Promotions and the Peter Principle

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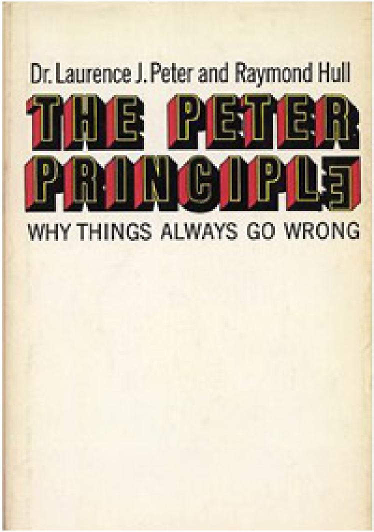
Who should firms promote?

1. **Promote the worker who will make the best manager**
    - Provides the best match for the job role of being a manager
2. **Promote the worker who is best at the current job**
    - Provides stronger incentives for employees to work hard at their current jobs (Lazear and Rosen 1981)
    - Not promoting on objective performance metrics may appear unfair and leave room for favoritism/manipulation (Prendergast and Topel 1996; DeVaro and Gürtler 2015)

These two strategies may conflict: *"The best performer at one level in the hierarchy is not the best candidate for the job one level up—the best salesman is rarely the best manager"* (Baker, Jensen and Murphy 1988)

Peter and Hull (1969)



The Peter Principle:

1. Firms promote based upon current job performance
2. At the expense of promoting the best potential managers

Does not imply mistakes!

The Peter Principle

"Every employee tends to rise to his level of incompetence"

Preview of Results

Use detailed microdata on the performance and promotion of B2B sales workers across 214 US firms

- Important setting: Sales accounts for 10.5% of the US labor force

1. Evidence in favor of Peter Principle:
    - Sales performance strongly predicts promotion
    - But better salespeople make worse managers
2. Firms have other observable predictors of managerial quality
    - Sales collaboration experience positively predicts managerial performance, but does not strongly predict promotion
3. Costs of mismatch are substantial
    - Firms make mistakes or the incentive benefits of promoting high performing salespeople is large

Contribution to the literature

Theoretical work on the Peter Principle

- Why it may occur: Fairburn and Malcomson 2001, Waldman 2003
- Why it might not exist: Lazear 2004

Very limited empirical evidence

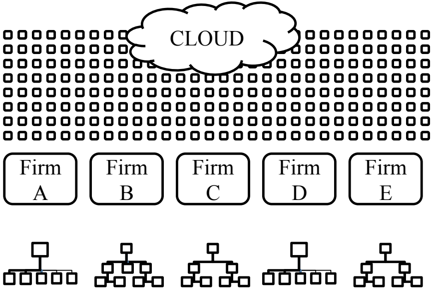
- Grabner and Moers (2013) use data from a single bank to show that current job performance carries less weight for promotions to jobs performing dissimilar tasks

We study promotions within the firm, but ideas are related to:

- Choice between an internal manager/CEO and external hire
- Management requires general/interpersonal skills, execution ability
- Limitations of meritocracies and good governance

Our data

We work with a firm that provides sales performance management software over the cloud



- Worker panel on sales credits and changes in positions
- B2B sales in 214 US-based client firms across a range of industries
- 6,515 managers; 53,035 subordinates; 1,531 promotion events

Worker characteristics

1. Observe performance in sales role: Log sales credits
   - \$ Amount of sales credits, demeaned by firm-month
2. Observe teamwork experience in sales role: Log sales collaborators
   - Unique # of other salespeople credited on the same transactions per month

To smooth lumpiness, take backward rolling averages over the past 12 months (or since the start date if tenure $\leq$ 12 months)

We also observe:

- Tenure (censored)
- Team size: number of subordinates under the same manager
- Compensation (data is incomplete)

Descriptive statistics

Sample coverage		**Pr(Promotion)**	
# Firms	214	Overall	0.0288
# Workers	53,035	Monthly hazard	0.0021
# Workers promoted to management	1,531		
Years covered	2005-2011		

Summary statistics	*Mean*	*25th*	*50th*	*75th*
Worker characteristics				
Monthly sales*	$3,620,399	$49,956	$285,573	$1,540,871
# Collaborators*	6.5	1	1.8	5.6
Monthly commissions*	$12,485	$1,101	$3,658	$ 9,716
Salary	$7,450	$4,938	$7,443	$9,481
Manager characteristics				
# of subordinates	5.4	2	4	8
Monthly commissions*	$22,193	$3,112	$10,180	$25,165
Change in monthly commissions	$7,173	-$839	$2,006	$10,156
Salary	$10,563	$8,317	$10,690	$13,283

What do sales managers do?

