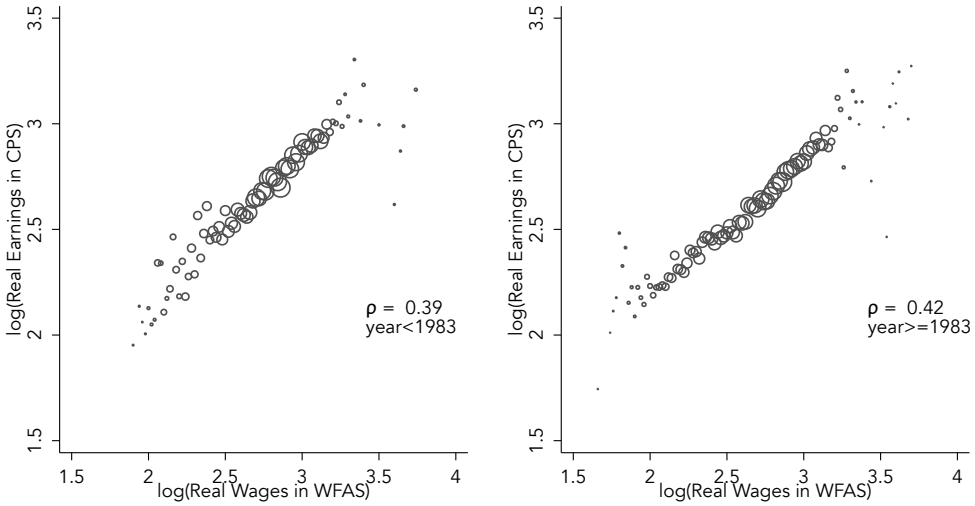
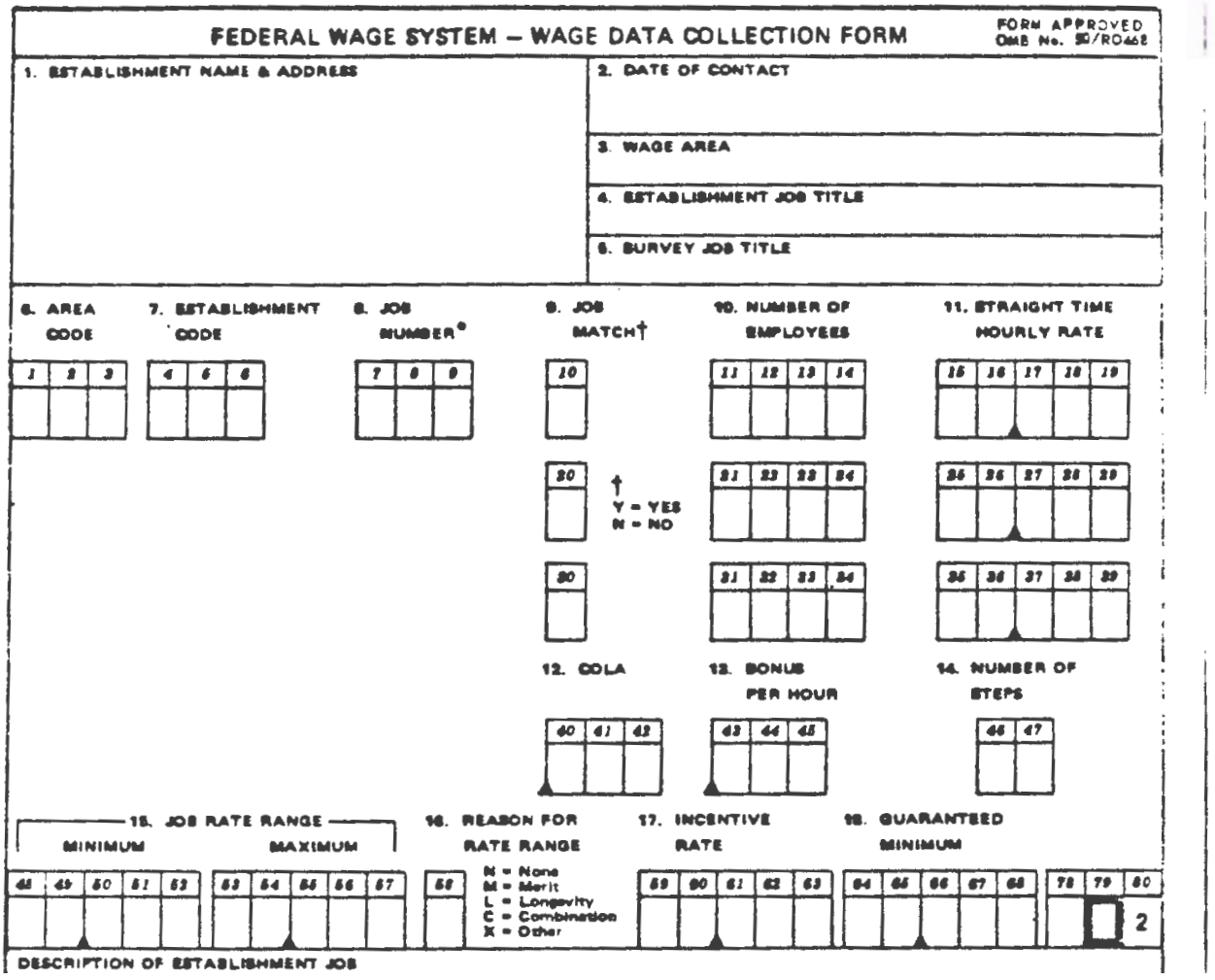
1 ONLINE APPENDIX for "Wage Stagnation and the Decline of Standardized Pay Rates, 1974-1991" by Maxim Massenkoff and Nathan Wilmers

