

Making the invisible hand visible

How managers shape allocation inside firms, firm productivity, and development

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STEG–PEDL Virtual Course on Private Enterprises, Productivity, and Economic Growth

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From the invisible to the visible hand

*“He intends only his own gain, and he is in this, as in many other cases, led by an **invisible hand** to promote an end which was no part of his intention.”*

Adam Smith, *Wealth of Nations*, Book IV, Ch. 2 (1776)

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*“If a workman moves from department Y to department X, he does not go because of a change in relative prices but because he is **ordered to do so** . . . the distinguishing mark of the firm is the supersession of the **price mechanism**.”*

Ronald Coase, *The Nature of the Firm* (1937)

250 years after Adam Smith: from prices to managers

- **Smith (1776):** prices coordinate markets; the *invisible hand* allocates without a central director
- **Coase (1937):** firms exist because using the market is costly — inside the firm, managers take the place of the price mechanism in directing the allocation of resources

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- **Chandler (1977)**: modern business enterprise took the place of market mechanisms — the visible hand of management replaced the invisible hand of market forces
- **This talk (2026)**: which managers, and how they act, determine how that internal allocation works — with consequences for productivity and inequality

The internal allocation view of the firm

Much of the course studies allocation across firms and markets:

- Which firms grow, formalize, export, borrow, or enter value chains?
- How do distortions and networks shape productivity dispersion?
- How do competition, finance, trade, and management affect performance?

This lecture asks the parallel question inside firms:

- Which workers are matched to which jobs?
- Whose talent is recognized, promoted, and retained?
- Which managers turn opportunities into productivity gains?

A bridge from Session 13 to Session 14

Session 13: management and productivity

- Management helps explain persistent productivity differences
- TFP is not only hard technology; practices and organization matter
- Innovation, diffusion, and reallocation are core growth mechanisms

This lecture: recent applications inside the firm

- Reallocation is not only between firms; it also occurs within firms
- Managers allocate workers to jobs, tasks, and career opportunities
- Personnel data and task-level data reveal mechanisms hidden in firm TFP

This talk: three papers, one common thread → Who manages matters

1. Making the Invisible Hand Visible: Managers and the Allocation of Workers to **Jobs**

Minni, 2026

→ Managers match workers to jobs via lateral & vertical transfers

2. Managers and the Transmission of Gender **Norms** and Practices

Minni, Nguyen, Sarsons and Srebot, 2026

→ Managers' cultural views shape gendered allocation & transmit to other managers

3. Reorganizing Work Inside the Firm: Task Change After **Technology** Adoption

Brandimarti, Minni, Sadun & Tamayo, 2026

→ Technology both automates and creates tasks; managers determine whether workers move up the task ladder

Roadmap

1. **Jobs:** *Making the Invisible Hand Visible*
2. Norms: *Managers and the Transmission of Gender Norms and Practices*
3. Technology: *Reorganizing Work Inside the Firm*
4. Conclusion

Jobs: Setting and data

Making the Invisible Hand Visible: Managers and the Allocation of Workers to Jobs — Minni (2026)

Large consumer goods MNE: >200,000 white-collar workers, 30,000 managers, 100+ countries, 2011–21

- **Personnel records:** hierarchy, job titles, lateral moves, promotions, pay (monthly)
- **Sales data:** individual sales performance, 5,604 field workers, 15 countries
- **Time-use data:** weekly time allocation of 600 managers
- **Internal mobility platform:** workers' job-search behavior inside the firm
- **Employee surveys:** annual pulse surveys 2017–2020

Nearly 1,000 distinct job titles among work-level 1 employees

Average 2 distinct job titles per team — internal matching problem is large

Two identification steps:

- *Manager quality:* age at promotion to manager (high-flyers = promoted before 30)
- *Causal identification:* exogenous lateral rotation of managers across teams

Jobs: Identification

High-flyer managers (26.2% of sample): promoted to manager before age 30

- Defined *before* supervising the worker
- Validated: predicts future salary growth, promotion to WL3, upward leadership ratings