Typical managerial duties (adapted from O*NET):

- Directing staffing, training, and performance evaluations
- Monitoring customer preferences to focus sales efforts
- Coordinating sales activities
- Coaching and developing staff

Measuring manager performance

A manager's performance is her value-added to subordinate performance (Abowd et al. 2002; Lazear, Shaw, and Stanton, 2015)

$$Log(1 + sales_{imft}) = \delta_i + \delta_{f \times t} + \delta_m + Xb + e_{imft}$$

- Estimate a regression at the worker-month level
- Worker i, under manager m, in firm f, in year-month t
- Control for worker FE, firm x time FE, tenure and team size
- Manager performance $= \delta_m$

A good manager is one under whom subordinates have higher sales, relative to their performance under prior or later managers, adjusted for firm-time trends

Manager sample and firm-level means

Manager sample size				
Number of managers				6,515
... with mover subordinates and estimated fixed effects				4,887
... with mover subordinates, estimated fixed effects, and who were internally promoted				1028
Firm-level means	*Mean*	*25th*	*50th*	*75th*
Share of workers who switch managers	45.0	20.9	44.4	72.7
Average size of connected group (worker-months)	16,313	2,862	7,104	23,509
Share of workers in largest connected group	88.5	85.3	96.5	99.3

Sales positively predicts promotion: Probit

	Worker is promoted			
	(1)	(2)	(3)	(4)
Log(sales)	0.0400***	0.0448***	0.0433***	0.0428***
	(0.00578)	(0.00645)	(0.00642)	(0.00610)
Log(collaborators)	0.00895	0.0235	0.0461**	-0.0103
	(0.0212)	(0.0209)	(0.0205)	(0.0207)
Industry-month promotion rate			0.315***	
			(0.0183)	
Firm-month promotion rate				0.167***
				(0.00653)
Pre-promotion controls	No	Yes	Yes	Yes
Pseudo R-squared	.004	.018	.042	.112
Observations	207092	207092	207092	207092

- Doubling in sales increases probability of promotion by 20% relative to base rate
- Collaboration does not strongly increase promotion probability

Sales negatively predicts managerial performance

Manager value added	All positions		Promoted to different team	
	(1)	(2)	(3)	(4)
Pre-promotion log(sales)	-0.106***	-0.108***	-0.123***	-0.128***
	(0.0401)	(0.0395)	(0.0418)	(0.0409)
Pre-promotion log(collaborators)	0.244*	0.226*	0.219	0.193
	(0.132)	(0.131)	(0.140)	(0.141)
Pre-promotion controls	No	Yes	No	Yes
R-squared	.04	.066	.066	.077
Observations	1028	1028	909	909

- Doubling pre-promotion sales predicts a 10% decline in subordinate sales (equivalent to a 5-person team losing half a worker)
- Collaboration experience positively predicts manager value added

Correcting for selection

Consistent with the Peter Principle, we have shown:

1. Sales positively predicts promotion
2. *Among those promoted*, sales negatively predicts managerial performance

Problem: We do not observe latent managerial potential for all workers, so promotion introduces potential selection bias

- Negative if promoted people with high sales are weaker on unobserved dimensions
- Positive if top salespeople with particularly low managerial potential turn promotions down

Apply selection correction following Heckman (1976)

- Goal: Recover predictive relation between sales and latent managerial potential

Instruments for selection

Let Z_i be industry- and firm-wide promotion rates within each year-month

1. Z_i strong predicts promotion: Reflects time-varying vacancies and demand for managers at the firm or industry level

2. Z_i does not predict manager value added
   - Promotion rates may be correlated with consumer demand and other firm-level factors that affect the sales of all workers...
   - But, recall we measure M_i as the manager FE from:

$$\text{Worker sales}_{imft} = \delta_i + \delta_{f \times t} + \delta_m + Xb + e_{imft}$$

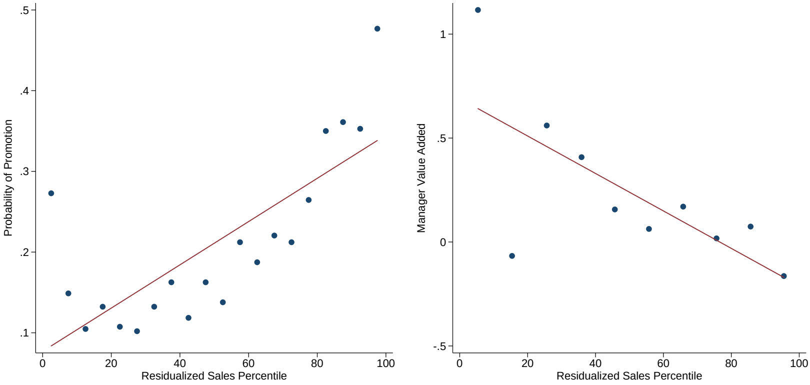
   - M_i is, by construction, orthogonal to the instruments for selection, which only vary at the firm by year-month level

