	-	0.280	-	0.280
	Private	-	0.258	-	0.249
	Co-operative	-	0.211	-	0.116
	State	-	0.293	-	0.162
	Mixed	-	0.213	-	0.129
	Public Sector	0.237	-	0.168	-
Firm size	100-249 Employees	0.223	0.237	0.135	0.171
	250-499 Employees	0.172	0.250		
	500-999 Employees	0.209	0.267	0.206	0.254
	Over 1000 Employees	0.268	0.285	0.181	0.233
		Fraction of female employment by sector			
		0.787	0.391	0.769	0.363
Number of workers		178,209	548,381	13,709	98,989
Number of firms		92	571	35	408

Table 2: Estimated Log Wage Differentials by Sex - WLS Regressions

	(1)	(2)	(3)	(4)	(5)
	Czech Public Sector				
Female	-0.241	-0.180	-0.155	-0.156	-0.103
	(0.044)	(0.04)	(0.021)	(0.023)	(0.006)
R-squared	0.073	0.571	0.586	0.621	0.726
Number of workers	178,209	178,209	178,209	178,209	163,072
Number of firms	92	92	92	92	913[c]
	Czech Non-Public Sector				
Female	-0.297	-0.315	-0.266	-0.247	-0.200
	(0.014)	(0.013)	(0.011)	(0.009)	(0.009)
R-squared	0.107	0.385	0.490	0.596	0.715
Number of workers	548,381	548,381	548,381	548,381	530,807
Number of firms	571	571	571	571	6648[c]
	Slovak Public Sector				
Female	-0.152	-0.082	-0.076	-0.078	-0.069
	(0.023)	(0.023)	(0.019)	(0.018)	(0.016)
R-squared	0.025	0.530	0.653	0.676	0.823
Number of workers	13,709	13,709	13,709	13,709	13,662
Number of firms	35	35	35	35	438[c]
	Slovak Non-Public Sector				
Female	-0.227	-0.231	-0.204	-0.179	-0.161
	(0.014)	(0.014)	(0.008)	(0.007)	(0.008)
R-squared	0.064	0.287	0.476	0.600	0.703
Number of workers	98,989	98,989	98,989	98,989	94,130
Number of firms	408	408	408	408	3832[c]
Fixed effects	No	No	No	Firm	Job cell
Worker controls[a]	No	Yes	Yes	Yes	Yes
Firm controls[b]	No	No	Yes	Yes	Yes

[a] Worker's education degrees, age and age square.

[b] Firm's employment and its square, ownership and 2-digit industry, establishment's region.

[c] Number of job cell fixed effects. For comparison with columns (4) and (10) of Table 3, only observations where `% female supervisors in firm' is available are used.

Note: Standard errors in parenteses; all reported estimates statistically significant at the 1% level.

Table 3: Estimated Log Wage Differentials by Sex, and Percent Female in Occupation, Firm, Job Cell, and Supervisors within Firm: WLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Czech Public Sector						*Slovak Public Sector*					
Female	-0.126 *	-0.102 *	-0.092 *	-0.092 *	-0.086 *	-0.078 *	-0.073 *	-0.058 *	-0.052 *	-0.060 *	-0.043 *	-0.009
	(0.012)	(0.007)	(0.006)	(0.007)	(0.008)	(0.019)	(0.016)	(0.014)	(0.010)	(0.014)	(0.013)	(0.022)
% female in occupation	-0.162 *	-0.101 *	-0.045	-0.100 *	-0.095	-0.106	-0.018	0.019	-0.151	0.006	-0.104	0.539 *
	(0.035)	(0.031)	(0.033)	(0.029)	(0.039)	(0.061)	(0.041)	(0.053)	(0.068)	(0.056)	(0.105)	(0.103)
% female in job cell	…	-0.105 *	-0.123 *	-0.155 *	-0.201 *	-0.032	…	-0.061	0.038	-0.057	-0.008	-0.272 *
		(0.035)	(0.037)	(0.041)	(0.046)	(0.061)		(0.039)	(0.052)	(0.044)	(0.069)	(0.080)
% female in firm	…	…	…	0.019	0.045	-0.004	…	…	…	-0.352 *	-0.259	-0.530 *
				(0.110)	(0.106)	(0.137)				(0.112)	(0.158)	(0.183)
% female supervisors in firm	…	…	…	0.075	0.100	0.009	…	…	…	0.301 *	0.221 *	0.471 *
				(0.062)	(0.063)	(0.068)				(0.056)	(0.059)	(0.095)
R-squared	0.591	0.593	0.592	0.597	0.606	0.442	0.653	0.654	0.657	0.668	0.685	0.500
Number of workers	178,209	178,209	178,209	163,072	61,011	24,108	13,709	13,709	13,709	13,662	5,348	1,588
Number of firms	92	92	92	71	71	71	35	35	35	34	34	34
	Czech Non-Public Sector						*Slovak Non-Public Sector*					
Female	-0.228 *	-0.188 *	-0.158 *	-0.190 *	-0.177 *	-0.134 *	-0.177 *	-0.140 *	-0.126 *	-0.140 *	-0.128 *	-0.108 *
	(0.013)	(0.008)	(0.007)	(0.009)	(0.009)	(0.010)	(0.009)	(0.007)	(0.007)	(0.007)	(0.009)	(0.011)
% female in occupation	-0.152 *	-0.058	-0.056	-0.104	-0.148 *	-0.157	-0.136 *	-0.072 *	-0.081 *	-0.098 *	-0.146 *	-0.006
	(0.028)	(0.049)	(0.034)	(0.048)	(0.054)	(0.061)	(0.018)	(0.026)	(0.023)	(0.025)	(0.026)	(0.031)
% female in job cell	…	-0.160 *	-0.162 *	-0.104 *	-0.112	-0.019	…	-0.124 *	-0.104 *	-0.060 *	-0.075 *	-0.054
		(0.040)	(0.029)	(0.039)	(0.045)	(0.047)		(0.026)	(0.023)	(0.019)	(0.024)	(0.026)
% female in firm	…	…	…	-0.237 *	-0.244 *	-0.205	…	…	…	-0.175	-0.118	-0.169
				(0.085)	(0.087)	(0.097)				(0.073)	(0.078)	(0.073)
% female supervisors in firm	…	…	…	-0.014	-0.007	-0.030	…	…	…	-0.103	-0.154 *	-0.063
				(0.048)	(0.052)	(0.053)				(0.041)	(0.048)	(0.038)
R-squared	0.495	0.499	0.500	0.512	0.513	0.436	0.481	0.484	0.483	0.491	0.531	0.430
Number of workers	548,381	548,381	548,381	530,807	211,218	87,761	98,989	98,989	98,989	94,130	31,756	12,927
Number of firms	571	571	571	527	523	527	408	408	408	390	386	387
Occupational classification	2-digit	2-digit	4-digit	2-digit	2-digit	2-digit	2-digit	2-digit	4-digit	2-digit	2-digit	2-digit
Age cohorts	All	All	All	All	>45	<25	All	All	All	All	>45	<25