Figure A.1: Comparing CPS and WFAS Earnings Data



Note: Micro-level wage data from both sources are averaged within occupation, region, industry and year cells. Occupation was hand-coded and harmonized from IPUMS (Flood et al., 2020) occ1990 schema into WFAS occupation categories. Plot shows averages binned at every other log point percentile. Pearson correlation (ρ) is calculated on non-binned data. Data are from Current Population Survey May and Outgoing Rotation Group samples and from Wage Fixing Authority Survey.

Figure A.2: Detail from Wage Fixing Authority Survey



FEDERAL WAGE SYSTEM – WAGE DATA COLLECTION FORM

FORM APPROVED OMB No. 50/R0462

1. ESTABLISHMENT NAME & ADDRESS

2. DATE OF CONTACT

3. WAGE AREA

4. ESTABLISHMENT JOB TITLE

5. SURVEY JOB TITLE

6. AREA CODE (1 2 3)

7. ESTABLISHMENT CODE (4 5 6)

8. JOB NUMBER* (7 8 9)

9. JOB MATCH† (10)

(20)

(30)

† Y = YES N = NO

10. NUMBER OF EMPLOYEES (11 12 13 14)

(21 22 23 24)

(31 32 33 34)

11. STRAIGHT TIME HOURLY RATE (15 16 17 18 19)

(25 26 27 28 29)

(35 36 37 38 39)

12. COLA (40 41 42)

13. BONUS PER HOUR (43 44 45)

14. NUMBER OF STEPS (46 47)

15. JOB RATE RANGE — MINIMUM (48 49 50 51 52) MAXIMUM (53 54 55 56 57)

16. REASON FOR RATE RANGE (58) N = None M = Merit L = Longevity C = Combination X = Other

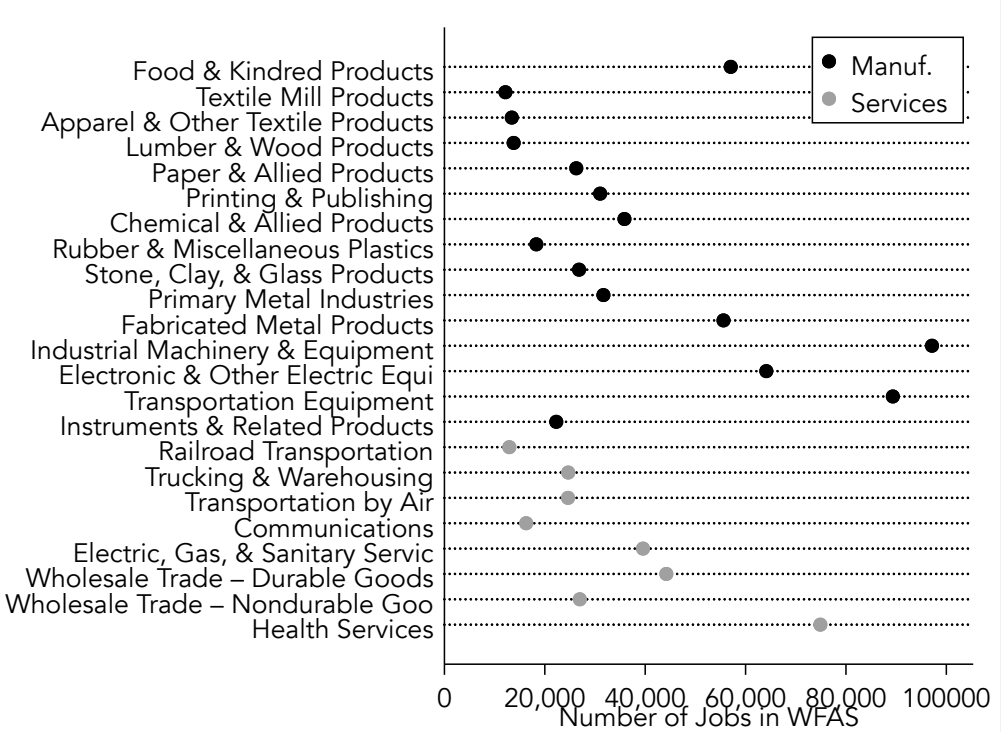
17. INCENTIVE RATE (59 60 61 62 63)