Sales continues to negatively predict manager value added

	Manager value added			
	(1)	(2)	(3)	(4)
Pre-promotion log(sales)	-0.106***	-0.110***	-0.109***	-0.114***
	(0.0400)	(0.0394)	(0.0407)	(0.0394)
Pre-promotion log(collaborators)	0.242*	0.228*	0.233*	0.176
	(0.133)	(0.131)	(0.130)	(0.130)
Instrument	Ind-month	Ind-month	Firm-month	Firm-month
Pre-promotion controls	No	Yes	No	Yes
R-squared	.04	.066	.042	.073
Observations	1028	1028	1028	1028

- Doubling pre-promotion sales predicts a 10% decline in average subordinate sales ($\sim$ to a 5-person team losing half a worker)
- Collaboration experience positively predicts manager value added

Percentile relations



Collaboration experience: Lone Wolf vs. Team Player

"*Lone wolves are the deeply self-confident, the rule-breaking cowboys of the sales force who do things their way or not at all*"

	Manager value added			
	(1)	(2)	(3)	(4)
Pre-promotion log(sales)	-0.110***	-0.114***	-0.113***	-0.116***
	(0.0415)	(0.0403)	(0.0422)	(0.0402)
Pre-promotion lone wolf	-0.379**	-0.357**	-0.353**	-0.218
	(0.176)	(0.172)	(0.167)	(0.166)
Instrument	Ind-month	Ind-month	Firm-month	Firm-month
Pre-promotion controls	No	Yes	No	Yes
R-squared	.039	.065	.04	.071
Observations	1028	1028	1028	1028

- Lone wolf (35%): Worked alone in 12 months prior to promotion
- Lone wolves are worse managers but not less likely to be promoted

How costly is managerial mismatch?

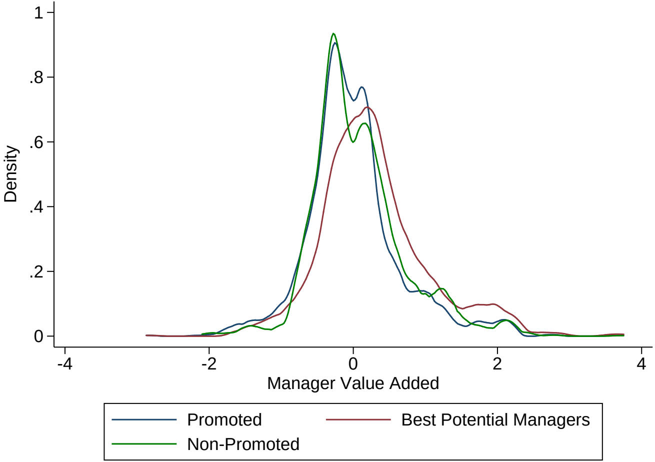
How would performance change if firms promoted the best potential managers?

- Equivalently, how large would incentive benefits from tournaments, maintaining fairness, discouraging favoritism/gaming, etc. have to be to rationalize current promotion policies?

Compare predicted manager value added for:

1. Workers who were promoted
2. Workers who were not promoted
3. Counterfactual promoted workers: if firms picked those with the largest predicted manager value added based on observables
   - We make this realistic and assume firms must promote among the peers of promoted workers in the same time period

How costly is managerial mismatch?



- Firms could (absent other considerations) do a lot better
- Best potential manager mean: $+29\%$

Potential concerns

Very high sales workers may not want to become managers

- Workers should accept promotion only if they expect higher pay
  - Better sales workers will have a higher bar
  - Selection biases toward better sales workers being better managers

Mean reversion (Lazear 2004)

- Within-person performance may decline after promotion
- However, we examine changes in subordinate performance, and show that, cross-sectionally, high sales managers have lower value added

Non-random assignment of managers to subordinates

Okay: Non-random assignment of managers to fixed types of subordinates

- Our manager value added is calculated net of individual worker FEs

Not okay: Non-random assignment of managers to differentially trending subordinates: However...

- High sales managers are assigned to better subordinates—but not those on increasing or decreasing trends
- Prior subordinate performance is unrelated to the new manager's estimated value added

Could high sales managers contribute in other ways?

No direct evidence of other contributions

- High sales managers do not have lower turnover among their subordinates, they don't manage larger or growing teams, and they have lower compensation growth

Managers with high pre-promotion sales could potentially make *unobservable and uncompensated* contributions

- If so, firms should (in an ideal world without other costs/frictions) separate job roles so that high sales managers are not in charge of managing subordinates and can focus on other activities

Heterogeneity in promotion policies

- Firms with stronger pay-for-performance pay weigh sales significantly less in promotion decisions

- Firms where managers are in charge of larger teams weigh sales significantly less in promotion decisions

Conclusion

Evidence across many firms is consistent with the Peter Principle

- Firms promote top sales workers even though sales negatively predicts managerial performance
- Firms underweight collaboration experience
- The costs of mismatch are substantial

Why don't firms incentivize worker output in other ways?

- Prendergast and Topel 1996: Promotions tied to noncorruptible measures of performance because of problems of favoritism
- Microsoft's "Distinguished Engineers"