

Summary sheet

'What Drives Differences in Management Practices'

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Bloom, N., Brynjolfsson, E., Foster, L., Jarmin, R., Patnaik, M., Saporta-Eksten, I., Van Reenen, J., 2019. What drives differences in management practices? Am. Econ. Rev. 109, 1648–1683. <https://doi.org/10.1257/aer.20170491>

Abstract

Partnering with the US Census Bureau, we implement a new survey of “structured” management practices in two waves of 35,000 manufacturing plants in 2010 and 2015. We find an enormous dispersion of management practices across plants, with 40 percent of this variation across plants within the same firm. Management practices account for more than 20 percent of the variation in productivity, a similar, or greater, percentage as that accounted for by R&D, ICT, or human capital. We find evidence of two key drivers to improve management. The business environment, as measured by right-to-work laws, boosts incentive management practices. Learning spillovers, as measured by the arrival of large “Million Dollar Plants” in the county, increases the management scores of incumbents.

1 Data

1.1 Management and Organizational Practices Survey (MOPS)

- US, 2010/2015(panel, including recall questions), over 35000 plants
- Mandatory government survey, large coverage of units within a firm, links to other Census data, comprehensive stratified population coverage of industries and geographies.

1.2 Measurement of management: “Structured management”

- The average of the score for 16 questions, 0-1 scale.
- 3 main areas:
 - Monitoring: firms’ collection and use of information to monitor and improve the production process.
 - Targets: the design, integration, and realism of production targets.
 - Incentives: non-managerial and managerial bonus, promotion and reassignment/dismissal practices.
- 0: *little* structure around performance monitoring, targets, and incentives; 1: explicit structured *focus* on performance monitoring, *detailed* targets, and *strong* performance incentives.

2 Research questions

2.1 Variation in management practices across plants

Findings

1. Enormous inter-plant variation. (Fig. 1)
2. About 40 percent across plants *within* the same firm.
3. Within firm variations increase in firm size. (Fig. 3)

2.2 Links between management practices and performance

2.2.1 Model

Management M_{it} (the extent to which firms adopt more structured practices) enters the establishment production function:

$$Y_{it} = A_{it} K_{it}^{\alpha} L_{it}^{\beta} I_{it}^{\gamma} e^{\delta M_{it}} e^{\mu X_{it}}$$

Rewrite this in a form to estimate:

$$\log\left(\frac{Y_{it}}{L_{it}}\right) = \alpha \log\left(\frac{K_{it}}{L_{it}}\right) + \gamma \log\left(\frac{I_{it}}{L_{it}}\right) + (\alpha + \beta + \gamma - 1) \log(L_{it}) + \delta M_{it} + \mu X_{it} + f_i + \tau_t + u_{it}$$

2.2.2 Findings

1. Plants using more structured management practices have higher levels of productivity (Table 1,2), profitability (Table 1), growth (Table 3), survival rates (Table 3), and innovation.
2. Management practices account for 22 percent of the variation in productivity. (\approx R&D; $>$ human capital; almost twice as much as ICT, Table 4)

2.2.3 Measurement error

Administrative error in 2010: two surveys filled out by different respondents.

- Characterize measurement error
 - Measurement error appears to be effectively white noise (independent of any firm- or plant-level observable characteristics)
- Instrument to overcome attenuation bias
 - About half the variation in the management data is measurement error.

2.3 Drivers of management practices

2.3.1 Business environment

- Measure: right-to-work (RTW) law
(state-level laws prohibiting agreements between employers and labor unions that require employees' membership, payment of union dues, or fees as a condition of employment, either before or after hiring.)
- Identification strategy:

- DID: the introduction of RTW in Michigan and Indiana in 2012; control group: contiguous neighbors
- Spatial RD: around state boundaries
- Findings:
 - Insignificant effect on overall management score; positive effect on "incentive practices" over human resources. (Table 6,7)
(Unions frequently oppose these practices which they believe give too much discretion to employers, so if unions are weakened by RTW then these incentives practices will likely become more prevalent.)

2.3.2 Learning spillovers

- Do structured management practices "spill over" from one establishment to another?
- Identification strategy:
 - Study how management practices in particular counties change when a new, large, and typically multinational establishment is opened in the county.
 - Treatment: counties that "won" the establishment ("Million Dollar Plants"); control: "runner-up" counties.
 - $\Delta M \sim \Delta MDP$
- Findings:
 - Positive and significant effects on both incentives and non-incentives management. (Table 8)

2.3.3 (Product market competition and education)

Bloom et al. (2017)