18. GUARANTEED MINIMUM (64 65 66 67 68)

(78 79 80) 2

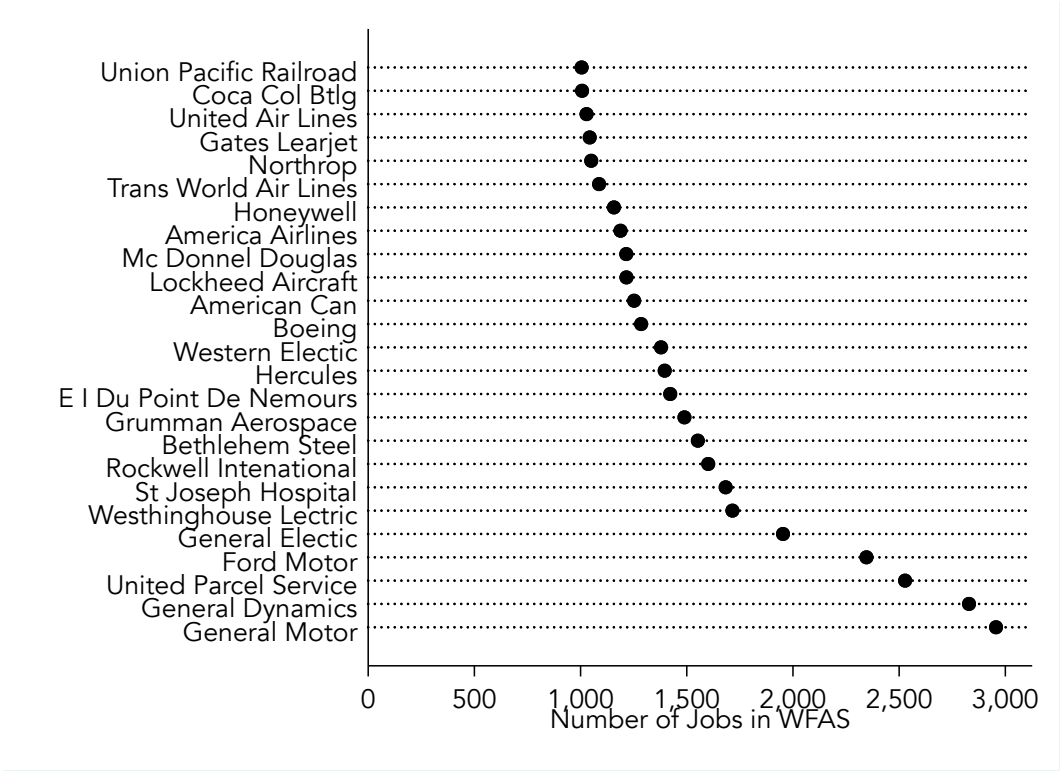
DESCRIPTION OF ESTABLISHMENT JOB

Figure A.3: Main Industries in WFAS



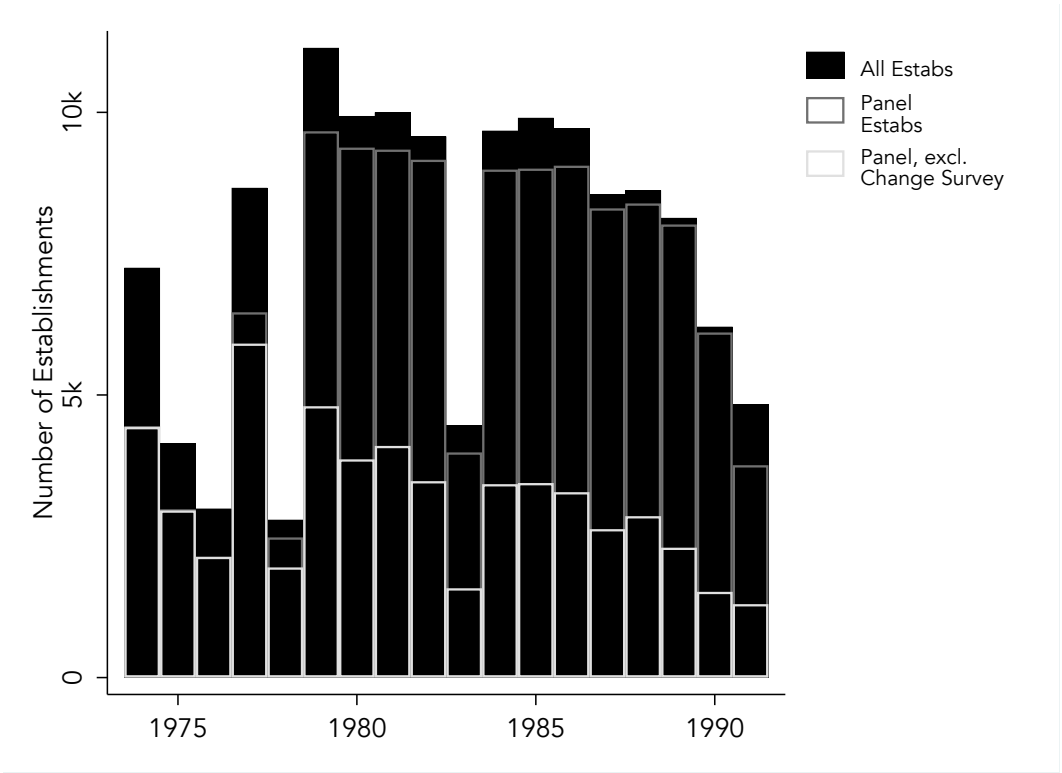
Note: Includes all industries with at least 10,000 