

SOCIAL ATTITUDES ON GENDER EQUALITY AND FIRMS' DISCRIMINATORY PAY-SETTING*

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Abstract

This study analyzes the relationship between discriminatory social attitudes towards gender equality and firms' pay-setting behavior by combining information about regional votes on constitutional amendments on equal rights for women and men with a large data set of multi-establishment firms and workers. The results show a strong relationship between discriminatory social attitudes towards gender equality and gender pay gaps within a firm across regions. The results remain robust, even when we account for detailed worker and job characteristics and for regional sorting of firms. Overall, the results suggest that firms pay larger gender gaps in regions where more people oppose gender equality rights. In other words, in the same firm women earn lower wages than their male coworkers in regions where more people have discriminatory social attitudes towards gender equality.

JEL-Classification: J31, J33, J71, M5

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Introduction

A number of recent empirical studies find evidence for a persistent and strong relationship between discriminatory social attitudes and gender (or racial) pay gaps. These gaps remain even after accounting for detailed individual characteristics such as education, occupation, and marital status (e.g., Charles and Guryan 2008; Charles, Guryan, and Pan 2009; Fortin 2005). Therefore, the authors typically interpret these results as evidence that discriminatory social attitudes stipulate discriminatory pay gaps.¹

However, such results could also be explained by the decision of women themselves. If women respond to discriminatory social attitudes by following more traditional gender roles, the relationship between discriminatory social attitudes and gender pay gaps may be a consequence of women self-selecting into different types of firms. Women who follow traditional gender roles may prefer firms with family-friendly work practices that offer lower wages, may invest less in job search, or may prefer low commuting costs over high wages (e.g., Bender, Donohue, and Heywood 2005; Heywood, Siebert, and Wei 2007; Keith and McWilliams 1999; Pissarides and Wadsworth 1994). As previous studies did not account for the unobserved heterogeneity of firms, it remains unclear whether women who are exposed to discriminatory social attitudes indeed receive lower wages than comparable male coworkers or whether those women simply self-selected into firms that pay lower wages to all their workers. Thus how differences in discriminatory social attitudes translate into pay is still an open question.

Our paper contributes to the literature by studying gender pay gaps within firms but across establishments that are located in regions with distinct differences in discriminatory social attitudes. Doing so helps us to narrow down the number of explanations given in the previous literature. Thus far, few data sources have allowed researchers to observe variation in discriminatory social attitudes within firms. Most studies rely on individual cross-section data without firm information, data that does not allow them to examine the effect of firms' wage-setting behavior. Therefore, we create a unique and innovative data source of multi-establishment firms that operate in one country but in different regions, and whose workers are therefore exposed to different levels of discriminatory social attitudes towards gender equality.

¹ We define discriminatory pay gaps as women and men receiving unequal pay for equal work. While discriminatory pay gaps may, for example, be the result of employer, coworker, or customer discrimination, they may also be a consequence of women's having worse bargaining power than men.

The advantage of our data is that it allows us to observe the wages and employment of different establishments that act under precisely the same national regulations and technological standards (because they operate during the same period in the same country, the same industry, and the same firm), but that are exposed to the influence of more or less strong discriminatory social attitudes (because these establishments are located in different regions with different social attitudes towards gender equality).

To measure discriminatory social attitudes, we use two Swiss referenda on gender equality rights, both of which provide valid and highly reliable indicators. First, we follow Lalive and Stutzer (2010) by using information on regional votes on a 1981 amendment to the Swiss constitution on equal rights for women and men. Second, we use information on regional votes on a 2000 Swiss constitutional amendment, stating that women should be fairly represented in the Federal administration. The outcomes of both referenda reliably measure regional differences in discriminatory social attitudes, because voters tend to reveal their true prejudices in secret votes with real legal consequences. We match the regional voting outcomes with the regional data of multi-establishments firms.

The main finding of this paper is the strong within-firm relationship between discriminatory social attitudes towards gender equality across regions and the size of gender pay gaps across those regions. The results hold, even when we account for detailed observable worker and job characteristics, and are thus not solely a consequence of women self-selecting into different types of firms. Although we find some evidence that discriminatory social attitudes relate to how women and men sort between firms, we do not find that discriminatory social attitudes relate to how women self-select within firms. Moreover, we find no evidence that the regional sorting of firms with larger pay gaps in more discriminatory regions explains the within-firm correlation between discriminatory social attitudes and firms' gender pay gaps. As a consequence, our results suggest that—within the same firms—gender pay gaps are larger for the establishments in regions with more discriminatory social attitudes than for the establishments in regions with less discriminatory social attitudes, i.e., firms pay larger gender pay gaps in establishments in a region where more people tolerate gender inequality than in a region where fewer people tolerate gender inequality.

To better understand the mechanism underlying the relationship between discriminatory social attitudes and gender pay gaps, we consider that different industries may be exposed to different levels of product market concentration, which is likely to be a main determinant for an employer's potentials to discriminate against women (e.g., Hellerstein, Neumark, and

Troske 2002). Therefore, we additionally provide a separate analysis for broad industry classes, finding the largest effect for the manufacturing sector, followed by commerce sector and the banking sector. In comparison to other industries in Switzerland, a high market concentration and large barriers to entry characterize the manufacturing industry. Thus the results are consistent with the idea that a firm's product market power may mitigate the relationship between discriminatory social attitudes and gender pay gaps.

In sum, we show that more discriminatory social attitudes in an establishment's region are related to larger gender pay gaps, even after we account for both unobserved heterogeneity of firms and observable worker and job characteristics. Therefore, our results suggest that the sorting of women and men into different firms, occupations, and jobs alone cannot account for the relationship between discriminatory social attitudes and gender pay gaps. In other words, women earn lower wages than their male coworkers in regions where more people oppose gender equality rights.

Our results support a number of theories involving the discriminatory behavior of employers, manager, coworkers, or customers. If discriminatory social attitudes stipulate, for example, the discriminatory tastes of local managers or local customers, firms should pay more discriminatory wages in regions where more people (including managers and customers) oppose gender equality. If markets are not perfectly competitive, strategically adjusting the pay setting to the local discriminatory environment may even be efficient for all firms (e.g., Lang and Lehmann 2012; Rosén 1997).

I. Why Should Discriminatory Social Attitudes Influence the Pay-Setting Behavior of Firms?

A variety of mechanisms may cause a relationship between discriminatory social attitudes toward gender equality and firms' pay-setting behavior. To provide the theoretical framework for the interpretation of our results, we now discuss the three main channels presented in the literature: (1) *inequality due to individual preferences*, i.e., discriminatory social attitudes change the individual worker's behavior and preferences for human capital investments, jobs, and occupations; (2) *employer discrimination*, i.e., discriminatory social attitudes shape the discriminatory behavior of employers and managers and their consequent pay-setting patterns; and (3) *customer and coworker discrimination*, i.e., discriminatory social attitudes shape the behavior of customers and coworkers, who are therefore more or less tolerant of

discrimination.

