HORRIBLE BOSSES?
The New Economics of Management

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GREAT PEOPLE TO WORK FOR?

GREAT PLACES TO WORK? .........
Nokia factory shop floor: area around the machines is clean and organised
State-owned telecoms equipment factory in Belarus. Everyone on a mysterious break?
Family-owned textile company outside Mumbai, India
OUTLINE

1. Productivity dispersion within and between countries

2. Management and Productivity

3. Measuring & describing management

4. Consequences & causes of management
INTRODUCTION

• Explosion of empirical work on firms & plant performance in last 1-2 decades (IT & opening of National Statistical Agencies)
  – Heterogeneity of productivity 1st order economic fact
  – Related to management practices (new data)

• Management is partly a transferable “technology”
  – Positive effect of management on performance;
  – More reallocation of jobs and sales to better managed firms (especially in US)
  – Higher competition improves management
  – Informational frictions impede management
PRODUCTIVITY DISPERSION WITHIN COUNTRIES

• Large cross sectional dispersion *within* countries
  – Within US SIC4, plant labor productivity 90\textsuperscript{th}-10\textsuperscript{th} ≈ 4x (TFP ≈ 2x). Syverson (2004). Other countries bigger
  – These plant productivity differences are persistent

• Is it all measurement problems? NO
  – Robust to different methods of production function estimation (Olley-Pakes, 1996; Blundell-Bond, 2000; Ackerberg et al, 2007, Solow residual)
  – Using plant-specific prices (Foster et al, 2009)
  – Other measures of firm performance (e.g. profitability, size, management quality, etc.) show wide variation
“…we have the phenomenon in every community and in every trade, in whatever state of the market, of some employers realizing no profits at all, while others are making fair profits; others, again, large profits; others, still, colossal profits.”

Francis Walker (Quarterly Journal of Economics,’87)
FIRM HETEROGENEITY HAS LONG BEEN RECOGNISED

…we have the phenomenon in every community and in every state of the market, of some employers realizing no profits at all, while others are making large profits; others, still, colossal

Francis Walker (Quarterly Journal of Economics, 1887)
LARGE INCOME & TFP DIFFERENCES BETWEEN COUNTRIES

Source: Jones and Romer (2010). US=1, TFP labor augmented as in Hall and Jones (1999)
DISTRIBUTION OF PLANT TFP DIFFERENCES IN US VS. INDIA
HIGHER US TFP DUE TO REALLOCATION - THINNER “TAIL”
OF LESS PRODUCTIVE PLANTS

Source: Hsieh and Klenow (2009); US mean=1
RELATIVE LABOUR PRODUCTIVITY (GDP PER HOUR) $PPP 2001-2011 AVERAGE

Source: Conference Board Total Economy Database, 2012

Ireland ~16% less productive than US
1. Productivity dispersion within and between countries

2. Reasons for Productivity Dispersion: Management?

3. Measuring & describing management

4. Consequences & causes of management
REASONS FOR PERFORMANCE HETEROGENEITY

• TFP Heterogeneity due to “hard technologies”
  – R&D, patents, diffusion of ICT (information and communication technologies), etc.

• These hard technologies matter a lot.....
TOTAL R&D/GDP, 2001-10 AVERAGE

Source: OECD Database, 2012
REASONS FOR PERFORMANCE HETEROGENEITY

• These hard technologies matter a lot, but:
  – After controlling for technology, still a big TFP residual
  – Productivity effects of ICT depend on firm organization (e.g. Bloom, Sadun & Van Reenen, AER 2012; Bresnahan, Brynjolfsson and Hitt, QJE 2002)

• Heterogeneity of management practices?
  – Econometric tradition that fixed effects in production function = managerial ability (Mundlak, 1961)
  – Case studies & recent advances in measurement (Bloom & Van Reenen, 2007)
ECONOMIC PERSPECTIVES ON MANAGEMENT

- Fads and fashions?
- Standard Factor of Production
- Design Approach of Organizational Economics
  - Example: Personnel Economics (Lazear & Oyer, 2009) application of economics to Human Resources
  - “Contingent management” school (Woodward, 1958)
- “Management as a technology”
  - Incorporates firm heterogeneity in productivity
  - Non transferable management capabilities (IO models e.g. Melitz, 2003, & talent models e.g. Lucas, 1978)
  - Transferable capabilities “diffusion” models
  - Tackle q: how do badly managed firms survive?
SOME IMPLICATIONS OF “MANAGEMENT AS A TECHNOLOGY” VIEW