unique job / wage-level cells. Data are from Wage Fixing Authority Survey.

Figure A.4: Largest Employers in WFAS



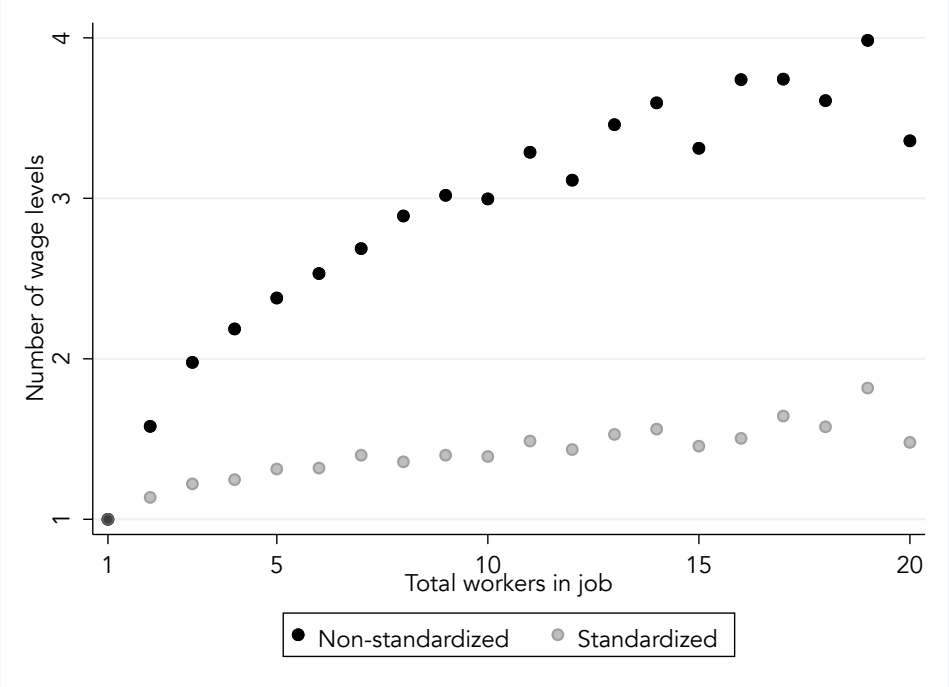
Note: Only employers with at least 1k WFAS jobs displayed. Data are from Wage Fixing Authority Survey.