Individual Preferences and Sorting

Social prejudices may directly influence the preferences and the stereotypical behavior of individual female (and male) workers. For example, a number of studies show gender-specific preferences for human capital investments and job choices (e.g., Bender, Donohue, and Heywood 2005; Blau and Kahn 2000; Blau and Kahn 2006; Brown and Corcoran 1997; Buser, Niederle, and Oosterbeek 2014; Clark 1997; Donohue and Heywood 2004; Konrad, Ritchie, Lieb, and Corrigan 2000; Sloane and Williams 2000). If discriminatory social attitudes amplify the stereotypical behavior of women (and men), discriminatory social attitudes directly influence the labor supply or job choice of individual workers (Akerlof and Kranton 2000, Janssen and Backes-Gellner 2015). First, fewer women may apply for stereotypically male jobs if more people oppose gender equality rights. Second, discriminatory social attitudes may deter women from undertaking large human capital investments, an undertaking essential for good performance in high-paying jobs. Third, social expectations may influence women's decision to withdraw entirely from the labor market (e.g., Charles, Guryan, and Pan 2009; Fernandez 2011; Fernandez, Fogli, and Olivetti 2004; Fortin 2005). Fourth, discriminatory social attitudes may influence how women and men negotiate their salaries (e.g., Barron 2003; Major 1994).

Thus discriminatory social attitudes may influence the behavior and relative productivity of women and men and, therefore, the way in which women and men sort into jobs or the way in which firms assign women and men to different positions. Competitive market forces will not necessarily eliminate the direct influence of discriminatory social attitudes towards the preferences of women and men. Therefore, firms can have larger pay gaps in regions where more people oppose gender equality rights.

Employers' Taste for Discrimination

The most prominent theory for explaining the relationship between discriminatory social attitudes and the pay-setting behavior of firms is the theory of "taste-based discrimination" (Becker 1971). Becker's theory argues that employers (coworkers, or customers) have a

certain taste for discriminating against women. If utility-maximizing employers or managers have distastes for hiring women, they are willing to hire women only for a wage below their productivity. However, the employers' taste for discrimination comes at a cost: Non-discriminatory firms can collect rents by hiring women for wages slightly above discriminatory wages. Therefore, competitive market forces must drive prejudiced firms from the market such that the relationship between discriminatory social attitudes and gender pay gaps disappears in the long run (Arrow 1972).

However, a number of recent theoretical papers argue that gender pay gaps can persist if markets are not perfectly competitive (e.g., Black 1995; Hirsch 2009; Lang and Lehmann 2012; Lang, Manove, and Dickens 2005; Rosén 1997; Rosén 2003; Sasaki 1999). For example, Black (1995) and Rosén (1997) develop equilibrium search models with prejudiced employers, who reduce outside options for all minority workers by influencing the number or quality of outside offers. If market frictions prevent the full segregation of the labor market, prejudiced firms survive and reduce women's outside options. As a consequence, gender pay gaps persist, because non-prejudiced employers also gain rents by paying discriminatory wages. Thus if markets are not perfectly competitive, all firms benefit by paying relatively lower wages for females than for males in regions where more people oppose gender equality rights.² Although no study has shown whether firms adjust their pay-setting to their local discriminatory environment, a number of papers have provided evidence suggesting that gender pay gaps persist if firms have monopsony power and if search frictions are larger for women than for men (Bhaskar, Manning, and To 2002; Boal and Ransom 1997; Hirsch 2009; Hirsch et al. 2010; Manning 2008; Robinson 1969).³

Moreover, another related strand of literature focuses on frictions in the product market to explain the persistence of discriminatory pay gaps. The main argument of this literature is that higher levels of discrimination persist because the lack of product market competition and barriers of entry allow more discriminatory employers to continue to operate. A few studies have tested this hypothesis. For example, Hellerstein, Neumark, and Troske (2002) find that discrimination against women persists if firms have product market power. In particular, they argue that wages should reflect only gender-specific productivity differences in the absence of

² Rosén (2003) presents a similar model, in which prejudiced managers sacrifice their personal rents to discriminate against minority workers. Lang and Lehmann (2012) and Lang, Manove, and Dickens (2005) show that market frictions can lead to large discriminatory pay gaps, even if the market has only few prejudiced employers.

³ Many of these papers rely on the idea that all firms, not only prejudiced ones, maximize profits if they exploit their monopsony power and discriminate against women if markets are not perfectly competitive.

discrimination. Therefore, firms that employ relatively more women should not earn higher profits. In contrast, finding evidence that firms with relatively more female employees earn higher profits is consistent with gender discrimination. They find that among plants with high levels of product market power, those that employ relatively more women are relatively more productive. Other related papers find evidence for a negative correlation between product market concentration and a firm's employment of women (e.g., Ashenfelter and Hannan 1986).

Customers' and Coworkers' Taste for Discrimination

Social prejudices towards gender equality may not merely go together with prejudiced employers or managers. Where social attitudes more strongly oppose gender equality rights, coworkers and customers may also be more prejudiced. Thus firms that operate in regions where more people oppose gender equality rights may incur additional costs if they employ women, because male workers refuse to work with female coworkers or because prejudiced customers do not want to buy products from women. Unlike employer discrimination, employee and customer discrimination directly translates into workers' pay via a lower performance and leaves firms' profitability unaffected, i.e., competitive forces do not eliminate coworker or customer induced discriminatory pay gaps in the long run.⁴

In sum, if social attitudes induce women and men to sort into different jobs and occupations, or if employers, customers, or coworkers have discriminatory social attitudes, we expect that firms pay larger pay gaps in establishments that are located in regions where more people have discriminatory social attitudes towards women.

Therefore, the first subsection of the empirical section (section IV) provides empirical evidence for a strong relationship between discriminatory social attitudes in a region and the pay gaps within the same firm across those regions. It first analyzes to what extent workers sort into different firms and occupations and to what extent this sorting may explain regional differences in the gender pay gap. Second, it provides detailed evidence for the core relationship between within-firm gender pay gaps and discriminatory social attitudes.

To investigate whether the results are consistent with the core ideas about discriminatory pay setting and product market power or customer contact, the second subsection of IV provides a

⁴ Nonetheless, employers may segregate work teams by gender or, if possible, hire women only into occupations with no customer contact, so that coworker and customer discrimination does not always result in persisting gender pay gaps (e.g., Altonji and Blank 1999).

separate analysis for different industries categories, which are likely to be exposed to different levels of product market power or customer contact.

The third subsection of IV provides an extension of the results for a subsample of workers for whom we can observe their performance and their time-based pay. This section specifically studies whether discrimination works more via the performance pay component or via the time-based pay component.

II. Estimation Strategy

Our estimations are based on the following regression equation:

$$\ln w_{i,e(j,r)} = \beta_0 + \beta_1 \text{Female}_i + \beta_2 \text{Female}_i \cdot A_r + \theta_j + \eta_r + \varepsilon_i \quad (1)$$

where j denotes a firm with more than one local establishment e in more than two distinct regions r . All regions are characterized by different levels of discriminatory social attitudes towards gender equality expressed as voter approval rates A_r . η_r describes regional pay differences affecting the pay of all individuals i . θ_j is a firm-specific match component. The coefficient β_1 measures general gender differences in pay, which are equal across all firms and regions. For example, β_1 may describe general gender-specific productivity differences, or countrywide discrimination against women. ε_i is a normally distributed error term. β_2 is the effect of main interest. Because we include firm fixed-effects, β_2 measures the within-firm correlation between voter approval rates and gender pays gaps.

If firms with generally larger gender pay gaps cluster mainly around regions where more people oppose gender equality rights, or mostly hire high paid men in regions with less discriminatory social attitudes and low paid women in regions with more discriminatory social attitudes, the coefficient estimate of β_2 in (1) may pick up these sorting effects. To investigate whether those types of sorting mechanisms explain the relationship between social attitudes and firms' gender pay gaps, we additionally estimate equation (2), which is essentially equation (1) augmented by interaction terms between the gender dummy and firm fixed effects:

$$\ln w_{i,e(j,r)} = \beta_0 + \beta_2 \text{Female}_i \cdot A_r + \theta_j + \theta_j^f \cdot \text{Female}_i + \eta_r + \varepsilon_i^5 \quad (2)$$

If the described sorting mechanisms were to account for the relationship between discriminatory social attitudes and gender equality rights, we expect a $\text{cov}(A_r, \theta_j^f) \neq 0$ and coefficient estimates of β_2 to be smaller in (2) than in (1).