* statistically significant at the 1% level

Note: Standard errors in parentheses. All specifications include the following set of control variables: workers' education degrees, age and age square; firms' employment and its square, ownership and 2-digit industry, establishments' region. No fixed effects are used in any of the specifications.

Table 4: Wage Gap Decomposition for Czech Public Sector

	Coefficient estimate (1)	Coefficient estimate (2)	Mean difference women - men (3)	Absolute contribution to wage gap, (2) x (3)	Relative contribution to wage gap (2)x(3)/(1)
Female	-0.241 *	-0.092 *	1.000	-0.092	0.382
	(0.044)	(0.007)			
% female in occupation	…	-0.1 *	0.287	-0.029	0.118
		(0.029)			
% female in job cell	…	-0.155 *	0.455	-0.070	0.292
		(0.041)			
% female in firm	…	0.019	0.190	0.004	-0.015
		(0.11)			
% female supervisors in firm	…	0.075	0.235	0.018	-0.073
		(0.062)			
Age	…	0.038 *	3.212	0.123	-0.509
		(0.003)			
Age squared	…	-0.036 *	1.470	-0.052	0.217
		(0.003)			
Firm employment/1000	…	0.005	11.297	0.057	-0.234
		(0.004)			
(Firm empl./10000)^2	…	-0.005	12.084	-0.065	0.269
		(0.005)			
Secondary education without GCE	…	0.117 *	-0.037	-0.004	0.018
		(0.012)			
Secondary education with GCE	…	0.494 *	0.253	0.125	-0.518
		(0.017)			
University education	…	0.717 *	-0.225	-0.162	0.670
		(0.025)			
Post-graduate education	…	0.893 *	-0.034	-0.030	0.124
		(0.028)			
R-squared	0.094	0.632			
Number of workers	178,209	163,072			
Number of firms	92	71			

Note: Column (1) comes from column (1) of Table 2; column (2) comes from column (4) of Table 3. The mean differences and coefficients for the regional and 2-digit industrial dummies are not reported but are included in the calculations.

