

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
- ▶ Evidence that decision makers' gender matters (e.g. Carrington and Troske, 1995; Cardoso and Winter-Ebmer, 2010)

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 (on-the-job consumption)
- ▶ Evidence that gender wage discrimination is less prevalent in more competitive industries (e.g. Hellerstein et al., 2002; Jirjahn and Stephan, 2006)

Differences by Leadership Regime

- ▶ Demsetz (1983): a discriminatory owner-manager derives no (less) utility from discrimination after he stops managing the firm
- ▶ only utility from household consumption instead of on-the-job consumption
- ▶ will tie managers to profit maximization resulting in no (less) costly discrimination
- ▶ Demsetz (1983) acknowledges that this holds only in the absence of monitoring costs → otherwise, managers may live out their discriminatory preferences at the detriment of the firm's profits

Differences by Leadership Regime ctd.

- ▶ Literature on importance of nonpecuniary motives for self-employed (e.g., Benz, 2009)
- ▶ Many mechanisms such as incentive pay and promotion tournaments have evolved to alleviate agency problems (e.g., Hamilton, 2000; Benz and Frey, 2008)
- ▶ Firm performance serves as a signal on the managerial labor market (reputation effects, e.g. Demsetz, 1983; Lazear, 1995)
- ▶ Manager-run firms are more concerned with maximizing profits than owner-run (cf. Vroom and McCann, 2010)
- ▶ Ex ante an open question whether owners discriminate more or less than hired managers

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 is based on the integrated notification procedure for the social insurances
- ▶ Establishment survey is based on a random sample of establishments which employ at least one employee covered by social security at the 30th June of a year
- ▶ 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 manager-run is not applicable there
- ▶ Also exclude plants run both by hired managers and owners (results always range between owner-run firms and manager-run firms)

	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

Empirical Strategy: Wage Decompositions

- ▶ Analyze gender wage differentials separately in manager-run and owner-run plants
- ▶ Oaxaca-Blinder decompositions based on Mincer-style wage regressions enriched by establishment level controls
- ▶ $\overline{\ln w_m} - \overline{\ln w_f} = (\bar{x}_m - \bar{x}_f)^\top \beta_m + (\beta_m - \beta_f)^\top \bar{x}_f$
- ▶ 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
- ▶ Machado-Mata type decompositions at the quantiles of the unconditional wage distribution uncover no additional heterogeneities between firm types compared to the mean decomposition

Control Variables

Individual Level	Establishment Level
Potential Experience	Number of Employees
Potential Experience 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 (see Gartner 2005) 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
 - ▶ Drawing for every censored observation a random value from a normal distribution left-truncated at the respective social security contribution ceiling with predicted log wage as mean and standard deviation as estimated from the Tobit models

Unexplained gender pay gaps obtained from Oaxaca–Blinder decompositions

	overall	owner-run	manager-run
West Germany	0.190 (0.011) [0.169 , 0.211]	0.287 (0.013) [0.262 , 0.313]	0.164 (0.011) [0.143 , 0.184]
East Germany	0.179 (0.012) [0.155 , 0.202]	0.243 (0.020) [0.204 , 0.283]	0.143 (0.013) [0.118 , 0.168]

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	

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 characteristics
- ▶ Achieved via radius propensity score matching using only the nearest neighbor 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	0.232 (0.012) [0.209 , 0.255]	0.250 (0.016) [0.218 , 0.282]	0.212 (0.014) [0.185 , 0.239]
East Germany	0.215 (0.017) [0.181 , 0.249]	0.193 (0.037) [0.121 , 0.266]	0.202 (0.017) [0.169 , 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*
- ▶ Firm Size important: matching on number of employees only, reduces leadership difference in unexplained pay gap in West (East) Germany by 26 (45) percent to 9.1 (5.5) log points

Discussion of the Results

1 No taste discrimination

- ▶ No discriminatory preferences at all or competition on both labor and goods markets eliminates taste discrimination
- ▶ Existing wage gaps possibly due to other reasons, such as statistical or monopsonistic discrimination or unobserved productivity differences
- ▶ Absence of discrimination hard to believe given large unexplained within-job pay gaps documented for same data set (see, e.g., Achatz et al., 2005; Gartner and Hinz, 2009) and existing prejudices against female (full) employment in Germany (e.g., Lee et al., 2007)

2 Taste discrimination exists but is not affected by leadership regime

- ▶ Owner-managers and hired managers have similar discretion in trading off their costly tastes for discrimination with firms' profits
- ▶ Points at the existence of agency problems

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	[0.698]	74.319	79.984	[0.574]
Collective agreement at sector level (dummy)	0.491	0.471	[0.529]	0.301	0.301	[1.000]
Collective agreement at firm level (dummy)	0.059	0.071	[0.445]	0.128	0.105	[0.311]
Works council (dummy)	0.422	0.384	[0.223]	0.262	0.275	[0.684]
Exporter (dummy)	0.360	0.329	[0.290]	0.322	0.275	[0.155]
Foreign ownership (dummy)	0.036	0.034	[0.864]	0.031	0.034	[0.839]
New production technology (dummy)	0.721	0.705	[0.578]	0.696	0.709	[0.693]
Proportion of female workers	0.370	0.392	[0.204]	0.365	0.365	[0.973]
Proportion of qualified workers	0.740	0.755	[0.396]	0.862	0.872	[0.565]
Plant located in rural area (dummy)	0.196	0.202	[0.813]	0.427	0.421	[0.884]
Agriculture, hunting, forestry (dummy)	0.014	0.010	[0.562]	0.045	0.042	[0.859]
Mining, quarrying, electricity, gas, water (dummy)	0.018	0.026	[0.389]	0.021	0.018	[0.795]
Manufacturing (dummy)	0.315	0.277	[0.191]	0.369	0.374	[0.881]
Trade and repair (dummy)	0.196	0.224	[0.280]	0.131	0.141	[0.674]
Construction (dummy)	0.032	0.034	[0.860]	0.060	0.068	[0.658]
Transport, storage, communication (dummy)	0.065	0.050	[0.280]	0.047	0.052	[0.740]
Financial intermediation (dummy)	0.016	0.016	[1.000]	0.005	0.013	[0.255]
Business activities (dummy)	0.117	0.118	[0.685]	0.160	0.141	[0.479]
Other activities (dummy)	0.166	0.176	[0.677]	0.162	0.149	[0.618]
Number of plants	505	505		382	382	