

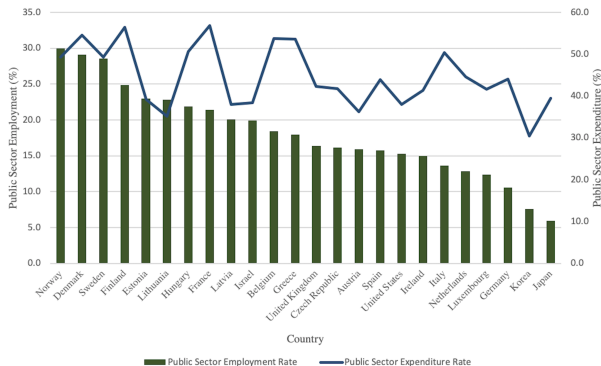
Public Sector Leadership: Evidence from employee absenteeism

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Importance of Leadership in Public Sector

Government Expenditure and Employment Rate Across Countries ¹

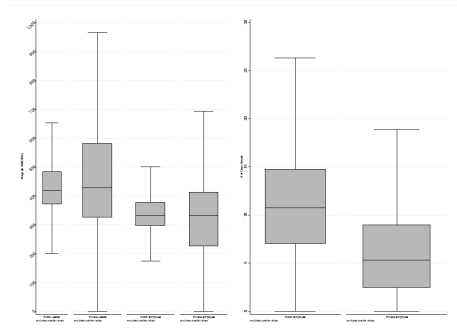


- Government controlled expenditures (incl transfers) are around 30 to 55 pct of GDP.
- Between 5-30 pct of the labor force is employed in the Public Sector.

¹source: 6th European Working Conditions Survey

Importance of Leadership in Public Sector

- Why Leadership Matters



- Alternative to leadership: Contractual incentives.
 - But Remuneration (employees and leaders) is more compressed in PS
- Labor intensity varies more in PS (measured w absenteeism)
- ...thus bigger scope for leadership in PS!

Importance of Leadership in Public Sector

- If scope for leadership is bigger in PS, how do we measure the impact of leadership across sectors and units in the public sector?
- Challenges of Public Sector Leadership Research
 - At which unit do we analyze? Kindergarten, hospital, school, local environmental office?
 - Metric: What kind of outcomes can we measure the effect of leadership? What outcome is comparable across PS sectors and entities?

Data: Units, leaders and employees

Number of Production Units and Workers

	Production Unit	Workers	Mean Workers per Unit	Median Workers per Unit	Top 5% Mean Workers per Unit	Bottom 5% Mean Workers per Unit
Public	15094	411410	27	9	281	1
Health	9201	206217	22	8	251	1
Education	2909	94508	32	21	206	1
PublicAdmin	1244	80879	65	15	681	1

Notes: Presented in the table are average values between 2010 -2016

- 15000+ production units (schools, hospitals, agencies..)
- 400.000+ employees pr year.
- Largest units have 5-8000 employees.

Metric: Individual absenteeism

- Absenteeism correlate with:**

	Promotion (1)	Separation (2)	Quality (3)	IQ (4)	Grades (5)	Grades (6)	Math Grades (7)
Days Absent _{t-1}	-0.0003*** (0.0000)	-0.0001*** (0.0000)					
Days Absent _t			-0.0005*** (0.0000)	-0.0005*** (0.0024)	-0.0018** (0.0009)	-0.0018 (0.0014)	-0.0157*** (0.0050)
Observations	1,629,605	1,629,605	2,254,952	144,479	6,037	6,037	6,020
R-squared	0.01	0.31	0.69	0.15	0.08	0.08	0.21
Sample	Employees	Employees	Employees	Male Empl.	PU's	PU's	PU's
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Employee Char.	Yes	Yes	Yes	Yes	-	-	-
Employee FE	Yes	Yes	No	No	-	-	-
PU Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No.PU's	16,495	18,879	18,876	8,275	6,037	6,037	6,020
Clustered SEs	PU's	PU's	PU's	PU's	No	PU's	PU's

Standard errors in parentheses

* p 0.1, ** p 0.05, *** p 0.01

- CAREER: Abs is correlated with promotion and separation
- SELECTION: ABS is correlated with employee Quality and IQ
- PRODUCTIVITY: School leader ABS is correlated with student grades (to be improved)
- PRODUCTIVITY: Working on other measures...

Assortive matching:

		Leaders	
		Low quality	High quality
Employees	Low quality	13.1 days (Share of units: 32%)	11.7 days (17%)
	High quality	11.9 days (18%)	9.9 days (33%)

Panel B: Employee and Leader Absence by IQ

		Leaders	
		Low IQ	High IQ
Employees	Low IQ	8.9 days (Share of units: 23%)	7.9 days (18%)
	High IQ	7.6 days (26%)	6.2 days (32%)

- Absenteeism is correlated both with leader and employee quality and IQ.

