Mergers and Managers: Manager-Specific Wage Premiums and Rent Extraction in M&As

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- **Question:**
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- Context: acquisitions among Danish private firms
  - Market for corporate control corrects managers' non-value-maximizing behavior (Manne 1965; Jensen and Ruback 1983)

This paper

- What we do
  - Construct a manager-firm-worker matched dataset covering population of Denmark
  - Develop a novel framework to measure manager-specific wage premium (manager fixed effects) using both **worker** and **manager** mobility across firms
  - Test whether M&As correct managers paying high wages using a sample of >3000 M&As

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  - Test whether M&As correct managers paying high wages using a sample of >3000 M&As
- What we find
  - Individual managers have persistent styles in setting wages, and heterogeneity among managers can explain a significant part of between-firm wage variation
  - M&As target soft managers $\Rightarrow$ soft managers are replaced $\Rightarrow$ wage decline
  - Wage reduction can explain **42-63%** of the increase in profitability in M&As

Data and Setting

- Matched employer-employee data covering the universe of workers and firms in Denmark from 1995 to 2011
  - Individuals' occupation, education and socioeconomic characteristics
  - Balance sheet information for all private sector firms
  - Manager identified by occupation code (Friedrich 2017); one manager per establishment
- Identify M&As using firm and establishment identifiers (Smeets et al. 2016)
  - 3700 acquisitions in the private sector
  - No cross-border acquisitions or private equity buyouts
  - Median target firm size $\sim$50

Identify manager-specific wage premiums

- **First Step:** estimate time-varying establishment-specific wage premium

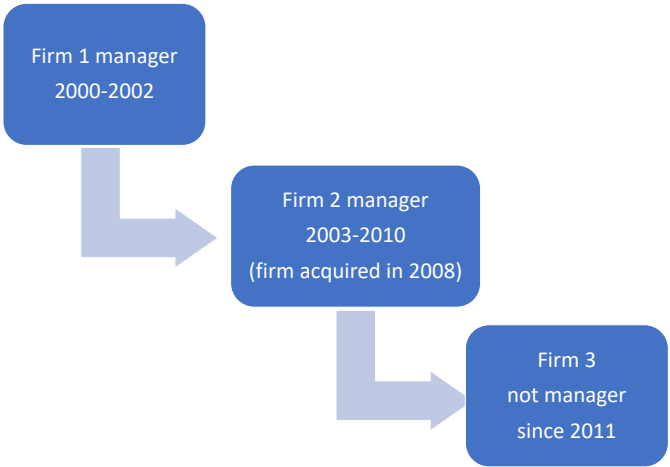
$$w_{ijt} = \psi_{jt} + \xi_i + \beta X_{ijt} + \epsilon_{ijt}$$

- **Second Step:** estimate manager fixed effects following Bertrand and Schoar (2003)

$$\hat{\psi}_{jt} = \lambda_{m(j,t)} + \alpha_t + \gamma_j + \beta X_{jt} + \varepsilon_{jt}$$

- Identification based on worker mobility (first step) and manager mobility (second step)
- In both steps, the fixed effects are separately identified in the largest connected set (~**100k** managers**, 75%** of workers and **60%** of worker-year observations)
- Exclude managers' own wages

