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How important are management practices in driving the performance of firms and the productivity of nations across Asia, Europe and North America? Survey data collected and analysed by **Nick Bloom** and **John Van Reenen** is providing many new insights into the economics of management and productivity.

Bossonomics: the economics of management and productivity

Economists have long speculated on why there are such astounding differences in the productivity performance between firms and plants within countries, even within the same narrow sector. While business schools have long stressed the importance of different management practices, empirical economists have had relatively little to say about management. A major problem has been the absence of high quality management data that is measured in a consistent way across countries and firms.

To address this lack of management data, we have been refining and implementing a methodology that measures management practices (Bloom and Van Reenen, 2007; Bloom, Sadun and Van Reenen, 2008). We use an interview-based evaluation tool that defines and scores 18 basic management practices from one ('worst practice') to five ('best practice'). This evaluation tool was developed by an international consulting firm, and scores these practices within three broadly defined areas:

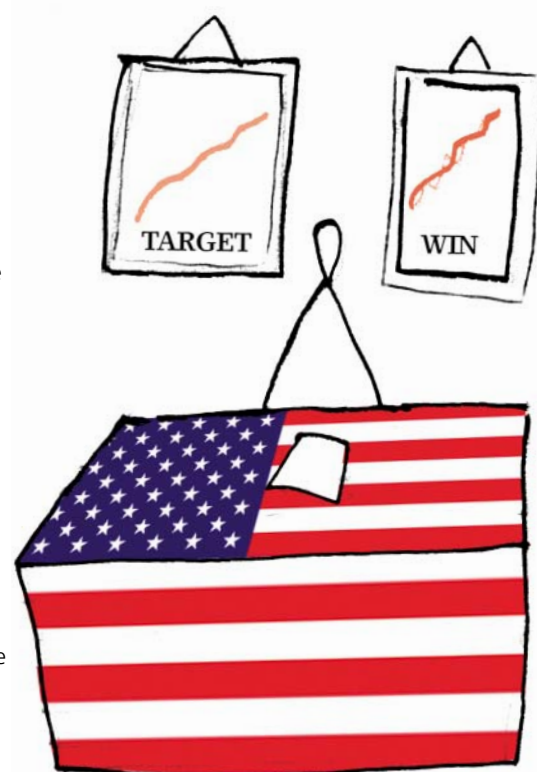
- Monitoring: how well do companies track what goes on inside their firms

and use this for continuous improvement?

- Target setting: do companies set the right targets, track the right outcomes and take appropriate action if the two don't align?
- Incentives: are companies promoting and rewarding employees based on performance and systematically trying to hire and keep their best people?

To obtain accurate responses from firms, we interview production plant managers using a 'double-blind' technique. Managers are not told they are being scored or shown the scoring grid; they are only told they are being 'interviewed about management practices for a research project'. To run this blind scoring, we use open questions.

For example, the first monitoring question is 'tell me how you monitor your production process', rather than 'do you monitor your production daily [yes/no]'. We continue with open questions targeting actual practices and examples until the interviewer can make an accurate assessment of the firm's practices. For example, the second question on performance tracking is 'what kinds of



measures would you use to track performance?’ Figure 1 shows the scoring grid for this performance tracking dimension.

The other side of the double-blind technique is that interviewers are not told in advance anything about the firm’s performance. They are only provided with the company name, telephone number and industry. Since we randomly sample medium-sized manufacturers (employing between 100 and 10,000 workers) who are not usually reported in the business press, the interviewers generally have not heard of these firms before, so have no preconceptions.

To ensure high sample response rates and skilled interviewers, we hired MBA students to run interviews. We also obtained government endorsements for the surveys in each country covered, and positioned it as a ‘lean manufacturing’ interview with no requests for financial data. These steps helped to yield a 45% response rate.

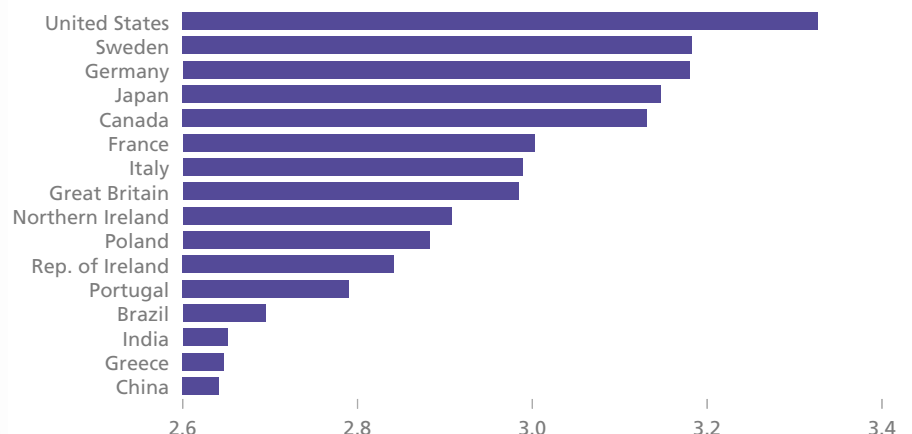
Management practices across firms and countries