• Effect of Management on Performance
  – Positive effect on productivity & profitability

• Management and Reallocation
  – Better managed firms should be larger, more likely to survive and grow faster
  – These effects should be greater when environment favours reallocation (e.g. US vs. India)

• Management and competition
  – Competition likely to have a positive effect on average management quality (selection and incentives)

• Management and information
  – Info a key reason for differences in management
1. Productivity dispersion within and between countries

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THE SURVEY METHODOLOGY

1) Developing management questions
   • Scorecard for 18 monitoring, targets and people
   • ≈45 minute phone interview of manufacturing plant managers

2) Obtaining unbiased comparable responses ("Double-blind")
   • Interviewers do not know the company’s performance
   • Managers are not informed (in advance) they are scored
   • Run from LSE, with same training and country rotation

3) Getting firms to participate in the interview
   • Introduced as “Lean-manufacturing” interview, no financials
   • Official Endorsement: Bundesbank, Bank of Italy, RBI, etc.
   • Run by ~100 MBA-types (loud, assertive, business experience)
### Monitoring – E.G. “How is Performance Tracked?”

| Score | (1): Measures tracked do not indicate directly if overall business objectives are being met. Certain processes aren’t tracked at all | (3): Most key performance indicators are tracked formally. Tracking is overseen by senior management | (5): Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools |

**Note:** All 18 dimensions and over 50 examples in Bloom & Van Reenen (2006)
| Score | (1) People are promoted primarily upon the basis of tenure | (3) People are promoted upon the basis of performance | (5) We actively identify, develop and promote our top performers |

Note: All 18 dimensions and over 50 examples in Bloom & Van Reenen (2006)
COVERAGE OF WORLD MANAGEMENT SURVEY: 21 COUNTRIES

MANAGEMENT SURVEY SAMPLE

- Interviewed over 8,000 firms across 21 countries in Americas, Asia & Europe
- 45% response rate (responses uncorrelated with performance)
- 3 major waves in 2004, 2006 & 2009 with panel element

Medium sized manufacturing firms:
- Medium sized (100 - 5,000 employees, median ≈ 250) because firm practices more homogeneous
- Manufacturing as easier to measure productivity
  - Now extended to Hospitals, Retail, Schools, Charities, Nursing homes, Law Firms, Government agencies, etc.
- Many controls for measurement error – second interviews, controls for interviewer, interviewee and interview effects
AVERAGE MANAGEMENT SCORE ACROSS COUNTRIES

Note: Averages taken across all firms within each country. 9079 observations in total.
DIFFERENCES DRIVEN BY “LONG TAIL” OF BADLY MANAGED FIRM LEVEL MANAGEMENT SCORES
IRISH HAS LONG TAIL OF BADLY MANAGED FIRMS

Graphs by country:
- Australia
- Brazil
- Canada
- China
- France
- Germany
- Great Britain
- Greece
- India
- Ireland
- Italy
- Japan
- Poland
- Portugal
- Sweden
- US

Firm-Level Management Scores
MY FAVOURITE QUOTES:

The traditional British Chat-Up

[Male manager speaking to an Australian female interviewer]

*Production Manager:* “Your accent is really cute and I love the way you talk. Do you fancy meeting up near the factory?”

*Interviewer* “Sorry, but I’m washing my hair every night for the next month….”
Production Manager: “Are you a Brahmin?’

Interviewer “Yes, why do you ask?”

Production manager “And are you married?”

Interviewer “No?”

Production manager “Excellent, excellent, my son is looking for a bride and I think you could be perfect. I must contact your parents to discuss this”
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Empirics: Management as a technology?
• Management effect on Performance
• Management and Reallocation
• Management and Competition
• Management and Information
PERFORMANCE REGRESSIONS

Performance measure

\[ y_i^c = \beta M_i^c + \alpha_l l_i^c + \alpha_k k_i^c + \alpha_m h_i^c + \gamma' x_i^c + u_i^c \]

- Note – not a causal estimation, only an association
MANAGEMENT SCORE CORRELATES WELL WITH PERFORMANCE INDICATORS

Labour productivity*

Return On Capital Employed, ROCE

Sales growth (%)