Example of manager switching



Example of manager switching, cont

Estimation of manager effects

Step 1			Step 2		
	OLS	*Leave-Out* *(Kline et al. 2018)*		*OLS*	*Leave-Out*
Std. dev. of dep variable	0.469	0.469	Std. dev. of dep variable	0.147	0.147
Std. dev. of person effects	0.269	0.224	Std. dev. of manager effects	0.106	0.082
Std. dev. of estab-year effects	0.165	0.138	Std. dev. of estab effects	0.097	0.075
Corr. of person/estab. effects	-0.01	0.16	Corr. of manager/estab. effects	-0.22	-0.03
Adjusted R-squared	0.923	0.853	Adjusted R-squared	0.869	0.781
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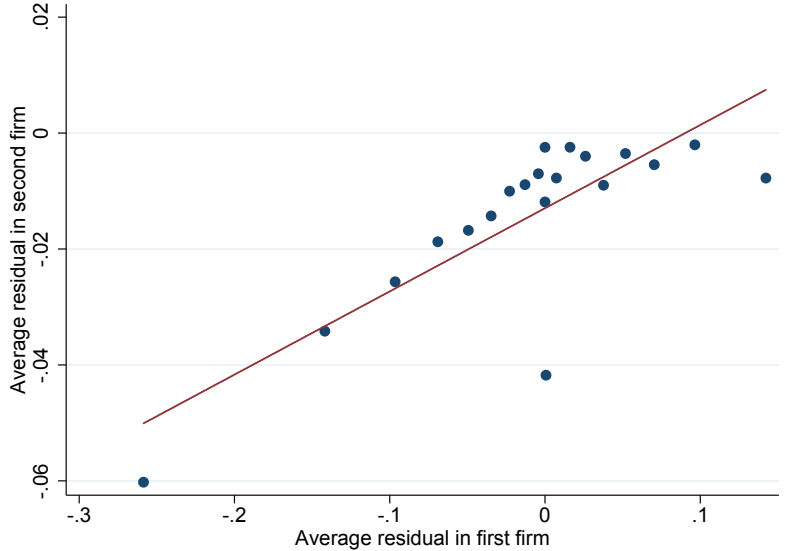
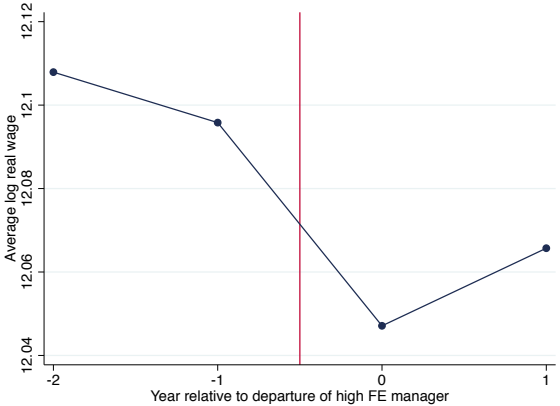
Manager effects explain **31%** of the between-firm wage variance

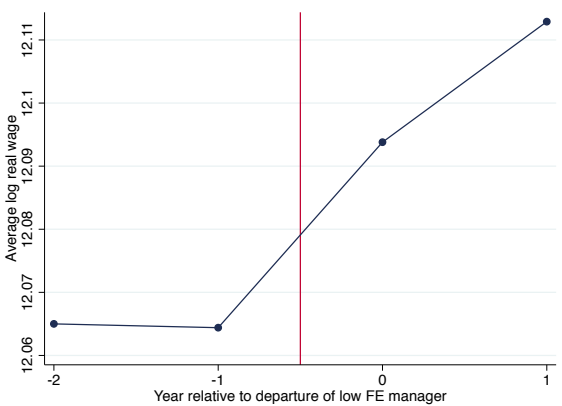
Managers' wage residuals positively correlated across employers



Event Study of Exogenous Manager Departures

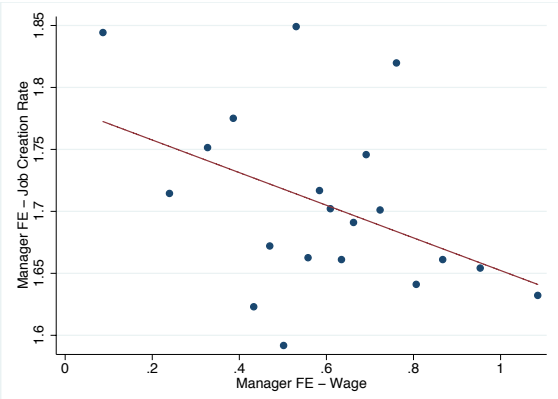
Natural retirements of managers older than 62





