Outraged by Compensation: Implications for Public Pension Performance

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December, 2019

Politicization and Pension Performance

Public funds hold **$21.5 trillion** in assets.

A lack of returns of public pensions:

- Real implications in worker payroll and retirement benefits for "main street"
- Municipal bankruptcies

Why? Possibly arises from politicization in public pensions

- Hochberg and Rauh (2013), Bradley, Pantzalisa and Yuan (2016): overinvestment in local assets deliver lower returns
- Adonov, Hochberg and Rauh (2016): Pay-to-play-like behavior of politicians results in lower PE returns
- Ang, Chen, and Sundaresan (2012), Addoum, van Binsbergen, and Brandt (2012), Adonov, Bauer and Cremers (2017): Underfunding leads to risking-up

Our Contribution first an idea: *Politicization → Talent* An Anecdote

"Unspoken, but also politically inconvenient is the compensation to attract talent from the private sector.

The state's existing investment officers are some of the best paid public employees, making an average of $200,000 a year. But Treasury officials quietly complain that staff is underpaid by industry standards…"

As Treasurer Read pleads: "If we have the talent, we will be able to make the decisions better."

- *The Oregonian*

Contribution more broadly in model and quantification

- *Neglected* political agency channel:

  Outrage of constituents about compensation of investment managers

  - Foundation: **inequality aversion** (e.g. Fehr, Schmidt (1999))
  - Especially if board structure reflects lower income workers
  - Especially in public pension given governance

- This outrage friction distinct from other frictions: Board hires inferior quality manager (offering an ex ante compensation package that will not trigger outrage) and thus faces inferior expected returns.

- Main empirical result: In global sample with funds with $5.4 trillion in AUM find One s.d. higher exposure to outrage => $82,000 lower investment manager compensation => $29 million less annually in AUM from returns per fund
- Note: Rising Inequality exacerbates the problem of outage. Pay for 1%-ers in financial services has risen. Yet incidence of performance matters more for more outrage-prone pensions.

Model

Combine agency model of hiring a manager with portfolio choice

Political Agency: Comes from Board

Board misrepresents beneficiaries in decision-making due to agency:

(i) Pay-to-play (or local-tilted) political investment,

- Distorts investment to sub-optimal investments via side payments to manager

(ii) Underfunding

- Distorts toward more risk to swing-for-the-fences (Ang et al)

(iii) Concern over possibility of outrage

- ***Distorts optimal skill level in offering contract***

Model Frame

How repercussions work:

i. Investment Manager Skill (heterogeneous)
   - Skill *s*= ability of manager to realize risk premium
   - Outside opportunity of manager also increasing in *s*

ii. Assets
   - Fixed Income r_f
   - Risky MV Efficient Risky Asset: $E[R_{MV}] = r_f + s\varphi_{MV}$
   - Political Risky Asset: $E[R_P] = r_f + s\varphi_P$
     - Dominated in Sharpe ratio but produces political gain

iii. Compensation contract
   - Salary + pay for performance + transfer for political weight (part of pay for play)

Model Predictions

When outrage binds:

- Manager quality lower
- Lower performance in risky asset classes
- Should avoid risky assets classes

When board is more political:

- Returns to skill are lowered by investing in inferior risky assets.

When board is underfunded:

- More risk in portfolio

Data

CEM & Boston Univ CRR Databases

Assets under Management ($billion)

	Number of funds	Fund-Year Observations	Mean	25th Percentile	Median	75th Percentile
Canada	16	210	37.02	11.45	17.04	59.90
Europe	39	333	122.70	8.45	17.76	71.33
Oceania	17	163	15.11	6.61	12.84	19.13
United States	92	1150	27.65	6.88	12.81	32.03
Total	164	1856	44.66	7.59	13.70	35.55

