

# Firm Leadership and the Gender Pay Gap

Do Active Owners Discriminate more than Hired Managers?

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# Introduction

- ▶ Gender pay gap substantial even after controlling for occupational segregation or human capital
- ▶ For Germany unexplained gap roughly 15 percent (with IAB data)
- ▶ Discrimination may be one part of the unexplained gender pay gap
- ▶ E.g. taste-based discrimination by the plant leader
- ▶ So far, sparse evidence on the influence of decision maker's characteristics on the pay gap
- ▶ No evidence on the effects of active owners vs. hired managers

# Taste-based Discrimination

- ▶ According to Becker (1971), discrimination stems from personal prejudices which constitute tastes for discrimination.
- ▶ Male employers may possess discriminatory preferences against female workers
- ▶ Constitutes a disutility from the employment of women
- ▶ Offer lower wages to equally productive women than to their male counterparts
- ▶ Obviously, discriminatory preferences depend on personal characteristics of the firm leader

# Influence of Decision Makers' Gender

- ▶ Expectation is that prejudices against women should be lower when a larger fraction of managers are females themselves or if the firm owner is a woman
- ▶ Some evidence that a higher share of female managers reduces the gender pay gap (e.g. Cardoso and Winter-Ebmer, 2010)
- ▶ No evidence that the sex of the firm owner *per se* affects the gender pay gap (Penner and Toro-Tulla, 2010)
- ▶ Firm owner's sex seems to strongly influence the gender composition of the firm's workforce (Carrington and Troske, 1995)

# Costs of Taste-Based Discrimination

- ▶ Non-discriminating employers gain a competitive advantage over discriminating competitors by hiring women at wages below their productivity
- ▶ Hence, discriminating employers trade off their profits with their taste for discrimination and decide to pay for discrimination
- ▶ Discriminating employers should have lower profits in the short run, lower growth and/or difficulties to survive in the long run
- ▶ Empirical evidence showing that discriminating employers make lower profits in the short run (e.g. Hellerstein et al., 2002)

# Constraints on Taste-Based Discrimination

- ▶ Evidence that gender wage discrimination is less prevalent in more competitive industries (e.g. Jirjahn and Stephan, 2006)
- ▶ Not owning the firm may be another constraint on living out costly preferences
- ▶ Hired managers have stronger incentives to maximize profits than owners, e.g. managers may lose their job if profits are too low.
- ▶ Firm owners have more discretion in trading off their profits with their taste for discrimination
- ▶ Conjecture the unexplained gender pay gap to be more pronounced in owner-run as opposed to manager-run firms

# Our Data Set: the Linked Employer-Employee Data Set of the IAB

- ▶ LIAB is created by linking the administrative person-specific data of the IAB with the IAB Establishment Panel
- ▶ Employee Information:
  - ▶ Employee history based on the integrated notification procedure for the social insurances
  - ▶ Employers notifications are compulsory at the beginning and the end of individual employment spells and, additionally, at the end of each year
  - ▶ Only those workers, salaried employees, and trainees who are covered by social security are included
  - ▶ Approximately 80 per cent of all people employed in Germany are part of the employee history
  - ▶ E.g. daily gross wage (censored at the social security contribution ceiling) on the employee's occupation and occupational status, and on industry
  - ▶ Information on age, schooling, training, sex, and nationality are also contained

# The Employer Side - IAB Establishment Panel

- ▶ Random sample of establishments which employ at least one employee covered by social security at the 30th June of a year
- ▶ Contains e.g. the number of employees, the establishment's commitment to collective agreements, the existence of a works council, the plant's performance and export share, and its technological status.
- ▶ For the first time in 2007 the survey included a question concerning plant leadership, i.e. whether the establishment is entirely manager-run, entirely owner-run, or run both by hired managers and owners
- ▶ Use the 2007 wave of the LIAB cross-sectional model, which contains both information on individuals and IAB Panel establishments matched as of the 30th of June 2007



# Our Sample

- ▶ Because of the lack of detailed information on hours worked, we restrict sample to full-time employees
- ▶ Exclude public sector workers because the distinction between owner-run and manger-run is not applicable there
- ▶ Also exclude plants run both by hired managers and owners

	West	East
Men	274,399	66,249
Women	68,280	28,249
Establishments	3,620	2,633
Owner-run est.	2,411	1,955
Manager-run est.	1,179	678