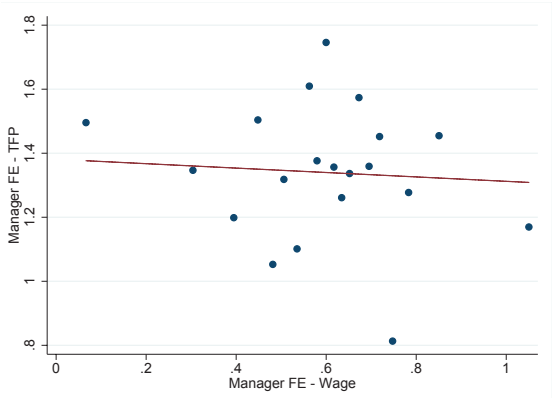
Higher manager FE associated with lower quit rates and hiring rates

(a) Outflow

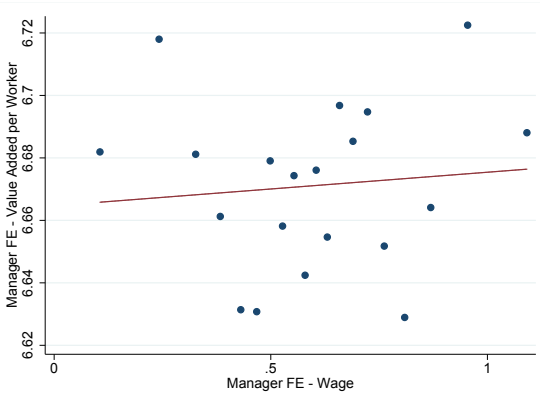


(b) Inflow

No correlation between manager FE in wage and manager productivity



(a) TFP



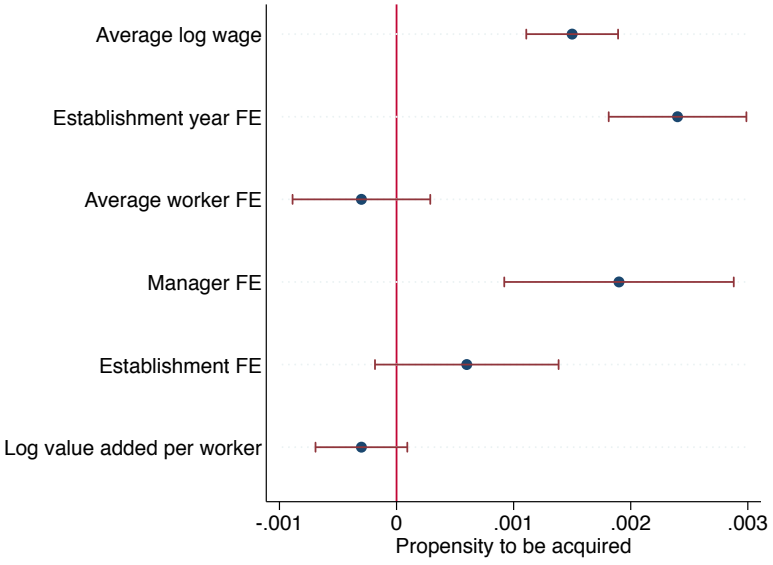
(b) Value added per worker

Do M&As correct soft managers?

- Causal Chain:

1. M&As target soft managers
2. Soft managers are replaced after acquisitions
3. Wages decline in target establishments where soft managers are replaced