Variation in Risky Asset Class and Delegation

	Count	Mean	Standard Deviation	25th Percentile	Median	75th Percentile
Panel A: Allocations						
Weights: Full Sample						
Alternatives	251	0.229	0.175	0.125	0.197	0.273
Public Equities	304	0.598	0.184	0.485	0.571	0.669
Fixed Income	253	0.323	0.121	0.25	0.305	0.368
Weights: Sample restricted to having data on all weights						
Alternatives	204	0.191	0.096	0.117	0.186	0.252
Public Equities	204	0.513	0.106	0.442	0.525	0.583
Fixed Income	204	0.296	0.075	0.243	0.297	0.350
Delegation Fraction						
Alternatives	214	0.747	0.327	0.484	0.990	1.000
Public Equities	190	0.734	0.360	0.386	1.000	1.000
Fixed Income	180	0.500	0.468	0.000	0.488	1.000

Performance Statistics, as expected

	Count	Mean	Standard Deviation	25th Percentile	Median	75th Percentile
Panel B: Performance						
Gross Returns						
Alternatives	355	0.061	0.119	0.002	0.075	0.135
Public Equities	367	0.053	0.206	-0.107	0.117	0.206
Fixed Income	337	0.061	0.049	0.034	0.055	0.080
Portfolio	463	0.042	0.096	0.000	0.033	0.113
Net Returns						
Alternatives	251	-0.008	0.101	-0.053	-0.004	0.046
Equities	304	0.005	0.020	-0.004	0.003	0.013
Fixed Income	253	0.005	0.031	-0.003	0.003	0.016
Portfolio	351	-0.003	0.054	-0.011	0.001	0.014
Tracking Error Realized						
Alternatives	70	0.069	0.073	0.028	0.055	0.083
Equities	96	0.038	0.054	0.012	0.019	0.035
Fixed Income	92	0.021	0.016	0.009	0.018	0.028
Portfolio	110	0.030	0.023	0.014	0.024	0.045