If discriminatory social attitudes indeed lead women and men to differently invest in human capital or sort in different jobs and occupations, observable job and worker characteristics should account for a large part of the relationship between voter approval rates and gender pay gaps. Therefore, we augment equation (1) by different job, and individual worker characteristics.

$$\ln w_{i,e(j,r)} = \beta_0 + \beta_1 \text{Female}_i + \beta_2 \text{Female}_i \cdot A_r + \text{Job} \cdot \gamma_{i,e(j,r)} + \text{Indiv} \cdot \delta_{i,e(j,r)} + \theta_j + \eta_r + \varepsilon_i \quad (3)$$

If job and individual characteristics were to account for much of the within-firm relationship between discriminatory social attitudes towards gender equality and gender pay gaps, we would expect the coefficient estimate of β_2 to decrease in (3).

Because we analyze firms with establishments in different regions, our observations are grouped in non-nested clusters of firms and regions. If we were not to account for this clustering, we might massively underestimate standard errors, and consequently over-reject standard hypothesis tests, even if we clustered the standard errors at the regional level. Therefore, we follow Cameron and Miller (2010) and estimate standard errors that account for non-nested clustering at the firm and the regional levels. To ensure that the covariance matrix has full rank, we partial out the control variables.

III. Data

This section describes our data sets in detail. The first subsection describes the voting data, and the second subsection presents our data on the firms.

⁵ Equation (2) does not contain the isolated gender dummy, as we cannot identify the average gender effect if interaction terms between firm fixed effects and the gender dummy are present.

The Voting Data

We measure discriminatory social attitudes towards gender equality by using voter approval rates on two amendments to the Swiss constitution with regard to gender equality across different regions, i.e., cantons, in Switzerland. First, we follow Lalive and Stutzer (2010) and use voting data on a 1981 amendment to the Swiss constitution on equal rights for women and men. However, this vote took place more than 10 years before the observation period of our firm data, and even though we expect that discriminatory social attitudes change slowly over time, we cannot be certain that discriminatory social attitudes do not change over the course of more than 20 years. The 1980s in particular was a period of substantial progress towards more gender equality in both the labor market and society in general. Such changes would be problematic for the interpretation of our results if the relative regional structure of discriminatory social attitudes had changed substantially. For example, region-specific immigration from other countries might alter discriminatory social attitudes in certain regions. Therefore, we also use information on regional votes on the 2000 amendment to the Swiss constitution on a fair representation of women in the federal government bodies, both legal and administrative. To clarify our strategy and provide the necessary background, we now present (a) more detailed information on the amendments to the Swiss constitution and (b) some descriptive statistics for both elections.

In 1981, Swiss voters had to decide whether to amend the Swiss constitution to reflect not only the equality of human beings in general but the equality of women and men in particular. More specifically, the amendment to the Swiss constitution contained the following clauses:

- “Men and women have equal rights.”
- “Men and women have equal rights and duties in the family.”
- “Men and women are entitled to equal pay for equal work.”
- “Men and women are entitled to equal treatment and equal opportunities in education, schooling and vocational education, in employment and occupation.”

We argue that the regional voter approval rates provide a measure for identifying discriminatory social attitudes towards gender equality. Although we observe regional variation in discriminatory social attitudes, the Swiss constitution applies to all regions. In other words, cantons whose voters rejected the amendment nonetheless have the legal obligation to abide by it. Therefore, the legal consequences of the amendment do not differ across regions with different approval rates. Thus differences in approval rates actually measure social attitudes, not legal differences.

We use data on votes from the Swiss Federal Statistical Office on the equal rights amendment across the 26 Swiss cantons on June 14, 1981.⁶ Overall, 60.3% of the voters favored the constitutional amendment, and 39.7% rejected it. Table 1 provides the voting results separately by canton.

—Table 1 about here—

The variation across cantons is substantial. While in Appenzell Inner Rhodes only about 30% of the voting population approved the amendment on equal rights, in Geneva more than 80% of the voting population approved it. In urban areas such as Zurich, the economic capital of Switzerland, only slightly more than 60% approved the amendment.⁷

For our second measure for discriminatory social attitudes, we use information on regional votes on the 2000 amendment to the Swiss constitution on a fair representation of women in all official federal bodies. The amendment stated that women should be fairly represented in all federal bodies, both legal (e.g., the parliament, the federal council and the federal court) and administrative (e.g., the federal administration, state owned and operated enterprises, and universities). As with the information for the vote on gender equality in the labor market, the data for the votes about the fair representation amendment comes from the Swiss Federal Statistical Office.⁸ Although the two amendments differ in content, both cover an issue related to discriminatory social attitudes towards gender equality. Specifically, we plausibly assume that the population's general feeling about gender equality affects both amendments in similar ways. Even if the absolute voting outcomes might not be comparable across the two amendments, the information nevertheless helps us clearly identify whether relative differences in discriminatory social attitudes determine differences in the gender pay gap across regions.

Table 2 presents descriptive statistics on the voting outcome. In contrast to the amendment on gender equality, most Swiss voters (82.0%) rejected the amendment on the fair representation of women in the federal government. Nevertheless, the patterns across regions are very similar to those for the 1981 amendment. Therefore, the results indicate that the relative structure of discriminatory social attitudes has not changed across cantons over time.

⁶ The information is available from the Swiss Federal Statistical Office under <http://www.bfs.admin.ch/bfs/portal/de/index/themen/17/03/blank/data/05/01.html>.

⁷ The Appendix and Table A.1 contain a detailed analysis of a post-vote survey that proves that voting outcomes represent social discriminatory attitudes of both women and men.

⁸ The information is available from the Swiss Federal Statistical Office at <http://www.bfs.admin.ch/bfs/portal/de/index/themen/17/03/blank/data/07/01.html>.

—Table 2 about here—

Table 2 reveals that the relative pattern for the 2000 amendment is astonishingly similar to that of the 1981 amendment (table 1). For example, Geneva has the highest approval rate for both amendments, whereas Appenzell Inner Rodes has the lowest. To clarify this relationship, Figure 1 compares the voting results for both amendments. The graph shows a strong positive relationship between both amendments, with a correlation between both variables of 87.11%. Thus the results strongly suggest that the relative structure of discriminatory social attitudes did not change substantially over more than two decades.

The Firm Data

Our firm data stems from the Swiss Earnings Structure Survey (ESS), a survey covering a large number of firms. The ESS is based on two-level sampling (i.e., both firms and workers) and selects the firms from the Swiss "business and enterprise" register. This data is representative of all economic sectors except agriculture. The survey does not cover firms with fewer than 3 employees, nor does it provide information on trainees, apprentices, or workers who are paid only on commissions. Firms with fewer than 20 employees are required to report all employees. Firms with 20 and 50 employees are allowed to report only every second employee, and firms with more than 50 employees are allowed to report every third employee. However, the firms are required to select their reported workers randomly. The ESS has been conducted in biennially repeated cross-sections since 1994, and participation for firms is compulsory.

To identify multiple establishments of firms across cantons, we need information on workers' administrative cantonal districts. As the EES provides such information only for 1994 through 1998, we restrict our sample to that period. Unfortunately, the data allows us to identify different establishments only if they are located in different cantonal regions. Multiple establishments located in the same region appear in the data source as a single establishment. This restriction, however, is not decisive for the main focus of our analysis, i.e., to analyze the relationship between discriminatory social attitudes and firms' pay-setting behavior.