Figure 2 plots the average management practice score across countries from the 6,000 interviews we carried out in survey waves between 2004 and 2008. It shows that the United States has the highest management practice scores on average,

Figure 1: Management practice question number 4 (‘Performance tracking’)

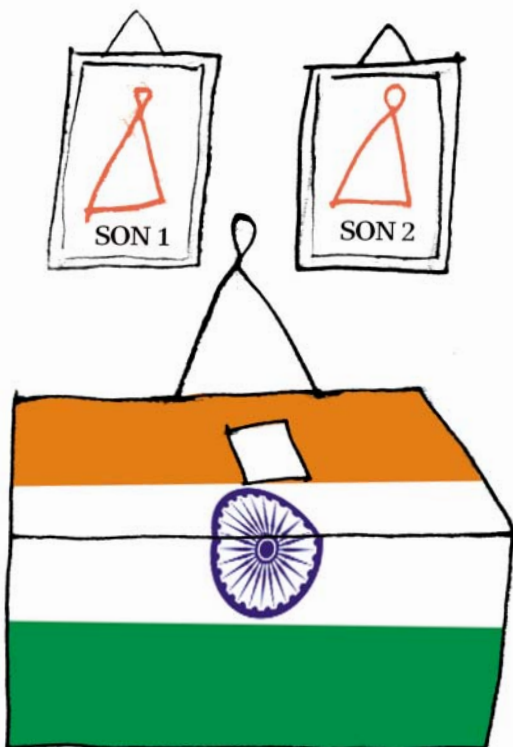
	Score 1	Score 3	Score 5
Scoring grid	Measures tracked do not indicate directly if overall business objectives are being met. Tracking is an ad hoc process (certain processes aren’t tracked at all).	Most key performance indicators are tracked formally. Tracking is overseen by senior management.	Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools.
Example firm	A manager tracks a range of measures when he does not think that output is sufficient. He last requested these reports about eight months ago and had them printed for a week until output increased again. Then he stopped and has not requested anything since.	At a firm every product is bar-coded and performance indicators are tracked throughout the production process. But this information is not communicated to workers.	A firm has screens in view of every line, to display progress to daily target and other performance indicators. The manager meets daily with the shop floor to discuss performance metrics, and monthly to present a larger view of the company goals and direction. He even stamps canteen napkins with performance achievements.

Figure 2: US firms have the best management practices on average, and those in developing countries like Brazil, China and India the worst



The bars indicate for each country the average score on the 18 management questions (1=worst practice, 5=best practice).

Management practices seem to play an important role in determining country-level productivity



with the Germans, Japanese, Swedes and Canadians grouped together below this, followed by a block of mid-European countries (France, Italy, the UK and Poland), with Southern Europe and developing countries – Brazil, China, Greece and India – at the bottom.

In one sense, this is not surprising since it approximates the cross-country spread of productivity. But in another sense, it suggests that management practices could play an important role in determining country-level productivity. At the firm level, better management practices are strongly associated with higher firm-level productivity, profitability and survival, suggesting they could play an equally important role in country-level productivity.

Better management is also linked with improved employee work-life balance and lower energy use, suggesting better management does not come at the expense of worker welfare or more pollution (Bloom, Kretschmer and Van Reenen, 2006; Bloom, Genakos, Martin and Sadun, 2008).

Three factors play a key role in shaping management practices – competition, family ownership and multinational status

Of course the key question is why do management practices differ across countries? Figure 3 plots firm-level management practices by country, and shows that management practices display tremendous within-country variation. So, much like productivity figures, within-country variation is far greater than cross-country variation.

Figure 3 also highlights that US firms have the highest average management score because they have almost no density of firms with management practices below two. In comparison, India, which has the lowest cross-country management score, has a large mass of firms with extremely poor management practices (scores of two or less).

This raises two key questions on which we are currently working: why are there

these variations in management practices; and to what extent do variations in management practices cause variations in productivity?