Data Innovations

Pay: Investment Manager Comp vs Worker Wages

- Mean: $807,416 $47,811
- Median: $537,197 $45,345

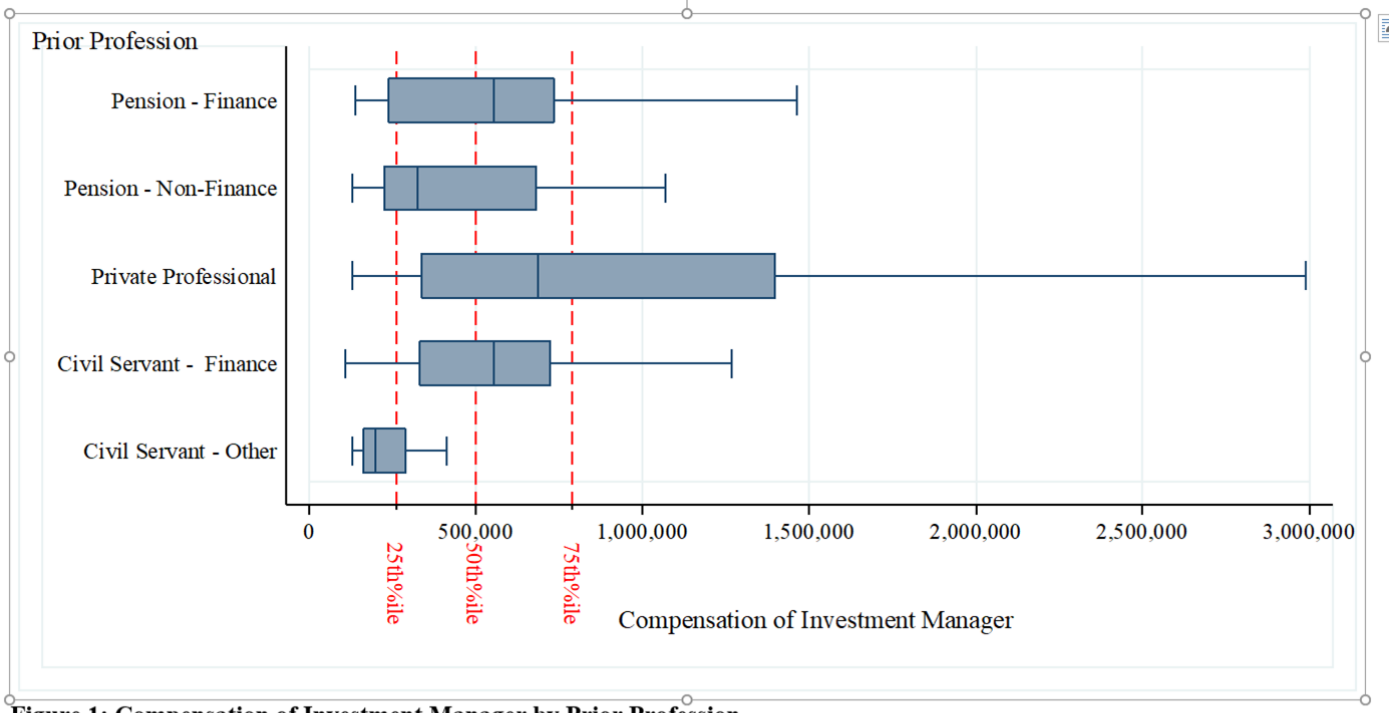

Figure 1: Compensation of Investment Manager by Prior Profession

Graphed are the distribution of investment manager compensation for each category of prior professions of the managers. The box plot displays the mean (box center line) as well as the first (box edges) and second (stem edges) standard deviations. The dashed (red) line indicates the overall sample 25th , 50th, and 75th percentiles. The distribution of the sample is as follows (also reported in Table 6, along with the more detailed titles of the professions under the categories): Pension – Finance (4.9%), Pension – Non-Finance (18.0%), Private Professional (31.1%), Civil Servant – Finance (29.5%), and Civil Servant – Non-Finance (16.4%).

Trustees, about half Beneficiaries, and half Civil Servants

Panel B: Trustees' Professions

Occupation	Description	Professions Represented	%
		Civil Servants	
Politician	Includes any representative or elected official of municipal, state or federal government	Senator, House Representative, Mayor, Governor, Lieutenant Governor, Secretary of State, Attorney General, Assembly Speaker, State Representative, Secretary, Minister, Borough President, City Manager, Assistant Deputy Minister, Deputy Governor, Premier Deputy Chief of Staff, Deputy Minister, , City Council, County Commissioner, Deputy City Manager, Deputy General Counsel,	6.4%
Finance Civil Servant	Civil servant with financial experience	Treasurer, Auditor, Accountant, Controller, Budget Officer, State Finance Director	34.4%
Other Civil Servant	Civil servant without financial experience	Judge, Prosecutor, Clerk, Commissioner, Assistant Commissioner, Professor, Dean	13.7%
		Non-Civil Servants	
Teacher	Teachers	Teachers	14.7%
Municipal Worker	Workers providing services to city residents, union labor	Police Officer, Fire Officer, Jail Worker, Railway , Steel , Construction, Electrician, Mail Employee, Librarian, Miner, Bus Driver, Chimney Sweep, Food Worker, Manufacturing Worker, Telecommunications	7.7%
Professionals	Local private sector professionals and NGO executives	Financial Sector Expert, Doctor, Nurse, Dentist, Private Firm CEO, CIO, Chairman, Pharmacist, Journalist, Media Professional, Architect, NGO Chairman, Owner of Private Firm	23.1%

Empirical Methodology to test Predictions

Structural –Linear System of Equations

$$\begin{aligned}&\text{Log}(Manager\ Compensation)_{it}\\&= \alpha_1 MunicipalWorkers_i + \alpha_2 Teachers_i + \alpha_3 LocalPublicFinances_i\\&+ \alpha_4(-LogConstituentWages_{it}) + \alpha_5 LogMunicipalIncome_{it}\\&+ \alpha_6 Underfunding_{it} + \alpha_7 PoliticalBoard_i + X_{it}^{covariates}\,\Gamma^{eq\ I} + \varepsilon_{it}^{eq\ I}\end{aligned}$$