# Control Variables

Individual Level	Establishment Level
Age	Number of Employees
Age squared	Works Council Existence
Tenure	Collective Bargaining at Sector Level
Tenure squared	Collective Bargaining at Firm Level
Six education dummies	Exporter
Nine occupation dummies	Foreign Ownership
	Location in rural area
	New production technology
	Share of women in workforce
	Share of qualified in workforce
	Eight sectoral dummies

# Censored Wages

- ▶ Wages censored at the social security contribution ceiling, viz. Euro 172.60 in West Germany and Euro 149.59 in East Germany in 2007
- ▶ Affects 23.7 percent of West German and 7.6 percent of East German observations
- ▶ Single imputation of wages above these thresholds by
  - ▶ Estimating four Tobit models separately by gender and leadership regime both for West and East Germany with the log daily gross wage as dependent variable and all regressors included
  - ▶ And adding a random value in order to avoid overestimating the correlation between covariates and regressors as proposed by Gartner (2004)

# Empirical Strategy: Wage Decompositions

- ▶ Analyze gender wage differentials separately in manager-run and owner-run plants
- ▶ Decompose raw gender wage differential within each plant type into two parts:
  - ▶ Explained part: accounts for different individual endowments and firm/job characteristics
  - ▶ Unexplained part: contains wage discrimination and other unobserved components
- ▶ Oaxaca-Blinder type decompositions at the mean of the wage distribution
- ▶  $\overline{\ln w_m} - \overline{\ln w_f} = (\bar{x}_m - \bar{x}_f)^\top \beta_m + (\beta_m - \beta_f)^\top \bar{x}_f$
- ▶ Machado-Mata type decompositions at the quantiles of the unconditional wage distribution uncover no additional heterogeneities between firm types compared to the mean decomposition

# Unexplained gender pay gaps obtained from Oaxaca–Blinder decompositions

	overall	owner-run	manager-run
West Germany	0.193 (0.011) [0.172, 0.214]	0.289 (0.013) [0.263, 0.314]	0.167 (0.011) [0.147, 0.188]
East Germany	0.180 (0.012) [0.156, 0.203]	0.245 (0.019) [0.206, 0.283]	0.144 (0.013) [0.119, 0.168]

# Unobserved Heterogeneity

- ▶ Comparing unexplained gender gaps between manager-run and owner-run plants may be misleading, although we controlled for other observed plant characteristics for at least three reasons:
  - ▶ Differences in unobserved plant characteristics affecting the extent of wage discrimination independently of the leadership regime (e.g., the sex of the plant leader)
  - ▶ Self-selection of workers with different unobserved characteristics (motivation, mobility) into plants with different observed characteristics
  - ▶ Self-selection of workers with different unobserved characteristics into plants with differences in plant characteristics observed by the worker but unobserved in our data set (firm culture)

# Restricting Sample to Similar Firms

- ▶ Restrict sample to workers working for manager-run and owner-run plants that are indistinguishable by their observed plant characteristics
  - ▶ Sidesteps the problem of self-selection of workers due to observed plant characteristics
  - ▶ Mitigate the problems of different unobserved establishment characteristics and
  - ▶ Self-selection of workers due to these unobserved characteristics
- ▶ Achieved via radius propensity score matching using only the nearest neighbour without replacement
- ▶ I.e., for every owner-run plant we look for a single statistical twin among manager-run plants
- ▶ Left with a sample of 30,442 (13,648) employees working for 505 (382) owner-run plants and 33,135 (15,365) employees working for the same number of manager-run plants in West (East) Germany

# Unexplained gender pay gaps obtained from Oaxaca–Blinder decompositions (matched sample)

	overall	owner-run	manager-run
West Germany	0.234 (0.012) [0.211 , 0.257]	0.251 (0.016) [0.219 , 0.284]	0.214 (0.014) [0.184 , 0.241]
East Germany	0.216 (0.017) [0.181 , 0.250]	0.196 (0.036) [0.125 , 0.266]	0.203 (0.017) [0.170 , 0.236]



# Main Results

- ▶ Large differences in unexplained gender pay gaps when comparing owner-run with manager-run plants
- ▶ Holds for East and West Germany
- ▶ Restricting sample to plant pairs differing only in leadership regime yields similar unexplained pay gaps in both types of plants
- ▶ Conclude that although differences in pay gaps are remarkable, they seem to be driven by unobserved selection of workers rather than by firm leadership *per se*.