Table 5: Wage Gap Decomposition for Czech Non-public Sector

	Coefficient estimate (1)	Coefficient estimate (2)	Mean difference women - men (3)	Absolute contribution to wage gap, (2) x (3)	Relative contribution to wage gap (2)x(3)/(1)
Female	-0.297 *	-0.19 *	1.000	-0.190	0.639
	(0.014)	(0.009)			
% female in occupation	…	-0.104	0.328	-0.034	0.115
		(0.048)			
% female in job cell	…	-0.104 *	0.512	-0.053	0.180
		(0.039)			
% female in firm	…	-0.237 *	0.236	-0.056	0.188
		(0.085)			
% female supervisors in firm	…	-0.014	0.166	-0.002	0.008
		(0.048)			
Age	…	0.031 *	-0.169	-0.005	0.018
		(0.001)			
Age squared	…	-0.034 *	-0.125	0.004	-0.014
		(0.002)			
Firm employment/1000	…	0.009	-0.634	-0.006	0.020
		(0.005)			
(Firm empl./10000)^2	…	-0.015	-0.144	0.002	-0.007
		(0.0001)			
Secondary education without GCE	…	0.116 *	-0.139	-0.016	0.054
		(0.013)			
Secondary education with GCE	…	0.386 *	0.122	0.047	-0.159
		(0.012)			
University education	…	0.722 *	-0.029	-0.021	0.069
		(0.031)			
Post-graduate education	…	0.852 *	-0.004	-0.003	0.011
		(0.049)			
Ownership Private	…	-0.086 *	-0.046	0.004	-0.013
		(0.027)			
Co-operative	…	-0.232 *	0.054	-0.012	0.042
		(0.052)			
State	…	-0.114 *	-0.013	0.001	-0.005
		(0.032)			
Mixed	…	0.025	-0.003	0.000	0.000
		(0.082)			
R-squared	0.107	0.501			
Number of workers	548,381	530,807			
Number of firms	571	527			

Note: Column (1) comes from column (1) of Table 2; column (2) comes from column (4) of Table 3. The mean differences and coefficients for the regional and 2-digit industrial dummies are not reported but are included in the calculations.

Table 6: Wage Gap Decomposition for Slovak Public Sector

	Coefficient estimate (1)	Coefficient estimate (2)	Mean difference women - men (3)	Absolute contribution to wage gap, (2) x (3)	Relative contribution to wage gap (2)x(3)/(1)
Female	-0.152 * (0.023)	-0.06 * (0.014)	1.000	-0.060	0.395
% female in occupation	…	0.006 (0.056)	0.168	0.001	-0.007
% female in job cell	…	-0.057 (0.044)	0.396	-0.023	0.148
% female in firm	…	-0.352 * (0.112)	0.083	-0.029	0.191
% female supervisors in firm	…	0.301 * (0.056)	0.088	0.027	-0.174
Age	…	0.031 * (0.002)	-3.573	-0.110	0.718
Age squared	…	-0.029 * (0.003)	-3.452	0.101	-0.662
Firm employment/1000	…	-0.024 (0.038)	-0.040	0.001	-0.006
(Firm empl./1000)^2	…	0.027 (0.023)	-0.111	-0.003	0.020
Secondary education without GCE	…	0.198 * (0.025)	-0.109	-0.022	0.142
Secondary education with GCE	…	0.465 * (0.027)	0.304	0.141	-0.928
University education	…	0.825 * (0.031)	-0.129	-0.107	0.701
Post-graduate education	…	0.966 * (0.102)	-0.121	-0.116	0.764
misssex		(0.021)			
R-squared	0.039	0.630			
Number of workers	13,709	13,662			
Number of firms	35	34			

Note: Column (1) comes from column (1) of Table 2; column (2) comes from column (10) of Table 3. The mean differences and coefficients for the regional and 2-digit industrial dummies are not reported but are included in the calculations.

Table 7: Wage Gap Decomposition for Slovak Non-public Sector

	Coefficient estimate (1)	Coefficient estimate (2)	Mean difference women - men (3)	Absolute contribution to wage gap, (2) x (3)	Relative contribution to wage gap (2)x(3)/(1)
Female	-0.227 * (0.014)	-0.14 * (0.007)	1.000	-0.140	0.616
% female in occupation	…	-0.098 * (0.025)	0.252	-0.025	0.109
% female in job cell	…	-0.06 * (0.019)	0.489	-0.029	0.130
% female in firm	…	-0.1748 (0.073)	0.211	-0.037	0.162
% female supervisors in firm	…	-0.1034 (0.041)	0.153	-0.016	0.070
Age	…	0.036 * (0.002)	-0.684	-0.024	0.108
Age squared	…	-0.038 * (0.002)	-0.658	0.025	-0.111
Firm employment/1000	…	0.066 * (0.011)	-0.621	-0.041	0.182
(Firm empl./1000)^2	…	-0.009 * (0.002)	-1.821	0.016	-0.069
Secondary education without GCE	…	0.085 * (0.01)	-0.141	-0.012	0.053
Secondary education with GCE	…	0.251 * (0.013)	0.090	0.023	-0.099
University education	…	0.631 * (0.032)	-0.023	-0.014	0.063
Post-graduate education	…	0.827 * (0.079)	-0.002	-0.001	0.006
Ownership Private	…	-0.095 (0.046)	0.000	0.000	0.000
Co-operative	…	-0.18 * (0.067)	0.030	-0.005	0.024
State	…	-0.157 * (0.049)	-0.006	0.001	-0.004
Mixed	…	-0.0304 (0.057)	-0.036	0.001	-0.005
R-squared	0.079	0.521			
Number of workers	98,989	94,130			
Number of firms	408	390			

Note: Column (1) comes from column (1) of Table 2; column (2) comes from column (10) of Table 3. The mean differences and coefficients for the regional and 2-digit industrial dummies are not reported but are included in the calculations.