System Equation II:

$$\begin{aligned}&Performance\\&= \beta_1\ \text{Log}(\widehat{Manager\ Compensation})_{it} + \beta_2 Underfunding_{it}\\&+ \beta_3 PoliticalBoard_i + X_{it}^{covariates}\,\Gamma^{eq\ II} + \varepsilon_{f,t}^{eq\ II}\end{aligned}$$

Need: Exogeneity condition: Outrage only affects returns through the manager quality contracting

Outrage variables: Trustee occupations , local reference wages

System Equation I: Impact of Outrage on Compensation

- Variables to predict outrage (1st equation only)
  - Professions with low salaries (teachers, municipal workers)
  - Finance Civil Servants
  - Low regional wages
- Variables predict compensation & returns
  - Fund size, year effects
  - Political Chair
  - Underfunding

Depend. Var: Log Compensation

Municipal Workers	-1.082*
	[0.611]
Teachers	-0.405
	[0.324]
Finance Civil Servants	-0.925**
	[0.374]
Log Regional Income	0.783***
	[0.193]
Log Worker Wages	0.690**
	[0.293]
Political Chair	-0.199**
	[0.0971]
Underfunding Index (lag)	0.0418*
	[0.0238]
Log Size (lag)	0.164*
	[0.0836]
Year Fixed Effects	Y
Observations	426
Number of Funds	110
R-Squared	0.153

Implied Cost of Outrage for Compensation

Panel B: Economic Magnitude

Change Evaluated		$ Impact on Compensation	Percentage Change
1 s.d. change =	0.087 higher fraction of Municipal Workers	-76,033	-9%
1 s.d. change =	0.144 higher fraction of Budget Civil Servnts	-107,627	-13%
10% change =	4781 higher Regional Income ($)	63,221	8%
1 std. change =	0.586 greater likelihood of Political Chair	-94,209	-12%
1 std. change =	1.303 higher Underfunding Index	43,982	5%

On average, relaxing the effect of outrage ⇒ higher wages of **~$82,000**.

Does Outrage-Predicted Compensation Affect Returns?

Dependent Variable:	**Portfolio**	**Alternatives**	**Public Equities**	**Fixed Income**
***Equation*:**	***System II***	***System II***	***System II***	***System II***
Outrage-predicted Log Compensation	0.00635**	0.0209*	0.00689*	-0.00441
	[0.00291]	[0.0111]	[0.00400]	[0.00370]
Political Board	-0.00362**	-0.0155**	-0.00353*	-0.000123
	[0.00143]	[0.00777]	[0.00187]	[0.00219]
Underfunded Index(lag)	0.000736	-0.00117	-0.000458	0.00297
	[0.00133]	[0.00544]	[0.00179]	[0.00199]
Controls: size	Y	Y	Y	Y
Observations	303	243	285	243
Number of Funds	89	71	86	80

A lower compensation from outrage effects implies lower returns in the risky assets – alternatives and public equities

Does Outrage-Predicted Compensation Affect Returns?

Dependent Variable:	Portfolio	Alternatives	Public Equities	Fixed Income
Equation:	*System II*	*System II*	*System II*	*System II*
Outrage-predicted Log Compensation	0.00635** [0.00291]	0.0209* [0.0111]	0.00689* [0.00400]	-0.00441 [0.00370]
Controls: size	Y	Y	Y	Y
Observations	303	243	285	243
Number of Funds	89	71	86	80

Equation I Change Evaluated	Working through Equation II Effect		Resulting Change in Returns
1 s.d. increase in Municipal Workers =>	-$76,033	change in Compensation =>	-0.060%
1 s.d. increase in Budget Civil Servants =>	-$107,627	change in Compensation =>	-0.085%
10% increase in Regional Income =>	$63,221	change in Compensation =>	0.050%