Figure A.5: Cross-sectional and Panel Samples in WFAS



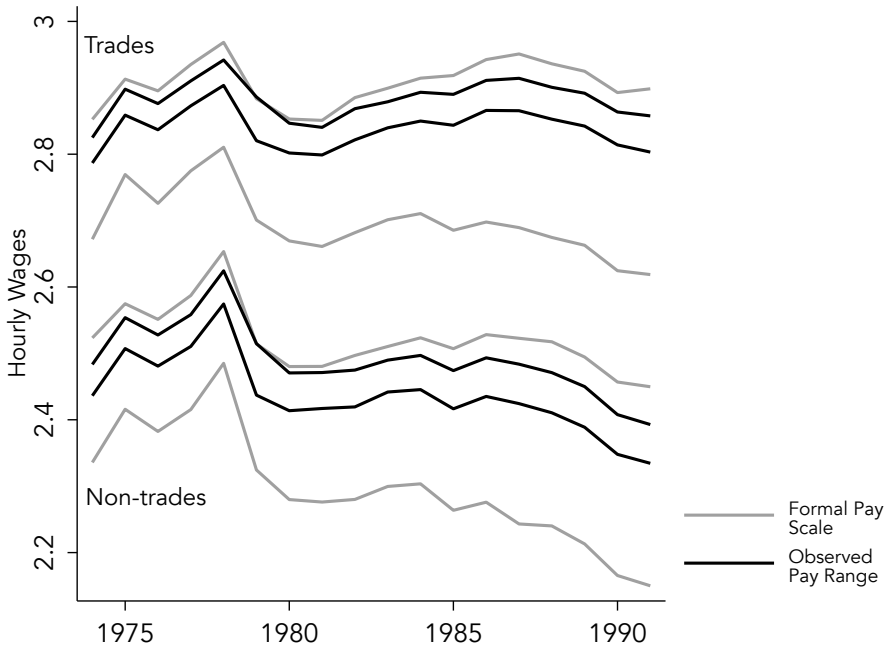
Note: Source is Wage Fixing Authority Survey.

Figure A.6: Number of Pay Levels at Standardized Pay and Flexible Pay Jobs



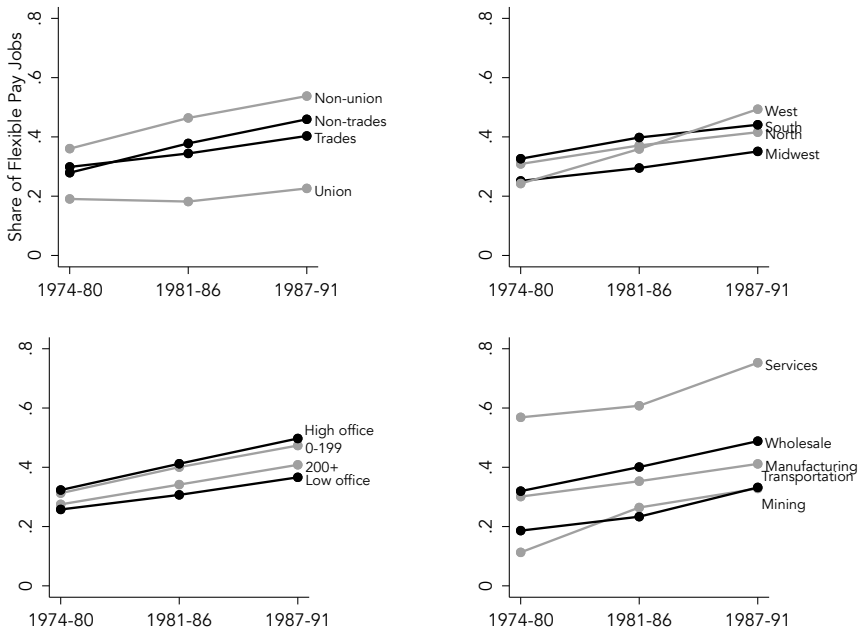
Note: Data are from Wage Fixing Authority Survey.

