



Convergence to the managerial frontier[☆]



William F. Maloney^{a,*}, Mauricio Sarrias^b

^a Development Economics Research Group and EFI, The World Bank, United States

^b Department of Economics, IDEAR, Universidad Católica del Norte, Chile

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ABSTRACT

Using detailed survey data on management practices from the World Management Survey, this paper uses recent advances in unconditional quantile analysis to study the changes in the within country distribution of management quality associated with country convergence to the managerial frontier. It then decomposes the contribution of potential explanatory factors to the distributional changes. The United States emerges as the frontier country because its best firms are far better than those of its close competitors. Part of the process of convergence to the frontier across the development process represents a trimming of the left tail, much is movement of the central mass and, for rich countries and many poor countries, it is actually the best firms that lag the frontier benchmark. Among potential explanatory variables that may drive convergence, ownership and human capital appear most important. These variables lose explanatory power as firm and average country management quality rises. Hence, once in the advanced country range, the factors that improve management quality are less easy to document and hence influence.

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1. Introduction

A growing literature documents the importance of management quality to productivity growth and other measures of firm progress.¹ Bloom and Van Reenen (2007), hereafter BVR, have given the field a quantum push by undertaking globally comparable surveys of management practices. For the US, Germany, the UK and Sweden, they find a correlation of their management scores with firm level productivity, growth and survival. More recently, exploring a broader range of middle-income and developing countries, Bloom and Van Reenen (2010), Bloom et al. (2012, 2014), Lemos and Scur (2012, 2012) show

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* Corresponding author.

E-mail address: wmaloney@worldbank.org (W.F. Maloney).

¹ See Syverson (2011) for a review and Bertrand and Schoar (2003), Kaplan et al. (2012), Malmendier and Tate (2009), Ichinowski et al. (1997), Lazear (2000), Black and Lynch (2001), Bloom et al. (2012, 2013).

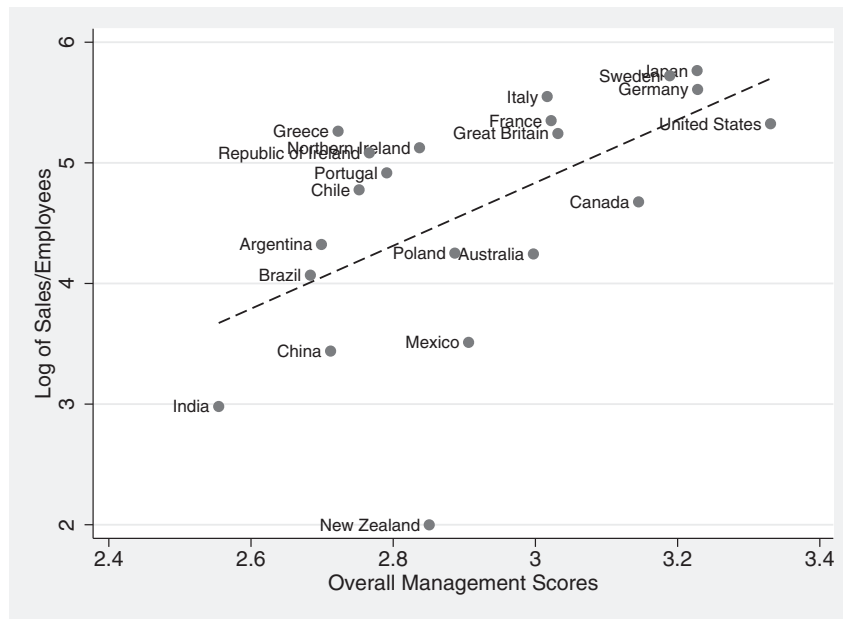


Fig. 1. Relationship between management quality and productivity. Note: Authors' elaboration based on Bloom and Van Reenen (2010) using World Management Survey. Productivity measured as the log of sales per employee.

average management scores to be highly correlated with aggregate labor productivity (see Fig. 1). Improving managerial quality thus appears as a plausible driver of economic development. This is consistent with longstanding literatures that stress the development of firm capabilities (Teece, 2000; Nelson and Pack, 1999; Kim and Nelson, 2000; Bell and Pavitt, 1997) as a complement/element of technological capabilities, and as a critical objective of national innovation systems (Nelson, 1992; Lundvall, 2007; Soete et al., 2010).

These findings raise the question of the process through which countries achieve such improvements. That is, we would like to know if convergence arises from progressively trimming the left tails, perhaps through increased competition, a more general rightward shift of the distribution due to, perhaps, the general accumulation of human capital, or the emergence of superstars in the right tails (see, for example Malmendier and Tate, 2009). Much as the productivity literature identifies longer left tails as important to explaining variances in mean productivity (Syverson, 2004; Hsieh et al., 2009), Bloom and Van Reenen (2007) and others see differences in mean managerial quality as particularly working through this channel. Though, as they acknowledge, theory yields ambiguous theoretical predictions about the net impact of competition on the adoption of better managerial techniques (see also Vives, 2008; Van Reenen, 2011)—investing in better management could be less worthwhile if competition lowers profit margins—they find a strong impact of competition as well as ownership structures.² Bloom et al. (2012, 2010, 2010) further stress the importance of thick left tails in explaining the managerial scores in lagging countries like India and Brazil.

This paper uses recent advances in unconditional quantile decompositions (Machado and Mata, 2005; Firpo et al., 2009) and the World Management Survey firm level database to analyze the changes in the within-country distribution of management quality associated with convergence to the managerial frontier. Our empirical approach allows us to move beyond the central tendency and more fully characterize the entire country distribution relative to the frontier and generate estimates of the drivers of distributional shifts that are robust to the endemic non-normality. We begin by documenting the heterogeneity in the ways in which country distributions differ from the frontier benchmark, the US, and highlight some important regularities characterizing the convergence process. While relatively longer left tails do characterize many (although not the majority) of underdeveloped countries, this is generally not true among more advanced countries for which it is the best firms that lag the frontier. Further, across the development process, the median score moves up broadly proportionately with the mean implying that movement in the overall mass of the distribution is a critical part of the process.

We then revisit the issue of which factors appear to drive these difference in managerial quality across the whole distribution, employing recent advances by Machado and Mata (2005) and Firpo et al. (2009) to decompose the contributions of

² Their findings are perhaps expectedly analogous to those found for firm productivity more generally. See Syverson (2011) for a full survey of this literature; or Syverson (2004), Eslava et al. (2004) and Foster et al. (2008). As they note, competition could work either through the more rapid exit of badly managed firms and/or the inducement of greater managerial effort. They cite Syverson (2004, 2004) who focuses on productivity and offers supportive evidence for these predictions in his analysis of the U.S. cement industry, finding that tougher competition is associated with both a higher average level of productivity and a lower dispersion of productivity, as the less efficient tail of firms have been selected out.

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