* Log scale

** Firms are grouped in 0.5 increments of assessed management score
LINK BETWEEN PRODUCTIVITY & MANAGEMENT HOLDS TRUE ACROSS DIFFERENT COUNTRIES

Labour productivity* vs management practice score**

* Log scale (sales per worker)
** Firms are grouped in 0.5 increments of assessed management score
# BETTER PERFORMANCE IS CORRELATED WITH BETTER MANAGEMENT

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Ln(sales)</th>
<th>Ln(sales)</th>
<th>Profits (ROCE)</th>
<th>5yr Sales growth</th>
<th>Exit</th>
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<td>Estimation</td>
<td>OLS</td>
<td>Fixed Effects</td>
<td>OLS</td>
<td>OLS</td>
<td>Probit</td>
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<td>Firm sample</td>
<td>All</td>
<td>2+ surveys</td>
<td>All</td>
<td>Quoted</td>
<td>All</td>
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<tr>
<td>Management</td>
<td>0.143***</td>
<td>0.028**</td>
<td>1.207***</td>
<td>0.042***</td>
<td>-1.338**</td>
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<td></td>
<td>(0.015)</td>
<td>(0.014)</td>
<td>(0.274)</td>
<td>(0.012)</td>
<td>(0.498)</td>
</tr>
<tr>
<td>Ln(employees)</td>
<td>0.659***</td>
<td>0.363***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.289)</td>
<td>(0.108)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ln(capital)</td>
<td>0.289***</td>
<td>0.245***</td>
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<tr>
<td></td>
<td>(0.010)</td>
<td>(0.087)</td>
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<td></td>
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<tr>
<td>Firms</td>
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<td>1,345</td>
<td>2,927</td>
<td>2,927</td>
<td>2,927</td>
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<tr>
<td>Observations</td>
<td>7,094</td>
<td>5,512</td>
<td>7,094</td>
<td>7,094</td>
<td>2,927</td>
</tr>
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</table>

**Notes:** Regressions includes controls for country, SIC3 & year, dummies. Firm-size, firm-age, skills, noise controls etc. SE clustered by firm. 2002-2010.
CAUSAL EFFECT OF MANAGEMENT ON PRODUCTIVITY? BLOOM ET AL (2011)

• Run experiment on plants in Indian textile firms outside Mumbai.

• Randomized “treatment” plants get heavy management consulting; “control” plants get very light consulting (just enough to get data).

• Collect weekly performance data on all plants from 2008 to 2010.

  - Improved management practices led to large and significant improvements in productivity and profitability (~$200k pa)
MANY PARTS OF THE FACTORIES ARE DIRTY AND UNSAFE
THE FACTORIES ARE ALSO DISORGANIZED

Instrument not removed after use, blocking hallway.

Oil leaking from the machine

Cotton lying on the floor

Instrument blocking the hallway
THE TREATED FIRMS INTRODUCED BASIC INITIATIVES

Worker involved in “5S” initiative on the shop floor, marking out the area around the model machine

Snag tagging to identify the abnormalities on & around the machines, such as redundant materials, broken equipment, or accident areas. The operator and the maintenance team is responsible for removing these abnormalities.
QUALITY DEFECTS INDEX: TREATMENT & CONTROL PLANTS

Notes: Displays the average weekly quality defects index, which is a weighted index of quality defects, so a higher score means lower quality. This is plotted for the 14 on-site treatment plants (+ symbols) and the 6 on-site control plants (♦ symbols). Values normalized so both series have an average of 100 prior to the start of the intervention. To obtain confidence intervals we bootstrapped the firms with replacement 250 times.
Empirics

- Management effect on Performance
- **Management and Reallocation**
- Management and Competition
- Management and Information
RELATIONSHIP BETWEEN MANAGEMENT & SIZE IS MUCH WEAKER IN COUNTRIES WITH LESS COMPETITION

• “Selection” effect – market reallocates jobs to more efficient firms

• An additional sd of management score associated with employment increase:
  - US ~295 more workers
  - UK ~204 more workers
  - India ~97 more workers

• Competitive forces of reallocation much weaker in India compared to US

• Same story with sales growth (dynamic reallocation)
Empirics

- Management effect on Performance
- Management and Reallocation
- Management and Competition
- Management and Information
Various ways that competition may influence management