At the firm level, we restrict our sample to companies in the private sector with establishments in more than one canton. To ensure that we can measure a gender pay gap within each establishment, we require that every establishment in our sample contain

information about at least two employees and at least one woman and one man. Additionally, we exclude all agricultural firms because the observations in our data are not representative for this sector. Moreover, as some firms report different industry categorizations for establishments in different regions, we drop those firms from the sample. Given these restrictions, we have to drop the small canton Appenzell Inner Rhodes from our sample, as none of the establishments there match our restrictions.

At the employee level, we restrict the sample to full-time workers (i.e., workers with more than 30 working hours per week) who were older than 16 when they entered the firm and younger than 65 at the time of the survey. We incorporate only full-time workers in our analysis because part-time workers are likely to differ from full-time workers in terms of their unobserved productivity. Part-time working women in particular are likely to follow a very different career path than full-time working men. We are aware that this restriction is somewhat strong and that it excludes more women from our sample than men. However, our results do not change even when we use the entire sample of workers; indeed, the magnitude of the coefficient estimates becomes even bigger. Nevertheless, as we do not want to capture a part-time effect in our results, we present only the results for the restricted sample of full-time workers in this paper. Results for the unrestricted sample are available upon request.

Table 3 shows an overview of the observations of the restricted sample.

—Table 3 about here—

The restriction to employees without missing information for the included variables leaves us with 332,087 employees, of whom 109,058 are women and 223,029 are men. In total, we observe 1277 firms with 4457 establishments. Most firms in our sample have about four establishments in different cantons, with a maximum of 25—i.e., some firms have establishments in every canton included in our sample.

We use the following variables in our investigation: Workers' pay is measured as the standardized sum of gross monthly wages. This pay measure includes an employee's contribution to social insurance, payment in kind, regularly paid-out participation in sales and bonuses, and compensation for shift- and night-work. In addition, thirteen months of payments or yearly special payments are included pro rata. Although inflation in Switzerland is not high, we adjust wages according to the National Consumer Price Index. We obtain the workers' education in categories and convert them into years of education according to Wirz

(2008). We have a measure for workers' years of tenure and weekly working hours. We know whether workers are covered by a union contract and whether they are married. We can observe the workers' occupation in 24 categories and create five dummies for the workers' job position, ranging from no-management to upper management.

Descriptive statistics appear in Table 4 for all workers and for women and men separately. About 30% of our sample is female. Average weekly working hours are around 40. Men earn about 0.30 log points more than females. Men also have slightly more education, and their average tenure is about three years higher than that of women. While in our sample we find no large difference in the weekly working hours of men and women, men are substantially more often married and are more likely to hold a management position. This difference is most striking in top and upper management.

—Table 4 about here—

IV. Results

The first subsection presents our main results, the estimates for the within-firm relationship between voter approval rates and gender pay gaps. The second subsection differentiates industry categories with varying degrees of product market power and customer contact. The third subsection provides an extension analyzing a subsample of workers that have both time-based and performance pay components.

Discriminatory social attitudes and increasing gender pay-gaps within firms

Before we turn to the main regression results according to regression equation (1), Table 5 analyzes to what extent social attitudes relate to the self-selection of women and men between firms and occupations.

The first specification of Table 5 presents an OLS regression of voter approval rates on the share of women per establishment. Because all observations are grouped at the firm and regional level, estimated standard errors account for non-nested clustering.

— Table 5 about here —

The first column of Table 5 shows a positive significant coefficient estimate, indicating that the average share of women per establishment increases voter approval rates. Specifically, a 10 percentage point increase in voter approval rates is associated with a 1.8 percentage point increase in the share of women per establishment. This effect is substantial, given that the average share of women per establishment is about 32 percent. Accounting for firm-fixed effects in the second specification decreases the point estimate substantially and the effect turns insignificant.

The third and fourth columns present similar OLS regressions of voter approval rates on the Duncan index at the establishment level.⁹ On average about 40 percent of women within the average establishment would have to change occupations to achieve a distribution similar to that of men. Column three shows a negative coefficient estimate of voter approval rates indicating that establishments are more segregated in socially more conservative regions. Although the point estimate is not particularly small, the effect is not significant. If we account for firm fixed-effects the point estimate decreases substantially. In sum, the results suggest that discriminatory social attitudes on gender equality influence how women and men sort between but not within firms.

To display the relationship between average gender pay gaps and discriminatory social attitudes, Figure 2 graphically shows the results of a regression of regional gender pay gaps and the average regional approval rates. The results in the figure stem from the following two-step procedure: First, using all observation, we predict gender pay gaps for each canton. As our interest lies in investigating the differences in gender pay gaps within firms, we account for firm fixed effects in the first stage. Second, we regress these predicted pay gaps on the regional shares of voter approval rates by collapsing the data to the 25 observations at the cantonal level. To take into account that the gender pay gaps are estimated with varying precision, we weight each of the 25 observations by the inverse of the coefficient variance of the first-stage regression.

— Figure 2 about here —

The figure suggests a smooth negative relationship between gender pay gaps and voter approval rates, i.e., the gender pay gap is on average about 0.11 percentage points ($e^{0.10} - 1 \approx 11$) smaller in establishments in regions where about 80% of voters approved the equal rights

⁹ The Duncan index, a common measure for occupational segregation, can be interpreted as the percentage of women who would have to change occupations to achieve an occupational distribution similar to men.

amendment than in establishments located in regions where only about 40% did. The R-squared of this regression amounts to 0.449, indicating that more than half of the variation of gender pay gaps can be attributed to changes in voter approval rates.

However, the previous procedure does not display the within-firm effect of voter approval rates on gender pay gaps. Therefore, in our main analysis, we show the results of various specifications of equation (1), estimating the within-firm effects for our entire sample of observed workers. Our main Table 6 presents the estimation results. The table shows six different specifications, including different sets of control variables.

— Table 6 about here —

The first column of Table 6 shows the results for specification (1), which does not include any control variables. The first row of the first column shows a within-firm gender pay gap of about 44 percentage points for an establishment in a hypothetical region where no-one approved the equality rights amendment.

The second row displays the effect of main interest. The point estimate of the interaction term between the female dummy and voter approval rates is 0.223. This value indicates that every 10 percentage-point difference in voter approval rate is associated with a 2.2 percentage-point decrease in the within-firm gender pay gap. For example, the cities of Lucerne and Basel-Stadt are of similar size and have a similar urban structure. The within-firm average gender pay gap is about 32 percentage points in an establishment in Lucerne, where about 50% of the voters approved the amendment. Yet the pay gap is only 28 percentage points in Basel-Stadt, where about 72% of the voters approved it. Thus, in our example, the gender pay gap is 4.8 percentage points (or 12%) smaller in Basel-Stadt than in Lucerne.

As mentioned in the data section, the amendment for gender-specific equality rights took place in 1981—more than 10 years before our observation period. Therefore, the second column of Table 6 replaces the voting data from the 1981 amendment with voting data from the 2000 amendment for a fair representation of women in federal governmental bodies. The coefficient estimate of the interaction term between the female dummy and voter approval rates of the 2000 amendment is positive and highly significant. Specifically, a 10 percentage-point increase in voter approval rates is associated with a 3.8 percentage point decrease in the within-firm gender pay gap. Thus the results of the 2000 amendment votes convincingly confirm our results for the 1981 amendment.