Rotation policy: managers required to rotate across teams within sub-function

- Workers do not choose their manager
- Past team performance does not predict incoming manager type
- Manager quality assessed in a *different* unit from the one later assigned

Event-study estimand (29,423 transition events):

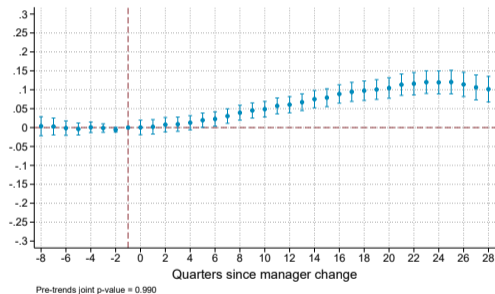
$$\hat{\beta}_{LtoH,s} - \hat{\beta}_{LtoL,s}$$

Effect of gaining a high-flyer *relative to* gaining another low-flyer

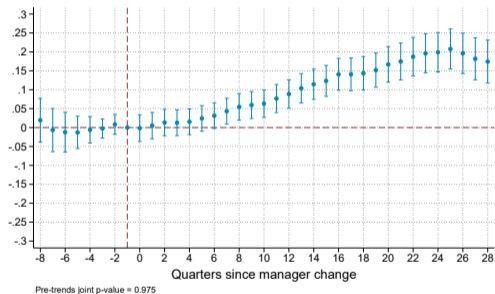
Jobs: Main results — event study

Effects of gaining a high-flyer manager $(\hat{\beta}_{LtoH,s} - \hat{\beta}_{LtoL,s})$

(a) Lateral moves



(b) Salary grade increases



Jobs: Main results — summary

Lateral transfers — 7 years post-transition

- Lateral moves **+40%** (0.10 additional moves per worker)
- Moves involve meaningful task-distance changes across cognitive, routine, and social jobs
- No impact on firm exit

Career progression — 7 years post-transition

- Salary: **+13%** (\approx \$12,000/yr in the US)
- Work-level promotion: **+31%**
- Sales performance: **+0.35 SD** (independently measured, 3 years post-transition)

Mediation analysis: 64% of the salary gain is explained by lateral transfers alone

Asymmetric effects: gaining a high-flyer helps; losing one does not hurt

→ gains outlast the manager

Jobs: Mechanism — allocation, not only motivation or teaching

Against solely motivation / monitoring:

- Effects are *asymmetric* — motivation/monitoring effects would be symmetric
- Gains persist long after the manager has moved on
- Pay dispersion *increases* within team → inconsistent with uniform effort boost

Against solely teaching:

- Teaching predicts that workers perform better in their *current* role — hence fewer moves
- We observe *more* lateral moves and larger task-distance changes

For the allocation channel:

- High-flyers spend **+19%** more time in 1-on-1 meetings with subordinates
- Skill profile: talent management and strategy (not project management)
- Workers more active on internal mobility platform: more flexible cross-team projects
- No role for personal networks: subordinates *less* likely to move into manager's prior network
- Benefits are *broad-based*: low-baseline workers gain as much as high-performers

Making the Invisible Hand Visible: Take-aways

1. Good managers improve the allocation of talent across jobs
2. Lateral moves reveal hidden comparative advantage inside the firm
3. Internal labor markets can reduce or amplify misallocation

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Norms: Setting and identification

Managers and the Cultural Transmission of Gender Norms — Minni, Nguyen, Sarsons & Srebot (2026)

Setting: data from a MNE operating in 100+ countries; international assignment program for WL3+ managers

Analysis sample: 909 male expat managers from 50 countries; 4,873 workers in 77 destination countries (50% female); 250K employee-month observations, 2016–2021