Propensity to be acquired



Target firms have softer managers

$$ManagerFE_{jt} = \alpha Target_{jt} + \beta X_{jt} + \varepsilon_{jt}$$

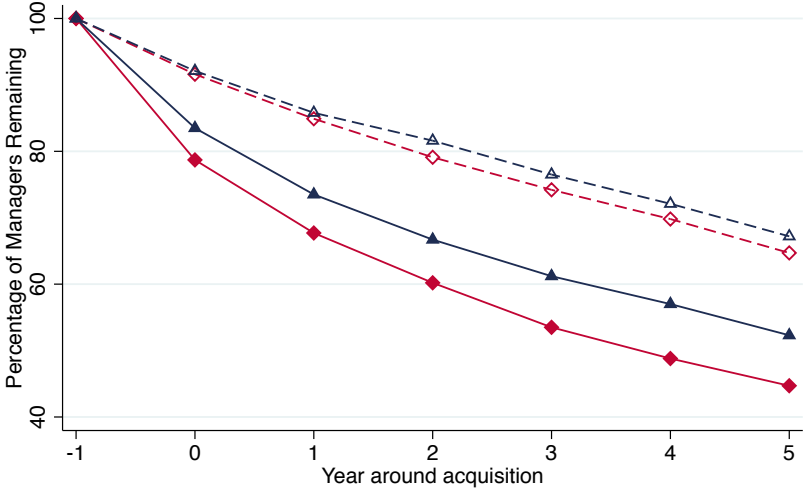
- $Target_{jt} = 1$ if the establishment j becomes acquired within the next two years
- Control for productivity, industry and regional trends
- Manager FE are reestimated excluding post-acquisition observations of target firms

Acquirers have tougher managers

$$ManagerFE_{jt} = \alpha Acquirer_{jt} + \beta X_{jt} + \varepsilon_{jt}$$

- $Acquirer_{jt} = 1$ if the establishment j acquirers another company within the next two years
- Control for productivity, industry and regional trends
- Manager FE are reestimated excluding post-acquisition observations of target firms

Soft managers more likely to be replaced following acquisitions



→ **difference=2.1%**

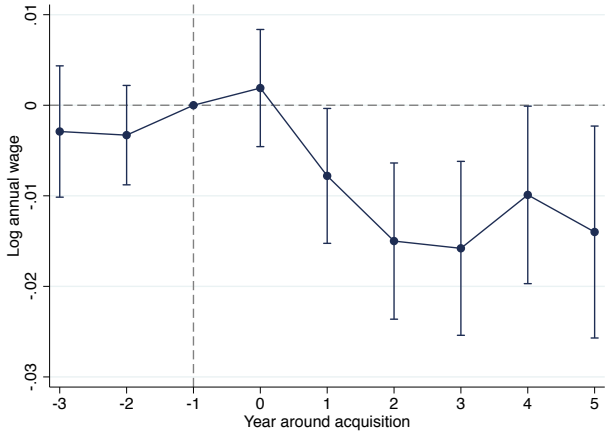
→ **difference=7.7%**

change in manager FE

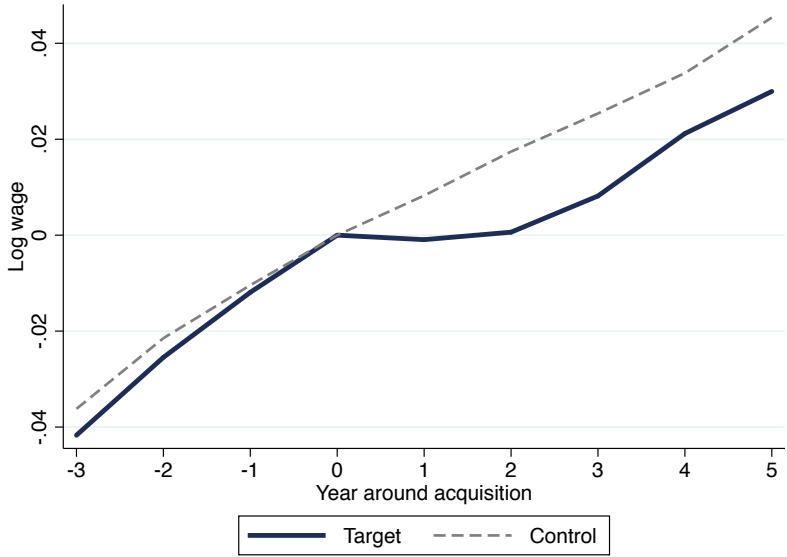
Wage declines for staying workers in target establishments