The third column of Table 6 analyzes whether the coefficient estimate is related to the structural sorting of firms and establishments. The column shows the results of regression equation (2), including 1276 additional interaction terms between the gender dummy and firm fixed effects. If firms with generally larger pay gaps would sort into regions where more people oppose gender equality rights, and firms with smaller pay gaps would sort into regions where fewer people oppose gender equality rights, our coefficient of main interest would pick up this firm sorting effect. Moreover, if firms would generally hire many low-paid women in regions where more people oppose gender equality rights, our coefficient would also pick up this sorting effect. We do not find that the coefficient estimate of the interaction term $\text{female} \times \text{regional approval rate}$ changes substantially. However, the standard error in the third specification is almost twice the size of the standard error in the first specification, because we added 1276 dummy variables.

Other potential explanations for finding a connection between discriminatory social attitudes and firms' gender pay gaps are occupational or job sorting. Therefore, the remaining three specifications add further control variables to the regression according to regression equation (3). The fourth column of Table 6 shows that the inclusion of occupational dummies only modestly reduces the previous effects. Therefore, occupational segregation appears not to be the major mechanism by which discriminatory social attitudes influence the pay-setting behavior of firms. The fifth column of Table 6 examines whether workers' job positions mitigate the relationship between voter approval rates and gender pay differentials. The job position is measured in five categories ranging from no management position to high and upper management position. Results show that after the inclusion of the dummies for the workers' job position, the magnitude of the average isolated gender pay gap decreases to about 36%. In contrast, the coefficient estimate of the interaction term $\text{female} \times \text{approval rates}$ increases slightly to from 0.223 to 0.257.

The sixth column of Table 6 investigates whether observable individual worker characteristics mitigate the relationship between regional approval rates and firm-internal pay gaps. Here we added variables for tenure, tenure squared, entry age, entry age squared, union, marital status, and years of education to the regression equation. To account for the gender specific effects of the workers' entry age on wages, we also interact the entry age variable with the gender dummy. Although the empirical results show substantial effects of observable worker characteristics on the isolated gender pay gap, the connection between firms' gender pay gaps and regional variation in voter approval rates remains relatively large and robust. The

coefficient of the female dummy indicating the isolated gender pay gap drops by about 0.12 log points, from 0.360 to about 0.235. The coefficient estimate of the interaction term female*voter approval rates also drops from about 0.257 log points to about 0.181. Thus even when we account for observable productivity related worker characteristics, the connection between firms' gender pay gaps and regional variation in voter approval rates remains relatively large and robust.

In sum, our results are consistent with theories arguing that pay discrimination explains the strong relationship between discriminatory social attitudes and gender pay gaps. On the one hand, due to their stronger taste for discrimination, local employers or managers may pay lower wages to females. On the other hand, there may be more prejudiced customers and coworkers in more prejudiced regions, such that firms pay lower wages to female workers.

Industry Differences: Product Market Power and Customer Contact and the Scope for Discrimination

As some industries are characterized by strong product market concentration, while other industries require workers to have close customer contact, analyzing the relationship between discriminatory social attitudes and gender pay gaps by different industry categories sheds additional light on the (discrimination) channels underlying the strong relationship between discriminatory social attitudes and gender pay gap. Table 7 presents the estimates by industry categories. The table shows the within-firm estimates of equation (1) for the following broad industry categories: manufacturing, commerce (including wholesale and retail), credit and banking, and a remainder category ("other"), containing firms in all remaining (smaller) industries in our sample. To test whether the effects differ by industry, we used third-order interaction terms between the industry dummy, the gender pay gap, and voter approval rates and the corresponding second-order interaction between all relevant variables.

— Table 7 about here —

We find the largest point estimate for the manufacturing sector (0.339 log points), directly followed by the commerce sector (0.213 log points). Although the two coefficient estimates are not significantly different from one another, they are both significantly larger than the point estimates for the banking sector (0.160 log points) and the remainder industries (0.046 log points).

These results are consistent with the idea that product market power or customer contacts may determine a company's scope for discriminatory pay: the commerce sector is characterized by strong customer relations, and the Swiss manufacturing sector is characterized by the highest market concentration, suggesting that the manufacturing firms have the highest product market power. Rutz (2013) calculates Herfindal-Hirschman indices (HHI) of up to 720 for some manufacturing industries, whereas the HHI is only 114 for the wholesale and commerce sectors and only 94 for the credit sector. Moreover, capital intensities are substantially larger in the manufacturing sector than in all other sectors of Swiss industry, suggesting high barriers to entry for the manufacturing sector. Therefore, the results are consistent with those of Hellerstein, Neumark, and Troske (2002), who find stronger gender discrimination for firms with product market power in general and for the manufacturing sector in particular.

Time-Based vs. Performance Pay: Identifying Channels of Discrimination.

In this subsection, we provide an extension of our results for a subsample of workers whose pay consists of a performance pay component and a time-based pay component. If only productivity differences between women and men were to drive our results, and all workers were to be paid according to their marginal productivity, we should find exactly the same effects for workers' performance and time-based pay. However, employer, coworker, or customer discrimination against women is likely to have different effects on workers' performance pay component than on their time-based pay component, depending on the particular form of performance pay or on the wage-setting processes for time-based pay. Therefore, this analysis of the performance pay and the time-based pay components of the same workers enhances the understanding of the relationship between discriminatory social attitudes and observed gender pay gaps.

We discuss the four most important theoretical explanations: the first two suggest more discrimination in the performance pay than in the time-based pay component, the second two suggest less discrimination in the performance pay than in the time-based pay component.

First, if performance pay components are tied to workers' productivity according to objective quantity measures and fixed rules such as shown by a number of previous papers (e.g., Lazear 2000; Lemieux, MacLeod, and Parent 2009), managers may face more difficulties in discriminating against women in the performance pay component than in the time-based

component. In this case, we should find stronger effects of discriminatory social attitudes on the time-based pay gap than on the performance-based pay gap. Second, gender-specific differences in salary negotiations may lead to different effects for performance and time-based pay. If discriminatory social attitudes amplify the gender-specific bargaining behavior, gender pay gaps may be larger for time-based pay than for performance pay, even if managers do not discriminate against women. Moreover, we should expect a stronger effect of discriminatory social attitudes on the time-based pay gap, but the effect would not be related to the discriminatory behavior of managers but weaker female salary negotiations.

Third, if performance pay is based on the subjective evaluations of more or less discriminatory managers, we should expect a larger gender pay gap in the performance-pay than in time-based pay component. Fourth, if performance pay is based on sales commissions, customer discrimination may cause differences in the sales performances of women in comparison to men. In this case, we should expect a stronger relationship between discriminatory social attitudes and gender pay gaps in the performance-pay than in the time-based pay component.

To investigate whether the relationship between discriminatory social attitudes and the pay gap is stronger in the performance pay than in the time-based pay component, we analyze a subsample of workers for whom we are able to observe a time-based pay component (based only on contractual working hours) and a performance pay component (bonus payments, gratification, and profit sharing). For workers who are regularly paid by commission and piece rates, we are not able to distinguish the workers' performance pay component from the workers' time-based pay component. After we remove those workers from the sample of performance pay workers, 88,742 individual workers remain.

Tables 8 and 9 present the results. Table 8 shows the results for the time-based pay component. Table 9 shows the results for the performance pay component for those same workers.

— Table 8 about here —

— Table 9 about here —

The first column of Table 8 shows the results without further control variables. The results show an isolated gender pay gap for the time-based pay component of about 0.394 log points. This value is very similar to the estimates from the entire sample in Table 9. The result of

main interest—the coefficient estimate of the interaction term $\text{female} \times \text{voter approval rate}$ —shows a positive significant estimate for the time-based pay component.¹⁰ The first column of Table 8 shows the same results for the performance pay component of those same workers. In contrast to the results for the time-based pay component in Table 8, we do not find a significant effect of the interaction term on the performance pay component. Thus our results support the first two theoretical explanations, i.e., managers may face more difficulties in discriminating against women in the performance pay component than in the time-based component and/or women have weaker female salary negotiations.