# Discussion of the Results

Several possible reasons for this lack of differences

- ① Competition on both labour and goods markets prevents both types of leaders from discriminating against women to a large extent, so that the unexplained gender pay gaps primarily reflect other factors, e.g. unobserved productivity differences
- ② Our conjecture that managers have less discretion to discriminate than owners may be irrelevant
  - ▶ due to severe agency problems
  - ▶ or because the principals want their agents to discriminate against women
    - ▶ We rather follow Becker (1971) who arguments that '[a]n employer's taste for discrimination might depend considerably on his "contact" with employees; for example, he might discriminate only slightly against those he seldom saw.'
- ③ Owners and managers may not have any discriminatory preferences at all, and wage discrimination may exist due to other reasons, such as those presented by statistical or monopsonistic discrimination

# Plant characteristics by leadership (whole sample, means)

Variable	West Germany			East Germany		
	owner-run	manager-run		owner-run	manager-run	
Establishment size	54.689	510.110	[0.000]	31.621	167.610	[0.000]
Collective agreement at sector level (dummy)	0.418	0.588	[0.000]	0.195	0.403	[0.000]
Collective agreement at firm level (dummy)	0.030	0.118	[0.000]	0.049	0.177	[0.000]
Works council (dummy)	0.107	0.692	[0.000]	0.057	0.545	[0.000]
Exporter (dummy)	0.232	0.400	[0.000]	0.186	0.334	[0.000]
Foreign ownership (dummy)	0.008	0.177	[0.000]	0.007	0.116	[0.000]
New production technology (dummy)	0.692	0.734	[0.010]	0.685	0.718	[0.111]
Proportion of female workers	0.392	0.358	[0.001]	0.359	0.362	[0.829]
Proportion of qualified workers	0.777	0.776	[0.932]	0.895	0.881	[0.133]
Plant located in rural area (dummy)	0.211	0.175	[0.011]	0.469	0.395	[0.001]
Agriculture, hunting, forestry (dummy)	0.022	0.005	[0.000]	0.028	0.025	[0.688]
Mining, quarrying, electricity, gas, water (dummy)	0.007	0.052	[0.000]	0.005	0.036	[0.000]
Manufacturing (dummy)	0.251	0.349	[0.000]	0.404	0.416	[0.596]
Trade and repair (dummy)	0.215	0.185	[0.041]	0.147	0.119	[0.074]
Construction (dummy)	0.146	0.019	[0.000]	0.138	0.046	[0.000]
Transport, storage, communication (dummy)	0.040	0.070	[0.000]	0.036	0.055	[0.031]
Financial intermediation (dummy)	0.007	0.040	[0.000]	0.007	0.013	[0.137]
Business activities (dummy)	0.159	0.145	[0.268]	0.105	0.138	[0.020]
Other activities (dummy)	0.154	0.135	[0.131]	0.130	0.152	[0.152]
Number of plants	2,431	1,176		1,951	673	

# Plant characteristics by leadership (matched sample, means)

Variable	West Germany		East Germany		
	owner-run	manager-run	owner-run	manager-run	
Establishment size	142.200	149.810	74.319	79.984	[0.574]
Collective agreement at sector level (dummy)	0.491	0.471	0.301	0.301	[1.000]
Collective agreement at firm level (dummy)	0.059	0.071	0.128	0.105	[0.311]
Works council (dummy)	0.422	0.384	0.262	0.275	[0.684]
Exporter (dummy)	0.360	0.329	0.322	0.275	[0.155]
Foreign ownership (dummy)	0.036	0.034	0.031	0.034	[0.839]
New production technology (dummy)	0.721	0.705	0.696	0.709	[0.693]
Proportion of female workers	0.370	0.392	0.365	0.365	[0.973]
Proportion of qualified workers	0.740	0.755	0.862	0.872	[0.565]
Plant located in rural area (dummy)	0.196	0.202	0.427	0.421	[0.884]
Agriculture, hunting, forestry (dummy)	0.014	0.010	0.045	0.042	[0.859]
Mining, quarrying, electricity, gas, water (dummy)	0.018	0.026	0.021	0.018	[0.795]
Manufacturing (dummy)	0.315	0.277	0.369	0.374	[0.881]
Trade and repair (dummy)	0.196	0.224	0.131	0.141	[0.674]
Construction (dummy)	0.032	0.034	0.060	0.068	[0.658]
Transport, storage, communication (dummy)	0.065	0.050	0.047	0.052	[0.740]
Financial intermediation (dummy)	0.016	0.016	0.005	0.013	[0.255]
Business activities (dummy)	0.117	0.118	0.160	0.141	[0.479]
Other activities (dummy)	0.166	0.176	0.162	0.149	[0.618]
Number of plants	505	505	382	382	