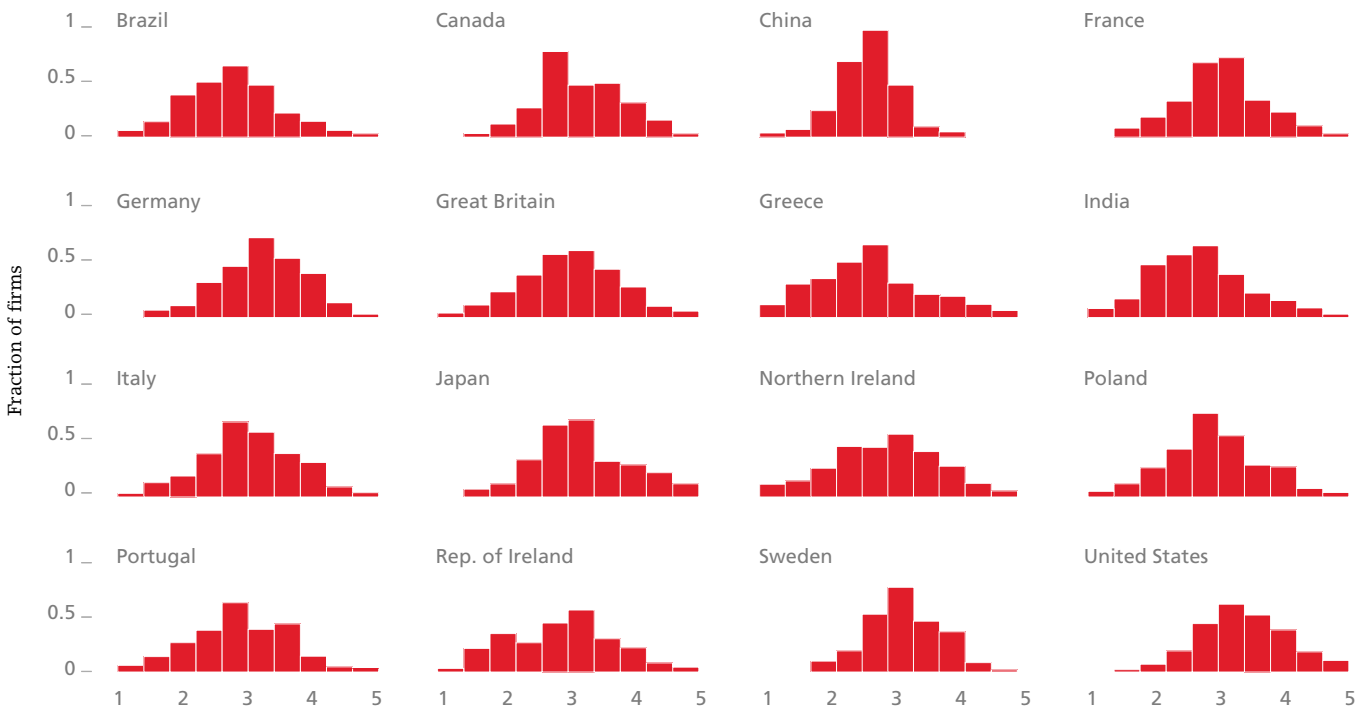
Why do management practices vary so much across firms and countries?

We have identified three key factors that appear to play an important role in shaping management practices – competition, family ownership and multinational status.

Product market competition is associated with significantly better management practices. In particular, the tail of badly managed firms shrinks in highly competitive markets. Thus, the competitive product markets of the United States explain much of its lack of badly managed firms. In contrast, many product markets in India have limited competition because of entry barriers, trade regulations and high transport costs, enabling badly managed firms to persist.

We are currently investigating the mechanisms through which competition works to improve management. One possibility is Darwinian selection – high levels of competition should drive badly managed firms out of business more quickly. Another is by inducing higher levels of effort – tough product market competition may lead managers to work harder as the stakes are higher (slacking is

Figure 3:
Distribution of firm-level management practices by country, showing few badly managed firms in the United States (a small left tail) and many badly managed firms in developing countries like India (a large left tail)



The charts show the distribution of firm level management scores (1=worst practice, 5=best practice) within each country.

more likely to lead to losses of market share and bankruptcy). As we follow up the initial cross-sectional firm surveys to convert this into panel data, we can investigate these different mechanisms.

Firms that are both family owned and family managed tend to be badly run on average. This is true even after including controls for country, industry, firm size, skills and capital. Looking at these family firms in more detail, it appears that the worse managed firms are those that hand down the position of CEO using the ancient practice of primogeniture (succession of the eldest son).