The second columns of Tables 8 and 9 replace the voting data on the 1981 amendment with that of the 2000 amendment, and the results are qualitatively similar. The third columns incorporate all controls for observable job and worker characteristics, and show a substantial reduction of the isolated gender pay gap for both the workers' performance pay and time-based pay components. In contrast, the coefficient estimate of the interaction term $\text{female} \times \text{regional approval rate}$ decreases only slightly for the time-based pay component, whereas the same interaction term remains insignificant for the performance pay component.

In sum, the extension of analyzing workers with time-based pay and performance pay shows that the relationship between discriminatory social attitudes and gender pay gaps manifests primarily in the workers' time-based pay. The results are both consistent with the idea that employers face more difficulties in discriminating under performance pay than under time-based pay,¹¹ and inconsistent with a model in which all workers are paid according to their marginal productivity.

V. Discussion and Conclusion

We combine information on regional variation in discriminatory social attitudes towards gender equality with a large data set of multi-establishment firms and workers to analyze the relationship between these discriminatory social attitudes and firms' gender pay gaps. Therefore, we are able to observe the same firm under the influences of varying regional

¹⁰ The effect is with 0.174 log points slightly smaller than the effect for the entire sample (table 6). One possible explanation is that women working under performance pay are more competitive or more focused on their career, so that the gender pay gap is somewhat smaller for performance pay workers—even in the time-based pay component.

¹¹ A more detailed analysis, which investigates the relationship between discriminatory social attitudes and workers' performance pay component for different industry categories appears in an earlier working paper version of this study (available under <https://ideas.repec.org/p/zrh/wpaper/327.html>). The more detailed analysis shows that commerce workers have a larger gap in performance pay than time-based pay. This result is in line with the idea of stronger customer discrimination in this particular sector.

attitudes towards gender equality. Even after we account for unobserved firm heterogeneity, we find a strong relationship between discriminatory social attitudes and gender pay gaps. In other words, the relationship between discriminatory social attitudes and the pay gaps remains when we take into account the possibility of women and men being segregated into entirely different firms. Thus firms have larger pay gaps in regions where more people have discriminatory social attitudes.

Our results are consistent with different theoretical explanations for a persistent, long-term relationship between discriminatory social attitudes and gender pay gaps. On one hand, discriminatory social attitudes could shape the self-image of women and men towards more stereotypical role models such that stronger discriminatory attitudes lead even women working in the same firms as men to self-select into entirely different jobs, invest less in education, or exert less effort on the job. In this case, regional gender-specific productivity differences would account for the relationship between discriminatory social attitudes and gender pay gaps. However, if such regional-specific productivity differences alone accounted for the relationship between discriminatory social attitudes and gender pay gaps, we would observe that supply side variables and workers characteristics mitigate the relationship in a substantial way. But our empirical results remain robust when we account for detailed worker and job characteristics, and we find no evidence that discriminatory social attitudes influence how firms assign women and men to different jobs and occupations across regions. Thus we are confident that self-selection does not explain the strong relationship between discriminatory social attitudes and gender pay gaps.

On the other hand, discriminatory social attitudes could lead prejudiced employers, coworkers, or customers to discriminate against women. First, employers or local managers may be more prejudiced in regions with stronger discriminatory attitudes, such that women face more difficulties in finding equally paid employment under more discriminatory social attitudes. If market frictions exist, all firms—both prejudiced and non-prejudiced—could then profit by not raising women's wages to their marginal productivity (e.g., Black 1995; Lang and Lehmann 2012; Lang, Manove, and Dickens 2005; Rosén 1997; Rosén 2003; Sasaki 1999). Second, coworkers and customers with discriminatory social attitudes may refuse to work with women or buy goods from women, such that women become less productive or employers have additional costs for hiring women. In both cases, firms should pay lower wages in more discriminatory regions than in less discriminatory regions.

As we find a strong correlation of the within-firm gender pay gaps with regional

discriminatory attitudes, even after accounting for detailer worker and job characteristics, our results are consistent with the theories of employer, coworker, or customer discrimination. However, a limitation of this study is that we cannot fully distinguish among the different discrimination theories that we discussed. To clearly distinguish between the different discrimination channels, we would need more detailed information on the actual behavior and decision-making of employers and customers. Unfortunately, such data is not available.

This limitation notwithstanding, we provide first evidence that the relationship between discriminatory social attitudes and observed gender pay gaps is not a consequence of the self-selection of women into different firms. Therefore, our paper provides important empirical evidence for understanding the role of firms and discusses the role of coworkers and customers in the relationship between discriminatory social attitudes and gender pay gaps.

Appendix

The Post-Vote Survey

As both women and men participated in the voting, the approval rates should represent the opinion of both women and men within each region. Although actual voter approval rates for women and men are not available, given the anonymity of the ballot box, Table A.1 shows the results of a post-vote survey on the voting behavior of women and men.¹²

The survey is provided by the Swiss Foundation for Research and Social Sciences and stems from a project called VoxIt, which has conducted post-voting surveys during the two or three weeks following all federal elections since 1977. The project infers information about Swiss voter behavior and political and social affinities. Although even the survey data for the question on gender equality is not representative and is available for only some cantons, the results show a pattern very similar to the actual voting presented in Table 1.

—Table A.1 about here—

For example, in the real vote on the amendment, the cantonal approval rate was highest in Geneva at 85.2%, and the VoxIt data also shows Geneva with the highest approval rate, at 88.6%. St. Gallen and Aargau show low approval rates of 46.3% and 52.1%, respectively, in the real vote and relatively low approval rates of 63.4% and 68.4% in the VoxIt survey. As overall approval rates are almost always higher in the post-vote survey than in the real voting outcomes, the data supports survey data is being subject to a desirability bias. Nevertheless, the relative outcomes of both data sets are surprisingly similar.

An important outcome of the post-vote survey is that women's votes quite strongly match men's votes. Women have the lowest approval rates in St. Gallen and Aargau, whereas they have the highest approval rates in Geneva and Zurich. Therefore, the post-vote survey provides some additional indication that the votes proxy discriminatory social attitudes that manifest in both women's and men's preferences in a particular region.

¹² For more information on the post-vote survey, see http://forsdata.unil.ch/projects/Voxit/docu_xl_htmD/ListeVoxDispoD.htm?lang=e&menu=4.