- **Selection** – badly run firms more likely to exit
- **Effort** – forces badly run firms to try harder to survive

We find competition is strongly linked with better management through a mixture of selection & effort

Examine causality through policy experiments such as:

- China’s entry to WTO (Bloom, Draca & Van Reenen, 2011)
- Political influence on entry/exit (Bloom, Propper, Seiler & Van Reenen, 2012)
COMPETITION SEEMS TO IMPROVE MANAGEMENT

Sample of 9469 manufacturing and 661 retail firms (private sector panel) and 1183 hospitals and 780 schools (public sector panel). Reported competitors defined from the response to the question “How many competitors does your [organization] face?”
## COMPETITION AND MANAGEMENT PRACTICES

3 competition proxies from Nickell (1996) & Aghion et al. (2005)

<table>
<thead>
<tr>
<th>Competition proxies</th>
<th>Dependent variable: Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import penetration</td>
<td>0.066** (0.033)</td>
</tr>
<tr>
<td>(lagged industry-country level)</td>
<td></td>
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<tr>
<td>1- Lerner Index(^1)</td>
<td>1.964*** (0.721)</td>
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<tr>
<td>(lagged industry-country level)</td>
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<tr>
<td># of competitors</td>
<td>0.115*** (0.023)</td>
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<tr>
<td>(Firm level)</td>
<td>0.120** (0.052)</td>
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<td>Observations</td>
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<td>2,980</td>
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<td></td>
<td>3,589</td>
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<td></td>
<td>864</td>
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<tr>
<td>Firm fixed effects?</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>No</td>
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<tr>
<td></td>
<td>No</td>
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<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Full controls(^2)</td>
<td>Yes</td>
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<tr>
<td></td>
<td>Yes</td>
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<td></td>
<td>Yes</td>
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<td></td>
<td>Yes</td>
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</tbody>
</table>

Notes: “Full controls” includes 108 SIC-3 industry, country, firm-size, public and interview noise (interviewer, time, date & manager characteristic) controls, 2004-2006, UK, US, France and Germany only.
Empirics

- Management effect on Performance
- Management and Reallocation
- Management and Competition
- Management and Information
INFORMATION: ARE FIRMS AWARE OF THE QUALITY OF THEIR MANAGEMENT PRACTICES?

We asked:

“Excluding yourself, how well managed would you say your firm is on a scale of 1 to 10, where 1 is worst practice, 5 is average and 10 is best practice”

We also asked them to give themselves scores on operations and people management separately
MOST MANAGERS THINK THEY ARE WELL ABOVE AVERAGE

\[\text{Their self-score: 1 (worst practice), 5 (average) to 10 (best practice)}\]
SELF-SCORES UNCORRELATED WITH PRODUCTIVITY

* Insignificant 0.03 correlation with labor productivity, cf. management score has a 0.295
OTHER DETERMINANTS OF MANAGEMENT IN ADDITION TO COMPETITION & INFORMATION

- Family Firms: Meritocratic CEO selection
- Human Capital
- Foreign Direct Investment
- Labour regulation
CONCLUSIONS

• Heterogeneity of productivity across firms and countries a 1\textsuperscript{st} order economic fact
  – Management is a factor causing this variation

• Management has technological aspects
  – Competition, reallocation, information all important

• Improving management through policy design
  – Increasing competition
  – SMEs and family firms
  – Information
  – Openness to FDI
The difficulties of defining ownership in Europe

*Production Manager:* “We’re owned by the Mafia”

*Interviewer:* “I think that’s the “Other” category……..although I guess I could put you down as an “Italian multinational” ?”

**Americans on geography**

*Interviewer:* “How many production sites do you have abroad? *Manager in Indiana, US:* “Well…we have one in Texas…”
MY FAVOURITE QUOTES:

Staff rewards the American way

*Production Manager:* “For example, if an employee suggests a company slogan, and his name is used, he gets a TV. If he is employee of the month, he gets a parking space”

Staff retention the UK way

*Interviewer:* “How would you persuade your top performers to stay?”