Measure of gender norms country-cohort index from three WVS questions

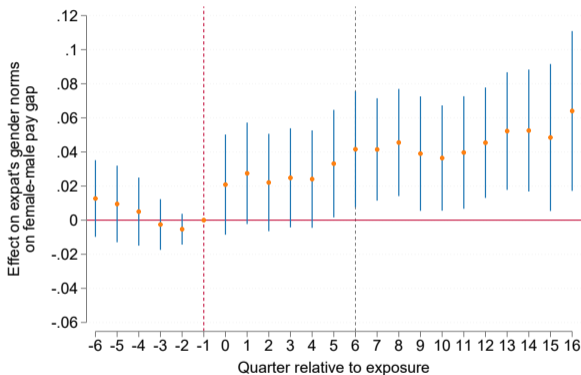
- *“When jobs are scarce, men should have more right to a job than women”*
- *“When mother works for pay, children suffer”*
- *“Men make better business executives than women”*

Validated: highly correlated with country-cohort female labor force participation

Identification: manager submits country preferences; final assignment subject to availability

- Manager cannot choose their team
- Triple-differences: worker gender \times pre/post expat exposure \times expat gender norms
- *No pre-trends* in gender pay gap up to 6 quarters before expat arrival

Norms: Main result



Impact of expat manager's gender norms on the within-team female-male pay gap

- **During exposure:** pay gap narrows by 2–4 pp across the rotation
- **After departure:** effect *grows* to ~ 6 pp at quarter 16

Norms: Mechanisms

Progressive managers identify and promote female talent — not just pay adjustments

1. Better identification of talent

Women receive higher performance ratings *post*-exposure — progressive managers surface talent that was already there but unrecognized

2. Promotion → **the main driver**

Work-level promotion likelihood: **+4.8pp** during, persists after rotation

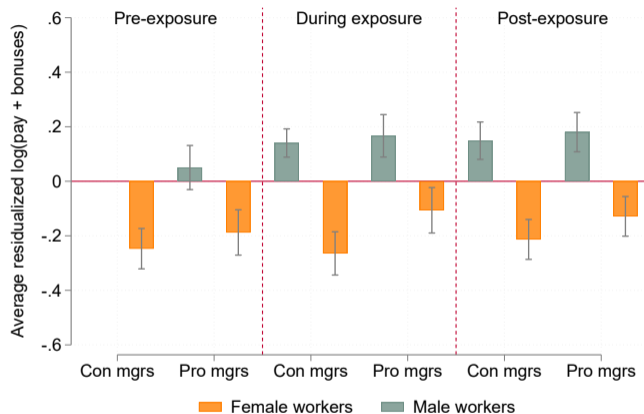
3. Reallocation

Women more likely to be moved *within* the same function — managers reallocating women to better-suited roles

4. Retention

Women less likely to leave within 5 years of exposure

Norms: Do women's gains come at men's expense?



Women under progressive managers gain during and after exposure; men's pay rises under *both* manager types

Norms: Spillovers to other managers

Progressive expat managers reshape the broader office culture

Horizontal transmission

Expat → peer managers → their subordinates

- Same-level peers — no reporting relationship — narrow the pay gap among their own subordinates
- Persists well after the expat leaves

Vertical transmission

Expat → direct-report managers → their subordinates

- $\approx 60\%$ of direct subordinates are themselves managers
- “Second-generation” managers narrow the gap among their own teams, including on promotions

Aggregate: 1 SD more progressive norms → **2.1%** smaller pay gap and **2.3 pp** more women in leadership at the office–function level — including workers *never* directly exposed

Managers and the Transmission of Gender Norms and Practices: Take-aways

1. Cultural norms can operate like internal misallocation wedges
2. Norms propagate through hierarchies and shape organizational capability
3. Global firms transmit practices across countries through internal labor markets

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Technology: Setting

Reorganizing Work Inside the Firm: Task Change After Technology Adoption — Brandimarti, Minni, Sadun & Tamayo (2026)

Two interventions applied in a **staggered** fashion across branches to an incumbent workforce (leading bank in Latin America; 500 branches, 7,000 employees; 2017–2023); no layoffs, no hiring changes

1. **Technology (June 2018)**: mobile app automates routine transactions — credit cards, consumer loans, savings
2. **Task intervention (January 2021)**: KPIs restructured; account managers shifted toward SME lending

Three task categories defined by O*NET skill content:

- **Simple**: automatable, handled by mobile app
- **Complex**: relationship management & credit assessment
- **SME loans**: high-margin, explicitly incentivized post-2021

Design: staggered event-study (not-yet-treated) at branch/worker \times week level

Technology: Technology alone does not generate task upgrading

After the mobile app (Technology Rollout):

- Total output per worker: $\sim +30\%$
- Client base expands; account balances increase
- No change in hiring or exits; no reallocation across branches

Workers expanded volume on tasks that became *easier*:

- Simple (mobile) trades: **large increase**
- Complex trades: **flat**
- SME loans: **flat**

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After the organizational redesign (Task Intervention):

- SME lending: **sharp, targeted increase**
- Non-SME complex: still flat

→ Reallocation occurs *only* where incentives are explicitly restructured

Technology: Worker heterogeneity and the role of managers

Tenure friction in adaptation:

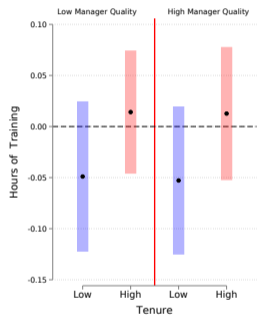
- Strong negative gradient: low-tenure workers adapt 3x more than late-career ones
- Survives controls for age, ability, peer composition
- Mechanism: high tenure \Rightarrow higher effective cost of learning
- Task adaptation associated with wage gains

Manager quality estimated via AKM on pre-intervention data: $\text{asinh}(\text{prod}_{bmt}) = \theta_m + \eta_b + \tau_t + \varepsilon_{bmt}$

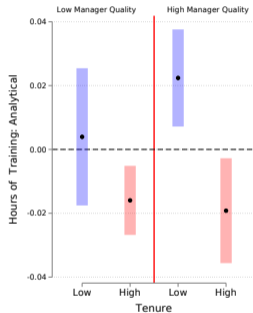
- Assumption: managers rotate across branches for reasons exogenous to worker performance
- High-quality managers correlated with leadership dimensions (teamwork, trust, embrace change)
- But uncorrelated with demographic observables
- High-quality managers shift training toward *analytical* tasks — but only among low-tenure workers

Technology: Productive managers shift training toward analytical tasks

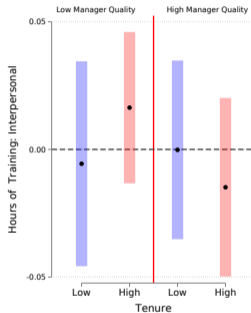
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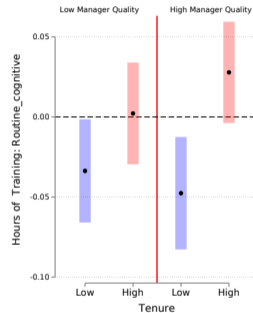
(a) Total



(b) Analytical
(weekly mean = 0.16)



(c) Interpersonal
(weekly mean = 0.06)



(d) Routine cognitive
(weekly mean = 0.27)

Reorganizing Work Inside the Firm: Take-aways

1. Technology adoption raises output, but not necessarily task upgrading
2. Organizational design determines whether technology changes work
3. Tenure frictions shape who adapts when the task frontier shifts

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We started by asking: *why do firms (and, hence, managers) matter for development?*

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- The right match between workers and opportunities already exists inside firms — what differs is whether a manager discovers it and acts on it
- Who gets recognized and promoted reflects managerial views, not just worker ability — and those views propagate through the hierarchy long after the manager is gone
- Technology expands the set of valuable tasks — but organizational factors determine task allocation & impact on firm productivity

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- The right match between workers and opportunities already exists inside firms
— what differs is whether a manager discovers it and acts on it
 - Who gets recognized and promoted reflects managerial views, not just worker ability
— and those views propagate through the hierarchy long after the manager is gone
 - Technology expands the set of valuable tasks
— but organizational factors determine task allocation & impact on firm productivity
- Development may therefore depend not only on markets and technology
— but also on the quality of managerial allocation inside firms