Absenteeism as a Metric for Research

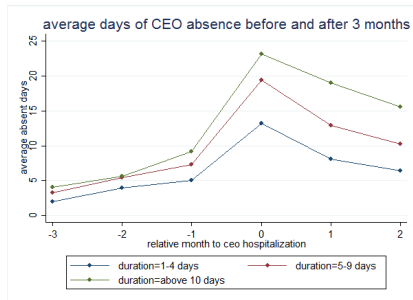
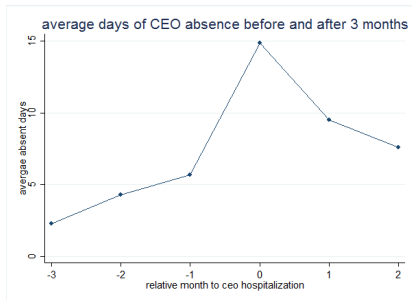
	Above/Below Median	Top/Bottom 25%	Top/Bottom 10%	Top/Bottom 5%
	(1)	(2)	(3)	(4)
Entire Public Sector	10.0	16.5	24.9	31.8
Health	10.3	17.0	25.7	33.0
Education	7.6	12.3	18.2	23.4
Public Admin	8.5	14.4	23.0	32.2

Notes: Presented in the table are average values between 2010 -2016

- There is large variation in average absenteeism across units.

Absenteeism as a Metric for Research

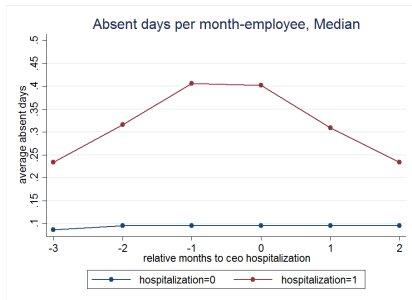
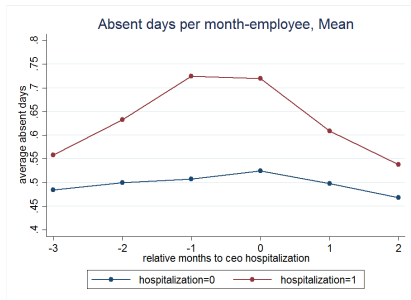
- Hospitalization as a shock to LEADERS' work effort**



- Leaders report being away when they are hospitalized.
- Longer hospitalization triggers longer reported absenteeism.

Does Leadership have Causal Impact on Absenteeism?

CEO Hospitalization and Employee Absenteeism



- Figures present employees' average days absent per month (28 days) before and after CEO hospitalization event.
- When leaders are hospitalized, employees on average are more absent...

Does Leadership have Causal Impact on Absenteeism?

Impact of CEO Hospitalization

	(1)	(2)	(3)	(4)	(5)	(6)
	Absent days	Absent days	Absent days	Absent days	Absent days	
N days at hospital, t	0.1176*** (0.0048)	0.0350*** (0.0048)	0.0166*** (0.0056)	0.0115* (0.0059)	0.0084 (0.0067)	
N days at hospital, t-1					0.0190*** (0.0069)	
N days of hospital stay btw 1 and 4						0.0235** (0.0104)
N days of hospital stay btw 5 and 9						0.0228 (0.0197)
N days of hospital stay at or above 10						0.0477* (0.0284)
Observations	88,443	88,443	88,443	88,443	70,288	89,286
Sector	Entire Public	Entire Public	Entire Public	Entire Public	Entire Public	Entire Public
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
PU/CEO FE	None	PU	CEO	PU-CEO	PU-CEO	PU-CEO
PU Controls	Yes	Yes	Yes	Yes	Yes	Yes

- Main Result: Leader hospitalization cause worker absenteeism w PUs-leader fixed effects.
- Robust across sectors (unreported)

Robustness: The Bertrand-Schoar exercise

Impact of CEO Hospitalization, R square

Panel A. A group of CEOs			
	CEOs	N	Adjusted R^2
Employee Mean Absence		4364	17.0
Employee Mean Absence	733.35 (<0.0001, 369)	4364	20.1
Panel B. one highest CEO			
	CEOs	N	Adjusted R^2
Employee Mean Absence		413	22.3
Employee Mean Absence	16.28 (<0.0001, 42)	413	25.7

- It examines change in R squares when CEO fixed effects are added to the model, and F statistics from joint significance tests on CEO fixed effects.
- CEO fixed effects have triggers a statistical significant increase in R2.

Where does Leadership Have Most Impact?

Impact of CEO Hospitalization - Employee Quality Subgroup Analysis

	Low quality		Medium quality		High quality	
	(1)	(2)	(3)	(4)	(5)	(6)
	Absent days	Absent days	Absent days	Absent days	Absent days	Absent days
Days in hospital	0.0700*** (0.0047)	0.0038 (0.0042)	0.0484*** (0.0045)	0.0025 (0.0039)	0.0503*** (0.0054)	0.0126*** (0.0046)
Observations	899,926	899,926	870,333	870,333	843,372	843,372
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Unit-CEO FE	No	Yes	No	Yes	No	Yes
Unit Controls	Yes	Yes	Yes	Yes	Yes	Yes
Clustered SEs	Unit-CEO	Unit-CEO	Unit-CEO	Unit-CEO	Unit-CEO	Unit-CEO
No. of Clusters	35,028	35,028	32,306	32,306	30,110	30,110

- It is the HIGH quality employees that react most when leaders are absent! (Do high quality workers react more on incentives?)

- Research challenge: Metrics and Units to analyze leadership in public sector.
- Leadership is key in public sector!
- Absenteeism is a powerful metric to measure the impact of leadership across units and sectors with very different output.
- Leadership has a causal impact on absenteeism. Both with PU-CEO fixed effects and w BS regressions.