Dynamic difference-in-differences (each target matched to a control in same industry, region and with similar employment and wage *levels*)

$$w_{ijt} = \alpha_{ij} + \gamma_t + \sum_{\tau=-3}^{5} \lambda_\tau D_{it}(\tau) + \sum_{\tau=-3}^{5} \delta_\tau D_{it}(\tau) \times MA_j + \beta X_{it} + \epsilon_{it}$$

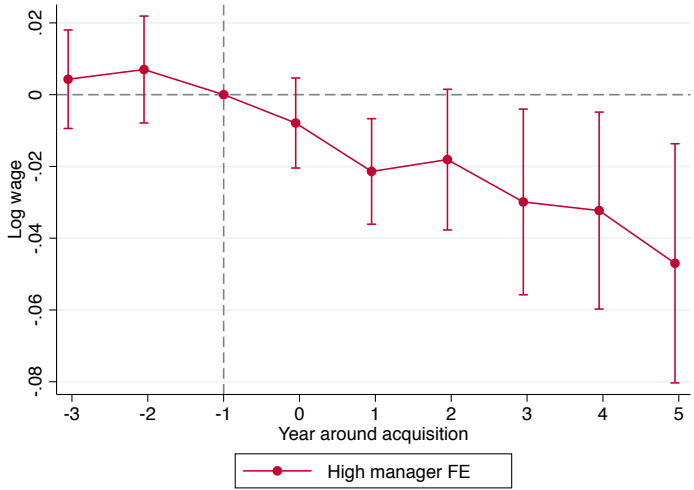


Real wage growth



Larger wage declines in establishments with soft managers

$$w_{ijt} = \alpha_{ij} + \mu_t + \sum_{\tau=-3}^{5} \lambda_\tau D_{ijt}(\tau) + \sum_{\tau=-3}^{5} \delta_\tau D_{ijt}(\tau) \times MA_j \times SoftManager_j + \sum_{\tau=-3}^{5} \gamma_\tau D_{ijt}(\tau) \times MA_j \times (1 - SoftManager_j) + \sum_{\tau=-3}^{5} \eta_\tau D_{ijt}(\tau) \times SoftManager_j + \beta X_{ijt} + \epsilon_{it}$$



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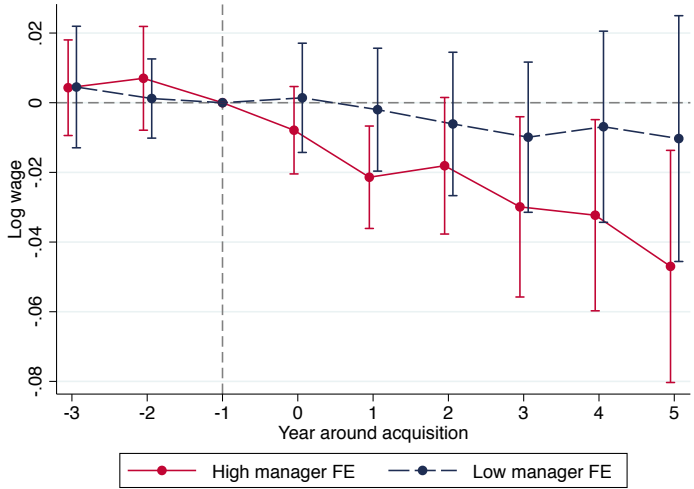