Figure A.7: Broadening Formal Pay Scales, 1974-1991



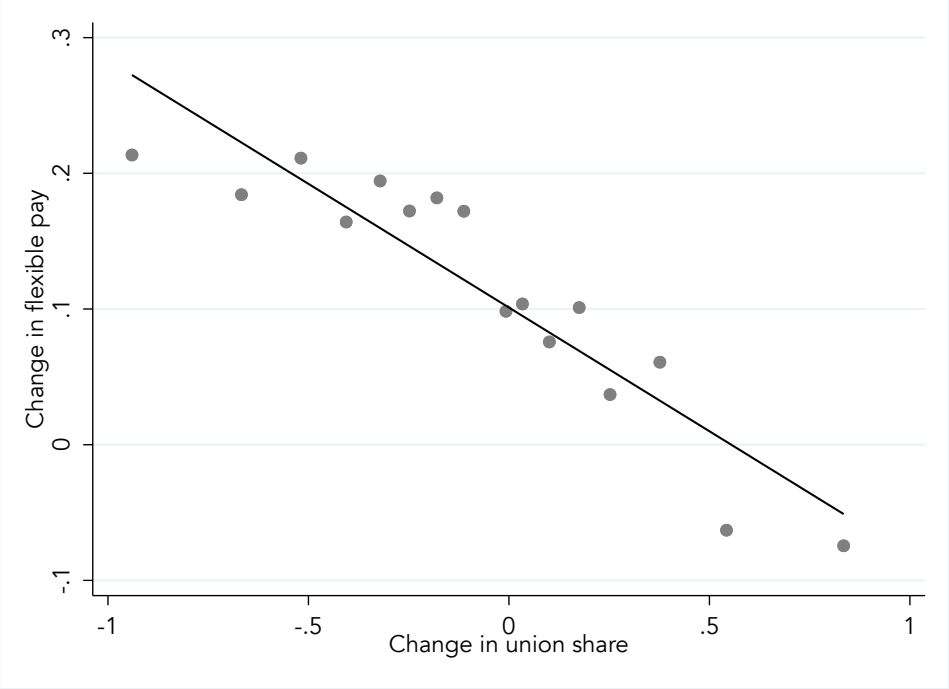
Note: Single-wage jobs are given a pay range of zero, with maximum and minimum values both defined as the single wage. Low-skill occupations include maintenance laborers, food service workers, forklift operators, helpers (trades), janitors, janitors (light), packers, truck drivers (medium), material handlers, and warehouse workers. Skilled trades workers are building trades and skilled workers, like plumbers, electricians, carpenters, welders and machinists. Data is from Wage Fixing Authority Survey.

Figure A.8: Variation in Decline of Standardized Pay Rates



Note: Merit is defined as firms that use merit, a combination of seniority and merit, or other methods besides seniority or single-wage for determining variation in pay within job titles. High and low office indicate workplaces with above or below median employment shares (29 percent) of managerial, technical and clerical office workers. Large and small workplaces are defined as larger or smaller than 200 employees. Data is from WFAS.

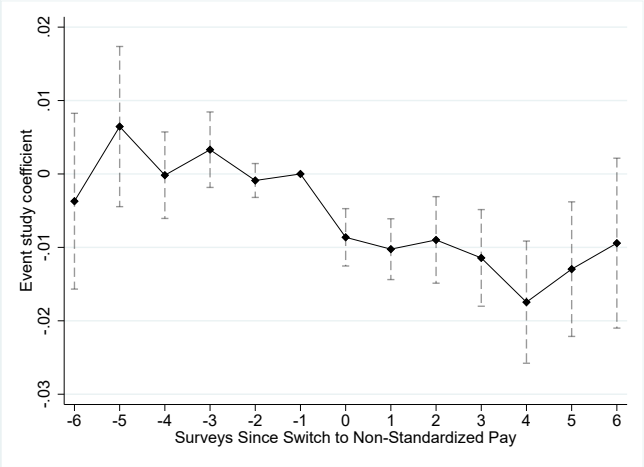
Figure A.9: Change in Standardized Pay vs. Change in Unionization, Wage Area Level



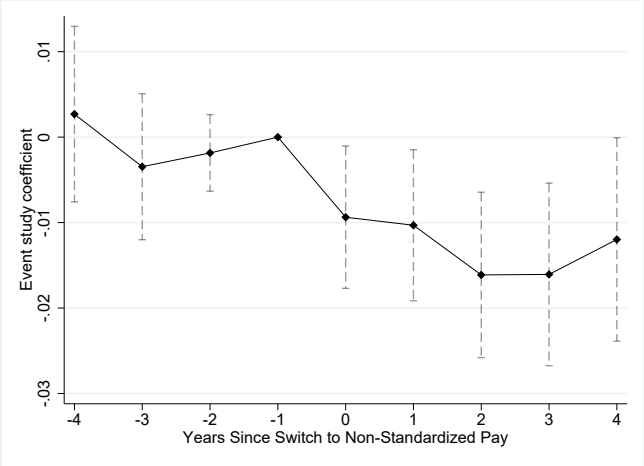
Note: This binned scatter plot shows, at the wage area by 3-digit SIC level, the relationship between the change in the share of workers covered by a union between 1974-1976 and 1989-1991 to the change in the share of workers under flexible pay over the same time period.