Relaxing outrage:

~$82,000 higher manager wage

~6.5 bps higher returns

$29m in returns per year

Does Compensation Affect Use of Delegated Asset Management

Dependent Variable:	**Portfolio**	**Alternatives**	**Public Equities**	**Fixed Income**
***Equation*:**	***System II***	***System II***	***System II***	***System II***
Outrage-predicted Log Compensation	-0.639***	-0.635***	-0.273*	-0.310
	[0.186]	[0.217]	[0.165]	[0.223]
Political Board	-0.198**	0.0653	0.0665	0.3
	[0.0962]	[0.0919]	[0.150]	[0.218]
Underfunded Index(lag)	-0.0897	0.152	0.241	0.179
	[0.117]	[0.102]	[0.171]	[0.184]
Year Fixed Effects	Y	Y	Y	Y
Controls: size	Y	Y	Y	Y
Observations	258	245	251	258

Relaxing outrage ⇒ **6.5%** less delegation ⇒ **2.9bps** lower costs

44% of 6.5bps return change

Externally-managed costs: Gerakos, Linnainmaa, and Morse (2018)
Internally-managed costs: Dyck and Pomorski (2011).

Does Outrage-predicted Compensation Affect Realized Risk?

Dependent Variable:	**Portfolio**	**Alternatives**	**Public Equities**	**Fixed Income**
Equation:	*System II*	*System II*	*System II*	*System II*
Outrage-predicted Log Compensation	0.00843	-0.0303	0.00179	-0.00626
	[0.00731]	[0.0275]	[0.0216]	[0.00509]
Political Board	0.00474	-0.0135	-0.0174***	-0.00457*
	[0.00380]	[0.0146]	[0.00674]	[0.00245]
Underfunded Index(lag)	0.00205	0.000394	0.00804	0.000375
	[0.00238]	[0.00678]	[0.00544]	[0.00191]
Controls: size, weights	Y	Y	Y	Y
Observations	112	70	97	94
R-squared	0.009	0.072	0.38	--

The effect of a lower compensation from outrage effects reducing returns does not also imply reduced realized risk

Does Compensation Affect Allocation to Risky Asset Classes?

Dependent Variable:	**Alternatives Weight**	**Public Equities Weight**	**Fixed Income Weight**
Equation:	***Tobit System II***	***Tobit System II***	***Tobit System II***
Outrage-Predicted Log Compensation	0.0355	-0.0666	0.0375
	[0.0144]**	[0.0179]***	[0.0156]**
	[0.0256]	[0.0314]***	[0.0344]
Political Board	0.00009	-0.0169	0.0177
	[0.00962]	[0.0117]	[0.00960]*
	[0.0145]	[0.0184]	[0.0146]
Underfunded Index (lag)	0.00904	0.00126	-0.0101
	[0.00587]	[0.00712]	[0.00584]*
	[0.00843]	[0.00749]	[0.00673]
Year Fixed Effects	Y	Y	Y
Controls: size,	Y	Y	Y
Observations	197	197	197

Two sets of standard errors are clustered & SUR

A lower compensation from outrage effects implies lower weights in alternatives, at expense of allocation weight in vanilla equities

Conclusion: Remedies

Punchline: We hope the paper become a policy-to-action piece. Likely affects the lowest income pensions the most. Pensions who cannot afford losing millions in foregone returns.

Remedies

1. Education + explicit profit/risk sharing
   - Beneficiaries and politicians appointing board member see and address return consequences

2. Skills-based board and chair rules for appointees
   - Not: Focus solely on beneficiary-elected board (Romano (1993)). Different friction, different solution: Some beneficiaries prone to outrage.

Not: Surface-obvious response: Hiding compensation disclosure

- Lack of disclosure of compensation encourages lack of disclosure elsewhere that can facilitate pay-to-play