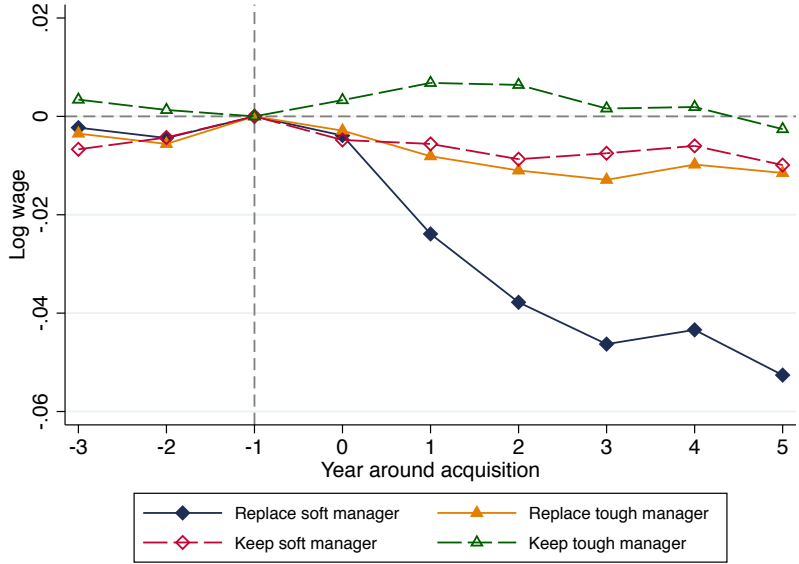
Employment

Convergence

By wage residual

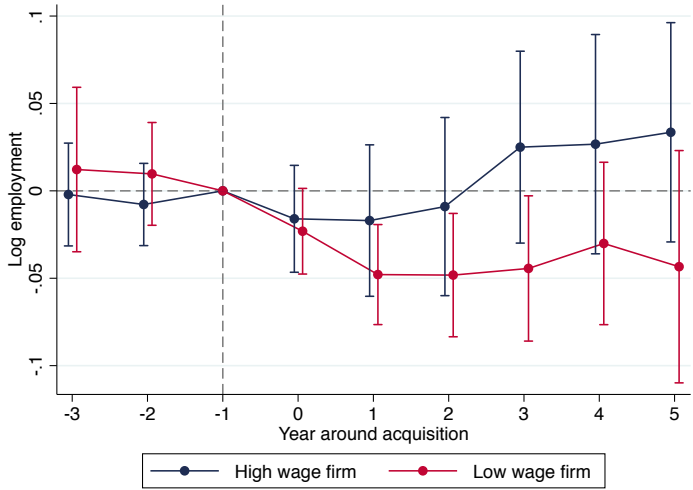
Split-sample IV

Larger wage declines in establishments that replace soft managers



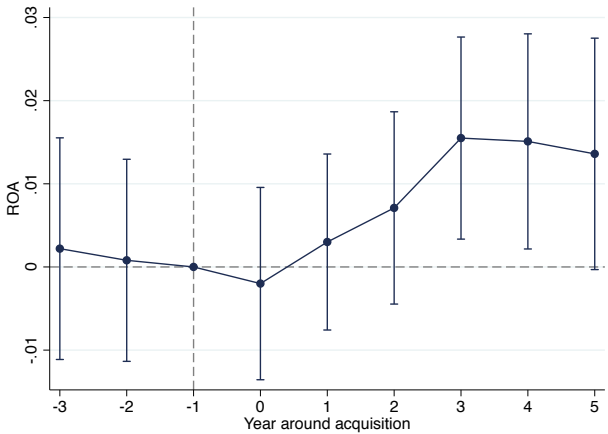
Employment increases in establishments with soft managers

$$\log(Emp_{ijt}) = \alpha_{ij} + \mu_t + \sum_{\tau=-3}^{5} \lambda_\tau D_{ijt}(\tau) + \sum_{\tau=-3}^{5} \delta_\tau D_{ijt}(\tau) \times MA_j \times SoftManager_j + \sum_{\tau=-3}^{5} \gamma_\tau D_{ijt}(\tau) \times MA_j \times (1 - SoftManager_j) + \sum_{\tau=-3}^{5} \eta_\tau D_{ijt}(\tau) \times SoftManager_j + \beta X_{ijt} + \epsilon_{it}$$