Figure A.10: Event study checks

(a) Using survey time



(b) More repeated observations



Note: In plot (a), the specification is the same as Equation (2), the event study specification, except the event time indicators count surveys since the switch from standardized rates, instead of years, with dummies for survey count and year in the controls. Plot (b) requires that switching firms have three observations before and after t=0.

Table A.1: Event Study Coefficients

	(1)	(2)	(3)
-6 yrs	0.007	-0.004	
	(0.005)	(0.006)	
-5 yrs	0.006	0.006	
	(0.004)	(0.006)	
-4 yrs	-0.002	-0.000	0.003
	(0.003)	(0.003)	(0.005)
-3 yrs	-0.001	0.003	-0.003
	(0.003)	(0.003)	(0.004)
-2 yrs	0.001	-0.001	-0.002
	(0.002)	(0.001)	(0.002)
0 yrs	-0.007	-0.009	-0.009
	(0.002)	(0.002)	(0.004)
1 yrs	-0.008	-0.010	-0.010
	(0.002)	(0.002)	(0.005)
2 yrs	-0.011	-0.009	-0.016
	(0.003)	(0.003)	(0.005)
3 yrs	-0.013	-0.011	-0.016
	(0.004)	(0.003)	(0.005)
4 yrs	-0.012	-0.017	-0.012
	(0.004)	(0.004)	(0.006)
5 yrs	-0.013	-0.013	
	(0.005)	(0.005)	
6 yrs	-0.012	-0.009	
	(0.005)	(0.006)	
R-squared	0.966	0.966	0.968
N	722,502	726,755	670,119
N switchers	12,677	13,054	2,787

Standard errors in parentheses

Note: These show event study coefficients from Equation (2) for the three specifications described in the empirical section. Column (1) corresponds to Figure 5, and Columns (2) and (3) correspond to alternative specifications in Figure A.10, plots (a) and (b), respectively. N switchers gives the number of included job-by-establishments that abandoned standardized pay. Standard errors in parentheses.

Table A.2: Standardized pay rates effects robustness to alternative weights

	Inv. Row Wt.		Survey Wt.		CPS Wt.		N. Employees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Non-standardized Pay	-0.077	-0.008	-0.071	-0.011	-0.076	-0.008	-0.070	-0.002	-0.073	-0.006
	(0.002)	(0.001)	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
Controls	×	×	×	×	×	×	×	×	×	×
Fixed effects:										
Year X City X Ind. X Occup.	×	×	×	×	×	×	×	×	×	×
Occup. X Estab.		×		×		×		×		×
Excl. largest 5% of job brackets									×	×
Observations	829626	769166	829626	769166	779649	722733	829626	769166	785896	728145

Note: Source is Wage Fixing Authority Survey. Outcome is logged hourly wages. Sample size varies due to exclusion of singletons from fixed effects regressions. Standard errors (in parentheses) are robust and clustered at the establishment level. Inverse row weight weights each job-year equally and is used in the main text. Number of employees weights each observation by its number of employees. Survey weight uses weights calculated for the survey.

Table A.3: Effects robustness to alternative operationalizations of flexible pay-setting

	(1)	(2)	(3)	(4)	(5)	(6)
Merit, Combination or Other	-0.077	-0.008				
	(0.002)	(0.001)				
Merit or Combination			-0.075	-0.009		
			(0.002)	(0.001)		
Merit (Narrow)					-0.064	-0.008
					(0.002)	(0.001)
Controls	×	×	×	×	×	×
Fixed effects:						
Year X City X Ind. X Occup.	×	×	×	×	×	×
Occup. X Establishment		×		×		×
Observations	829626	769166	829626	769166	829626	769166

Note: Source is Wage Fixing Authority Survey. Model specifications are equivalent to those in Model 3 and 4 of Table 2. Sample size varies due to exclusion of singletons from fixed effects regressions. Standard errors are robust and clustered at the wage area code level.