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VI. Tables and figures in the text

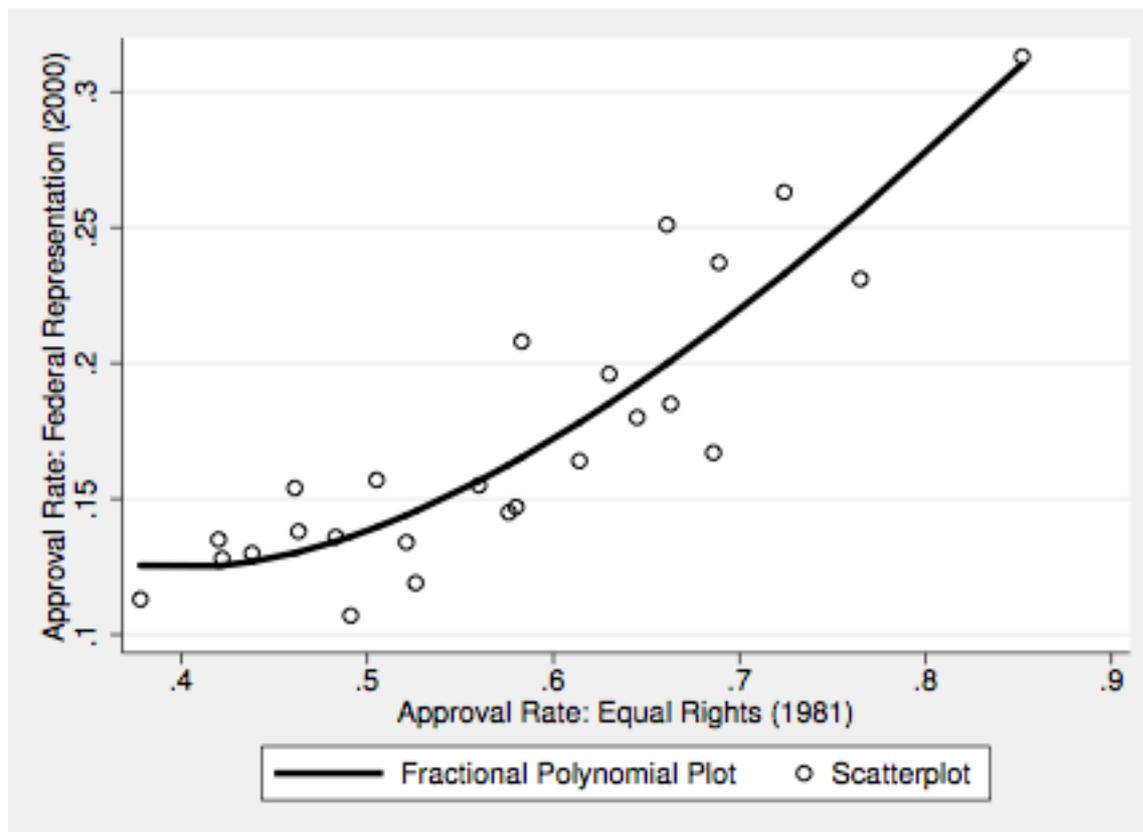


Figure 1. Relationship between Approval Rates
Notes: The voting data come from the Swiss Federal Statistical Office.

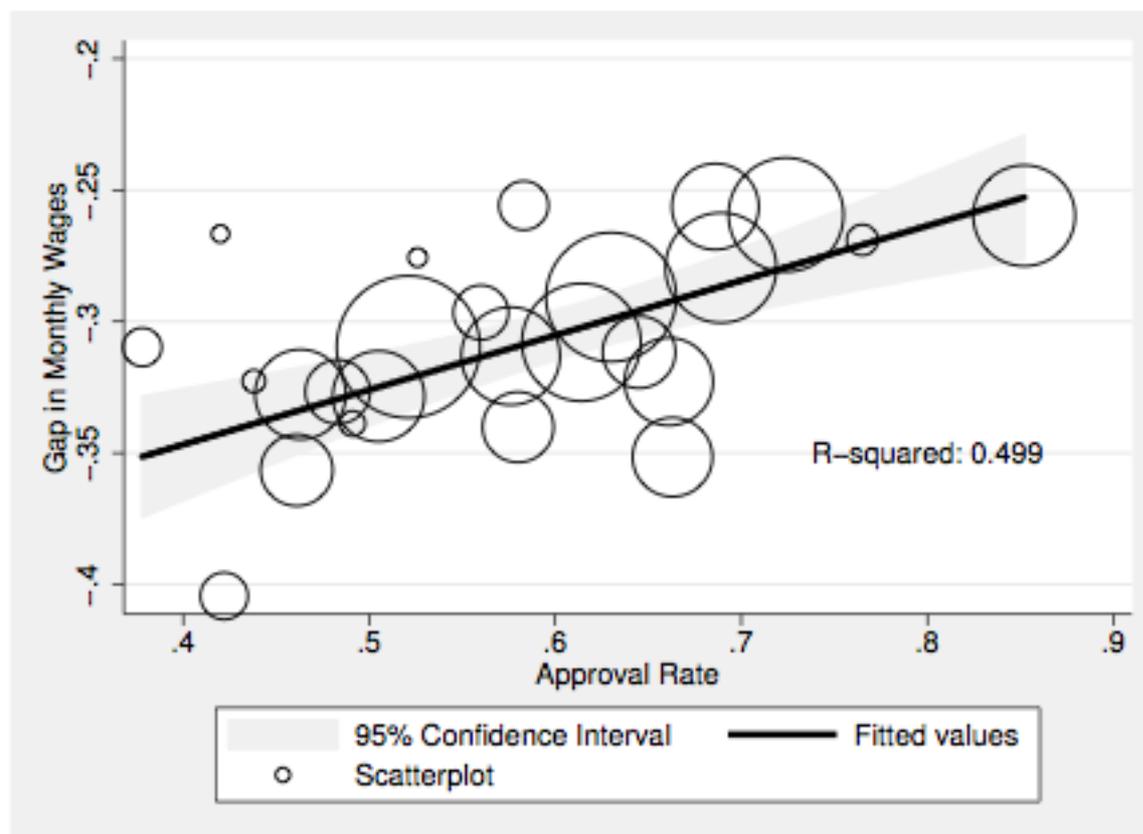


Figure 2. Monthly Wages and Approval Rates.

Notes: The firm and individual data are drawn from the Swiss Earnings Structure Survey 1994-1998. The voting data come from the Swiss Federal Statistical Office.

Table 1. Regional Voter Approval Rates: Equality Rights

Region	Total votes	In favor	Approval rate
Appenzell Inner Rhodes	2529	805	31.8%
Schwyz	20075	7594	37.8%
Glarus	8014	3362	42.0%
Appenzell Outer Rhodes	11244	4743	42.2%
Uri	8265	3616	43.8%
Valais	33084	15237	46.1%
St. Gallen	73620	34073	46.3%
Thurgau	40270	19469	48.3%
Nidwalden	7141	3508	49.1%
Lucerne	67982	34313	50.5%
Aargau	85950	44782	52.1%
Obwalden	5362	2818	52.6%
Graubünden	30054	16830	56.0%
Solothurn	88576	51029	57.6%
Zug	20554	11925	58.0%
Schaffhausen	28591	16673	58.3%
Bern	177168	108695	61.4%
Zurich	266619	168099	63.0%
Fribourg	28936	18674	64.5%
Neuchâtel	30399	20095	66.1%
Ticino	42915	28438	66.3%
Basel-Landschaft	44530	30540	68.6%
Vaud	78446	54073	68.9%
Basel-Stadt	44687	32354	72.4%
Jura	11040	8450	76.5%
Geneva	67536	57507	85.2%

Notes: The voting data come from the Swiss Federal Statistical Office.

Table 2. Regional Voter Approval Rates: Federal Representation

Region	Total votes	In favor	Approval rate
Appenzell Inner Rhodes	4283	302	7.1%
Schwyz	41805	4719	11.3%
Glarus	9653	1305	13.5%
Appenzell Outer Rhodes	17760	2273	12.8%
Uri	12827	1670	13.0%
Valais	60886	9405	15.5%
St. Gallen	121818	16859	13.8%
Thurgau	57124	7767	13.6%
Nidwalden	11662	1251	10.7%
Lucerne	106603	16694	15.7%
Aargau	140426	18842	13.4%
Obwalden	9538	1134	11.9%
Graubünden	44773	6945	15.5%
Solothurn	73716	10672	14.5%
Zug	29870	4403	14.7%
Schaffhausen	29836	6215	20.8%
Bern	288654	47248	16.4%
Zürich	339631	66411	19.6%
Fribourg	62694	11298	18.0%
Neuchâtel	36226	9088	25.1%
Ticino	56591	10453	18.5%
Basel-Landschaft	73146	12214	16.7%
Vaud	124920	29548	23.7%
Basel-Stadt	60232	15853	26.3%
Jura	18070	4174	23.1%
Geneva	94429	29571	31.3%

Notes: The voting data come from the Swiss Federal Statistical Office.