To elicit this information, we asked the plant managers the question 'How was the CEO chosen, was he selected as the eldest son or by some other mechanism?'. In many countries, including Brazil, India and the UK, the answer was often selection by eldest son, while in other countries, such as the United States and Sweden, this was very rare. A number of factors, including traditions over leadership succession, inheritance tax breaks and the external market for CEOs, appear to drive these differences.

Private equity-owned firms are significantly better managed than family firms. They have strong people management practices (hiring, firing, pay and promotions) but even stronger operations management practices (lean manufacturing, continuous improvement and monitoring), which suggests that private equity ownership is associated with broad-based operational improvements in management rather than just stronger performance incentives (Bloom, Sadun and Van Reenen, 2009).

Multinational and export status also appear to play an important role in determining a firm's management practices. One stylised fact is that multinationals have good management practices wherever they are located – so multinationals in Brazil, India and the United States all appear to be well run.

A second stylised fact is that some countries have relative managerial strengths and weaknesses – for example, the Japanese are better at monitoring and the Americans at incentives and people management – and their multinationals take this with them abroad. We show that US multinational affiliates located in Europe are able to use their managerial

advantage to make better use of information technology to raise productivity (Bloom, Sadun and Van Reenen, 2008).

We argue that these managerial differences could account for about half of the superior productivity growth performance in the United States relative to Europe in the decade after 1995. A third stylised fact is that among domestic firms, those that export are better managed than non-exporters.

Future directions for research

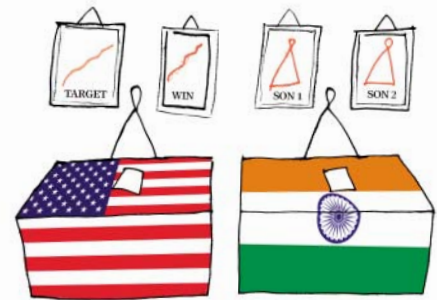
We have also been collecting and analysing information on firm organisation such as decentralisation and delaying. Working with Raffaella Sadun and Luis Garicano, we have been analysing how organisational structures are shaped by culture and information and communications technology. In other work with Christos Genakos, we have been using longitudinal data to look at how changes in labour market regulation, skills and competition drive changes in management practices.

Finally, we have been collaborating with international organisations to develop randomised control trials to evaluate the causal impact of management practices on firm performance. Governments spend billions of dollars on business support programmes to improve management with little evidence on whether this has any effect.

Working with Benn Eifert, David McKenzie, Aprajit Mahajan and John Roberts, we have started the first wave of field experiments employing an international consulting firm to provide management assistance to a random set of Indian firms and evaluate their performance against a control group. Identifying the causal impact of management practices on firm performance will start to allow us to estimate the impact of the differences in management practices on firm and national productivity.

Managerial differences could account for half of the superior productivity growth in the United States relative to Europe after 1995

Nick Bloom is an associate professor of economics at Stanford University and a research associate in CEP's productivity and innovation programme. **John Van Reenen** is director of CEP.



Further reading

Nick Bloom and John Van Reenen (2007) 'Measuring and Explaining Management Practices across Firms and Countries', *Quarterly Journal of Economics* 122(4): 1351-1408 (earlier version available as CEP Discussion Paper No. 716: <http://cep.lse.ac.uk/pubs/download/dp0716.pdf>).

Nick Bloom, Christos Genakos, Ralf Martin and Raffaella Sadun (2008) 'Modern Management: Good for the Environment or Just Hot Air?', CEP Discussion Paper No. 891 (<http://cep.lse.ac.uk/pubs/download/dp0891.pdf>).

Nick Bloom, Tobias Kretschmer and John Van Reenen (2006) 'Work-Life Balance, Management Practices and Productivity', CEP Special Paper No. 16 (<http://cep.lse.ac.uk/pubs/download/special/wlbmanagementpractices.pdf>).

Nick Bloom, Raffaella Sadun and John Van Reenen (2008) 'Americans do I.T. Better: US Multinationals and the Productivity Miracle', EDS Innovation Research Programme Discussion Paper No. 15 (<http://www.lse.ac.uk/collections/EDSInnovationResearchProgramme/pdf/EDSdp015/edsDP015.pdf>).

Nick Bloom, Raffaella Sadun and John Van Reenen (2009) 'Do Private Equity Owned Firms Have Better Management Practices?', CEP Occasional Paper No. 24 (<http://cep.lse.ac.uk/pubs/download/occasional/op024.pdf>).