*UK Chairman:* “Sex is a great thing! If the employee finds a new girlfriend somewhere else, I can’t do anything!”
MY FAVOURITE QUOTES:

The bizarre

Interviewer: “[long silence]……hello, hello….are you still there….hello”

Production Manager: “……I’m sorry, I just got distracted by a submarine surfacing in front of my window”

The unbelievable

[Male manager speaking to a female interviewer]

Production Manager: “I would like you to call me “Daddy” when we talk”

[End of interview…]


FAMILY FIRMS AND MODELS OF MANAGEMENT PRACTICES

Impact of family firms depends on involvement

- **Ownership** but not management probably positive
  - Concentrated ownership so so better monitoring
- **Management** probably negative
  - Smaller pool to select CEO from
  - Possible “Carnegie” effect on future CEO’s
  - Less career incentive for non-family managers
Management scores after controlling for country, industry and number of employees. Data from 9085 manufacturers and 658 retailers. “Founder owned, founder CEO” firms are those still owned and managed by their founders. “Family firms” are those owned by descendants of the founder “Dispersed shareholder” firms are those with no shareholder with more than 25% of equity, such as widely held public firms.
MULTINATIONALS APPEAR TO ACHIEVE GOOD MANAGEMENT PRACTICES WHEREVER THEY LOCATE

Sample of 7,262 manufacturing and 661 retail firms, of which 5,441 are purely domestic and 2,482 are foreign multinationals. Domestic multinationals are excluded – that is the domestic subsidiaries of multinational firms (like a Toyota subsidiary in Japan).
EDUCATION FOR NON-MANAGERS AND MANAGERS APPEARS LINKED TO BETTER MANAGEMENT

Sample of 8,032 manufacturing and 647 retail firms.

Percentage of employees with a college degree (%)

Non-managers

Managers
EXAMINING THE ROLE OF REALLOCATION

\[ SIZE_{ij} = \alpha_1 M_{ij} + \beta_1 (M \ast \text{REALLOCATION})_{ij} + \gamma_1 \text{REALLOCATION}_{ij} + u_{ij} \]

\[ GROWTH_{ij} = \alpha_2 M_{ij} + \beta_2 (M \ast \text{REALLOCATION})_{ij} + \gamma_2 \text{REALLOCATION}_{ij} + v_{ij} \]

One measure of strength of reallocation is a set of country dummies, with US as base.
LABOR MARKET REGULATION INHIBIT GOOD INCENTIVES MANAGEMENT

Note: Averaged across all manufacturing firms within each country (9079 observations). We did not include other sectors as we do not have the same international coverage. Incentives management defined as management practices around hiring, firing, pay and promotions. The index is from the Doing Business database [http://www.doingbusiness.org/ExploreTopics/EmployingWorkers/](http://www.doingbusiness.org/ExploreTopics/EmployingWorkers/)
### COMPETITION AFFECTS FIRM’S SELF-PERCEPTIONS OF MANAGEMENT QUALITY

<table>
<thead>
<tr>
<th>Dep. Var.</th>
<th>Management</th>
<th>Self-score Management</th>
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</thead>
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<tr>
<td></td>
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<tr>
<td><strong>FEs</strong></td>
<td><strong>SIC3</strong></td>
<td><strong>SIC3</strong></td>
</tr>
<tr>
<td>Sample</td>
<td>All</td>
<td>2+ obs</td>
</tr>
<tr>
<td>Competition</td>
<td>0.064***</td>
<td>0.082***</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.031)</td>
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<tr>
<td>Education</td>
<td>0.115***</td>
<td>0.109***</td>
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<tr>
<td></td>
<td>(0.008)</td>
<td>(0.014)</td>
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<tr>
<td>Ln(emp)</td>
<td>0.175***</td>
<td>0.157***</td>
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<tr>
<td></td>
<td>(0.009)</td>
<td>(0.017)</td>
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<tr>
<td>Obs</td>
<td>8,776</td>
<td>3,276</td>
</tr>
</tbody>
</table>

**Notes:** Controls include country & year dummies, public & interview noise (interviewer, time, date & manager characteristic). SEs clustered by firm.
NOTIONS OF MANAGERIAL “BEST PRACTICE”

• Management styles that have always been better
  – e.g. promotion on ability/effort (rather than family)

• Complementarity: Practices that have become desirable because the environment has changed
  – Technological advances makes monitoring output better (e.g. SAP) and enables more performance related pay (Lemieux et al, 2009)

• Innovation: Discoveries of how to manage better
  – E.g. Toyota system of Lean Manufacturing
  – Transferable: dynamic diffusion