Table 3. Observations

<i>Individual</i>	
Total	332087
Women	109058
Men	223029
<i>Firm</i>	
Firms	1277
Establishments	4457
<i>Establishments per firm</i>	
Median	4
Min	2
Max	25

Notes: The voting data come from the Swiss Federal Statistical Office.

Table 4. Summary Statistics

Variable	All	Female	Male
Log gross monthly wage	8.634 (0.38)	8.409 (0.313)	8.745 (0.361)
Female (Dummy)	0.328 (0.47)	1.000 (0.000)	0.000 (0.000)
Firm entry age	29.841 (8.502)	29.557 (8.917)	29.979 (8.285)
Education in years	12.351 (2.276)	11.515 (1.927)	12.759 (2.321)
Tenure	10.771 (9.053)	8.654 (7.447)	11.806 (9.574)
Union (Dummy)	0.253 (0.435)	0.243 (0.429)	0.259 (0.438)
Married (Dummy)	0.597 (0.491)	0.417 (0.493)	0.686 (0.464)
Weekly working hours	40.734 (2.065)	40.097 (2.952)	41.045 (1.34)
No management position	0.655 (0.475)	0.764 (0.425)	0.602 (0.49)
Lowest management	0.126 (0.332)	0.133 (0.339)	0.122 (0.328)
Lower management	0.134 (0.341)	0.078 (0.269)	0.162 (0.368)
Middle management	0.067 (0.25)	0.022 (0.146)	0.089 (0.285)
Top and upper management	0.018 (0.131)	0.003 (0.054)	0.025 (0.155)

Notes: The firm and individual data are drawn from the Swiss Earnings Structure Survey 1994-1998. Standard errors are in parenthesis.

Table 5. Social Attitudes and Gender-Specific Firm Segregation.

	Share Female:		Duncan index:	
	I	II	I	II
Average	0.328 (0.172)		0.422 (0.224)	
Approval Rate: Equal Rights (1981)	0.184** (0.077)	-0.018 (0.074)	-0.091 (0.087)	-0.016 (0.050)
Firm fixed effects	No	Yes	No	Yes
Region fixed effects	No	Yes	No	Yes
	332087	332087	332087	332087

Notes: The firm and individual data are drawn from the Swiss Earnings Structure Survey 1994-1998. The voting data come from the Swiss Federal Statistical Office. Non-nested standard errors are calculated at the region and firm levels. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Table 6. Wage Regression (Monthly Wages)

Dependent variable:	log(monthly income)					
Specifications:	I	II	III	IV	V	VI
Female	-0.437*** (0.020)	-0.372*** (0.011)	-	-0.418*** (0.013)	-0.359*** (0.024)	-0.235*** (0.032)
Female* Approval Rate: Equal Rights (1981)	0.223*** (0.033)	-	0.216*** (0.052)	0.208*** (0.017)	0.257*** (0.028)	0.181*** (0.031)
Female* Approval Rate: Representation (2000)	-	0.379*** (0.053)	-	-	-	-
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Occupation	No	No	No	Yes	Yes	Yes
Job position	No	No	No	No	Yes	Yes
Prod. relevant characteristics	No	No	No	No	No	Yes
Female*Firm Fixed effects	No	No	Yes	No	No	No
Observations:	332087	332087	332087	332087	332087	332087

Notes: The firm and individual data are drawn from the Swiss Earnings Structure Survey 1994-1998. The voting data come from the Swiss Federal Statistical Office. The dependent variable is monthly time- based wage for all workers. The control variables include tenure, tenure squared, firm entry age, entry age squared, education union status, marital status, job position, and occupation. Non-nested standard errors are calculated at the region and firm levels. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Table 7. Wage Regression by Industry Categories

Dependent variable:	log (monthly income)			
Industry categories:	Manufacturing	Commerce	Banking	Other
Approval Rate:	0.339*** ^{b #}	0.213*** ^{b #}	0.160*** [#]	0.046
Equal Rights (1981)	(0.094)	(0.062)	(0.037)	(0.063)
Firm fixed effects	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
	332087	332087	332087	332087

Notes: The firm and individual data are drawn from the Swiss Earnings Structure Survey 1994-1998. The voting data come from the Swiss Federal Statistical Office. Non-nested standard errors are calculated at the region and firm levels. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level. ^aSignificantly different from “commerce” at the 5% level; ^b Significantly different from “banking” at the 5% level; [#] Significantly different from “other” at the 5% level.

Table 8. Wage Regression III: Time-Based Pay Component (Performance Pay Sample)

	I Base	II Representation	III Controls: Labor Market	IV Controls: Performance Pay
Female	-0.394*** (0.029)	-0.342*** (0.021)	-0.223*** (0.042)	-0.178*** (0.049)
Female* Approval Rate: Equal Rights (1981)	0.174*** (0.047)	-	0.127** (0.058)	0.172*** (0.035)
Female* Approval Rate: Representation (2000)	-	0.290*** (0.098)	-	-
Firm fixed effects	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
Occupation	No	No	Yes	Yes
Job position	No	No	Yes	Yes
Prod. relevant characteristics	No	No	Yes	Yes
Observations:	88742	88742	88742	88742

Notes: The firm and individual data are drawn from the Swiss Earnings Structure Survey 1994-1998. The voting data come from the Swiss Federal Statistical Office. The dependent variable is monthly time-based wage for all workers. The control variables include tenure, tenure squared, firm entry age, entry age squared, education union status, marital status, job position, and occupation. Non-nested standard errors are calculated at the region and firm levels. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Table 9. Wage Regression III: Performance Pay Component (Performance Pay Sample)

	I Base	II Representation	III Controls: Labor Market
Female	-0.478*** (0.159)	-0.434*** (0.096)	-0.321* (0.173)
Female* Approval Rate: Equal Rights (1981)	0.088 (0.238)	-	0.026 (0.225)
Female* Approval Rate: Representation (2000)	-	0.061 (0.397)	-
Firm fixed effects	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes
Occupation	No	No	Yes
Job position	No	No	Yes
Prod. relevant characteristics	No	No	Yes
Observations:	88742	88742	88742

Notes: The firm and individual data are drawn from the Swiss Earnings Structure Survey 1994-1998. The voting data come from the Swiss Federal Statistical Office. The dependent variable is monthly time-based wage for all workers. The control variables include tenure, tenure squared, firm entry age, entry age squared, education union status, marital status, job position, and occupation. Non-nested standard errors are calculated at the region and firm levels. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Table A.1 Results of VOXIT Data on Regional Voter Approval Rates by Gender

Region	All		Men		Women	
	Total votes	Approval	Total vote	Approval	Total vote	Approval
St. Gallen	101	63.4	48	56.3	53	69.8
Aargau	69	68.1	36	66.7	33	69.7
Bern	195	74.9	97	66.0	98	83.7
Basel-Landschaft	38	81.6	20	90.0	18	72.2
Zurich	204	82.8	109	79.8	95	86.3
Vaud	122	85.2	57	80.7	65	89.2
Basel-Stadt	54	87.0	27	77.8	27	96.3
Geneva	44	88.6	20	95.0	24	83.3

Notes: The voting data come from VoxIt.