Table A.4: Wage Effects of Non-Standardized Pay Rates, By Union Status

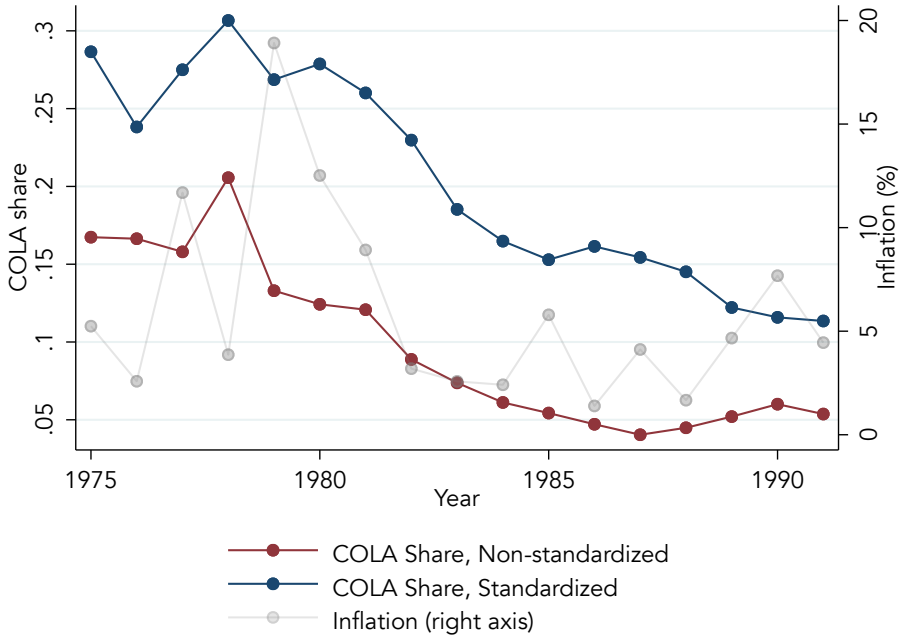
	(1)	(2)	(3)	(4)	(5)
Non-standardized Pay	-0.134	-0.123	-0.082	-0.012	-0.019
	(0.003)	(0.003)	(0.002)	(0.002)	(0.007)
Non-Standard × Sometimes union	0.051	0.044	0.019	0.005	0.012
	(0.008)	(0.007)	(0.005)	(0.003)	(0.009)
Non-Standard × Always union	0.099	0.091	0.035	0.017	0.016
	(0.007)	(0.006)	(0.004)	(0.003)	(0.010)
Sometimes union	0.136	0.102	0.060		
	(0.005)	(0.005)	(0.004)		
Always union	0.088	0.056	0.037		
	(0.004)	(0.005)	(0.004)		
Fixed effects					
Year	×	×			
Year X City X Ind. X Occup.			×	×	×
Occup. X Establishment				×	×
Year X Occup. X Firm					×
N	900,359	852,024	829,626	769,166	535,106
Linear combinations					
Non-Standardized + Non-Standardized ∗ Sometimes	-.083	-.078	-.063	-.007	-.007
Non-Standardized + Non-Standardized ∗ Always					

Note: This shows the same specifications from Table 2, with a different effect for three types of establishment-job cells: never union (59 percent of units), sometimes union (10 percent), and always union (31 percent). The omitted category is never union, so with the interacted effects the top row shows the effect of non-standardized pay for never union establishments. In the bottom four rows, we report the confidence intervals and standard errors for effects on standardized pay for the two remaining groupings, sometimes union and always union. Standard errors clustered at the establishment level. The data source is the Wage Fixing Authority Survey.

2 The role of inflation

This period saw considerable variability in inflation and a decline in cost of living adjustments (COLAs), as documented by Devine (1996). In Figure B.1, we show that our data also capture a decline in COLA clauses. While establishments under standardized pay are consistently more likely to include COLAs, the two groups show roughly similar proportional decreases in COLA use over the sample period. As in Devine (1996), the drop off in COLA clauses is sharpest in 1982-3. Although other national trends might have played a role, this is consistent with the argument that "management got burned" by the inflation of the late 1970s (Mitchell and Abraham, 1985).

Figure B.1: Share of establishments with Cost of Living Adjustments, Split by Standardized Pay



Note: The COLA share is the share of establishments (weighted equally) with any jobs containing COLA clauses, split by whether any of their jobs use non-standardized pay scales. Source for the COLA shares is WFAS. The inflation series is the annual percent change in the "Consumer Price Index for All Urban Consumers: All Items in U.S. City Average" (CPIAUCNS), downloaded from FRED (https://fred.stlouisfed.org/series/CPIAUCNS).