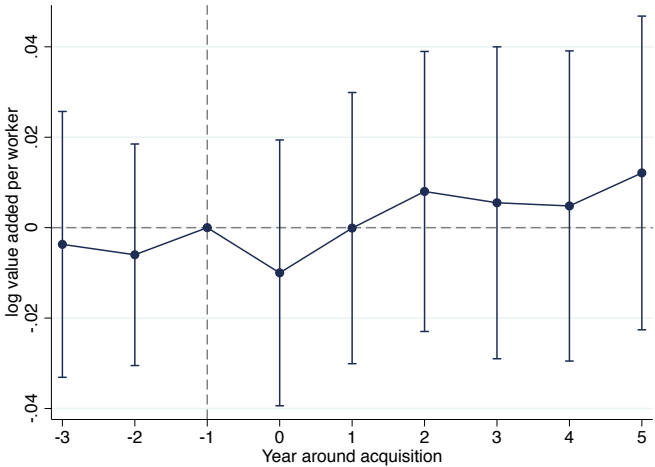


Significant increase in profitability of joint firm after acquisitions

- ROA of the combined firm (acquirer+target) increases by 1-1.5 percentage points relative to industry peers



Little change in productivity of joint firm after acquisitions



Rent extraction explains large part of merger gains

- ROA of the combined firm (acquirer+target) increases by 1-1.5 percentage points relative to industry peers

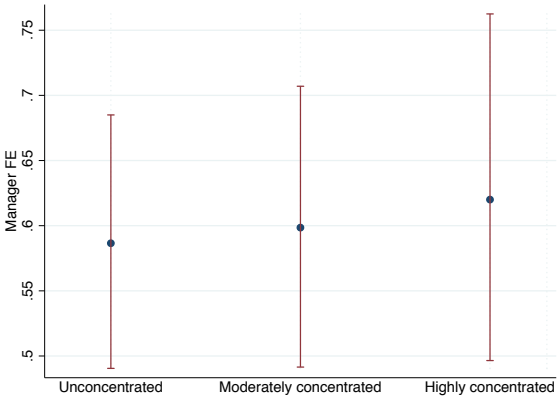
- The impact of replacing soft manager on ROA of combined firm is:

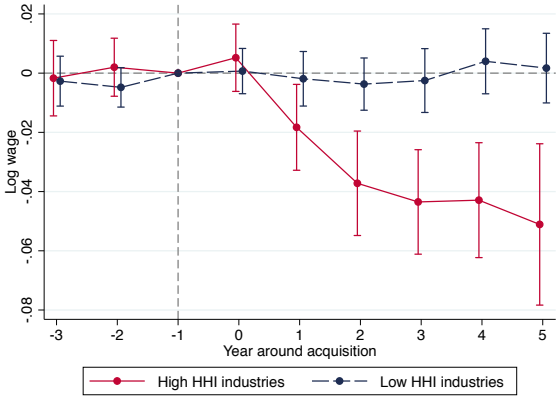
$$Prob(\text{replace manager}). \left(\underbrace{(\beta\phi_{target} - \beta\overline{\phi})^{+}}_{\text{Difference in manager FE}} \cdot \underbrace{\frac{(wL)_{target}}{A_{acquirer} + A_{target}}}_{\text{Target's wage bill as a fraction of total assets}} \right)$$

  average is 0.63 percentage points calculation

- Rent extraction explains **42-63%** of merger gains

More soft managers & larger wage declines in concentrated industries





Interpretation: why are some managers soft?

- **It is a persistent personal trait**
  - Soft managers are more likely to be female, young and have lower income
  - Not efficiency wage
  - Not exactly "quiet life": soft managers do not have higher input costs or lower productivity

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- **Are wage differences due to non-wage benefits and compensating differentials?**
  - Pensions decrease after acquisitions

Conclusion

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- Market for corporate control regulates manager preferences and extracts rents from workers

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- Market for corporate control regulates manager preferences and extracts rents from workers
- Implications

1. Different manager styles can explain part of the heterogeneity across firms
2. The market for corporate control not only disciplines manager behaviors but also selects personal traits