

Christos Genakos

The tale of the two Greeces: some management practice lessons

**Article (Accepted version)
(Refereed)**

Original citation:

Genakos, Christos (2018) *The tale of the two Greeces: some management practice lessons*. [Managerial and Decision Economics](#). ISSN 0143-6570

DOI: [10.1002/mde.2971](https://doi.org/10.1002/mde.2971)

© 2018 [John Wiley & Sons, Ltd.](#)

This version available at: <http://eprints.lse.ac.uk/90477/>

Available in LSE Research Online: October 2018

LSE has developed LSE Research Online so that users may access research output of the School. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. Users may download and/or print one copy of any article(s) in LSE Research Online to facilitate their private study or for non-commercial research. You may not engage in further distribution of the material or use it for any profit-making activities or any commercial gain. You may freely distribute the URL (<http://eprints.lse.ac.uk>) of the LSE Research Online website.

This document is the author's final accepted version of the journal article. There may be differences between this version and the published version. You are advised to consult the publisher's version if you wish to cite from it.

The Tale of the Two Greeces: Some Management Practices Lessons

Christos Genakos¹

Cambridge Judge Business School,

AUEB, CEP & CEPR

March 2016²

Abstract

Based on an original double-blind survey on randomly drawn samples of over 10,000 manufacturing firms across a range of different industries and countries, the World Management Survey is one of the first large and internationally comparable management practices data sets. In this paper, I describe and compare the performance of Greek firms to those from other countries around the world with the aim of identifying some lessons for both managers and policy makers in Greece on how to increase management quality, and hence, firms' productivity.

¹ Cambridge Judge Business School, AUEB, CEP and CEPR, E: c.genakos@jbs.cam.ac.uk

² I have benefited enormously from my long term cooperation with Nick Bloom, Raffaella Sadun and John Van Reenen on the management project and our various discussions. Many thanks to Eva Chalioti, Stelios Michalopoulos and Elias Papaioannou for their comments. The opinions expressed in this paper are those of the author alone and any errors or ambiguities are solely his responsibility.

1. Introduction

For at least two decades leading up to the wake of the economic crisis in 2009, Greece has been steadily losing its competitiveness vis-à-vis other EU and OECD countries.³ Competitiveness can be defined as "the set of institutions, policies, and factors that determine the level of productivity of a country".⁴ At the same time, the quest for understanding what drives productivity at the country level, and the enormous variation in firm performance within countries, has become a focus of significant empirical and theoretical research throughout the social sciences.

In this paper, I use data from the World Management Survey (WMS)⁵, a decade-long collective project based on the pioneering work of Bloom and Van Reenen (2007), which sought to address the issue of whether management practices were an important factor in understanding the heterogeneity of firm productivity. This is the first large and internationally comparable management practices dataset, based on an original double-blind survey on randomly drawn samples of medium size manufacturing firms, across a range of different industries and countries. The objectives of this paper are: first, to describe and compare the performance of Greek firms to those from other countries around the world; and second, to identify some lessons for both managers and policy makers in Greece, on how to increase management quality, and hence, firms' productivity.

Greece seems to have the lowest management score among other OECD and EU countries, consistent with various other international indicators on the state of the Greek economy. Rigid labour regulations limit firms' flexibility in talent management, and high barriers to entry in many product markets result in lower effective competition allowing inefficient firms to survive. Greek managers, on average, appear completely unaware of how outdated their management practices are, and at the same time, confident about their firms' quality of management.

³ See, for example, Pelagidis and Mitsopoulos (2014); Katsoulakos, Genakos and Houpis (2016).

⁴ World Economic Forum, The Global Competitiveness Report 2009–2010.

⁵ The WMS website (www.worldmanagementsurvey.com) includes details on data sets, methods, reports, papers and an online benchmarking tool for firms.

At the same time, important differences across firms in Greece do exist. On the one hand, there is a thick left tail of badly managed firms that significantly lowers the average score. On the other hand, foreign multinationals in Greece are on a par with multinationals from top management ranking countries such as the US, Sweden or Germany. It is almost as if there are two types of firms inside Greece (i.e. “two Greeces”): one that is outdated, inefficient and ignorant of its own quality of management and one that is up-to-date, efficient and is trying to improve itself and achieving world standards. Mapping out these two types of firms in Greece is an essential first step towards understanding productivity differences and designing policies for sustainable, long-term productivity growth.

The rest of the paper is organised as follows: Section 2 provides a brief summary of the WMS survey methodology and its contribution to the productivity literature. Section 3 presents the results on how management varies across and within countries. Section 4 investigates some of the key factors that are associated with the differences in management practices across countries. The final section identifies some policy lessons and offers concluding remarks.

2. The World Management Survey Methodology and its contribution

The WMS data was collected based on a new survey methodology originally developed by Bloom and Van Reenen (2007).⁶ In summary, it is an interview-based evaluation tool that defines and scores from one (“worst practice”) to five (“best practice”), eighteen key management practices. Table 1 in the Appendix lists the eighteen management practice questions; it also includes the criteria used to determine how answers are mapped onto the scoring grid. The individual question scores are then averaged for each firm into a single indicator of “management”.

This evaluation tool was developed in an attempt to measure management practices in three key areas. First, *monitoring*: trying to measure how well firms monitor what goes on inside the firm, and how well they use this information for continuous improvement. Second, *targets*: asking

⁶ The data was collected on successive interview waves from 2004 until 2014.

whether firms set the right targets, track the right outcomes, and take the appropriate actions when the two are inconsistent. Third, *incentives/people management*: evaluating how firms promote and reward employees based on performance, making every effort to keep top performers, but also attracting new talents from the labour market.

Notice that the WMS questions are on management practices rather than on measuring more “strategic” aspects of management (such as innovation, pricing, advertising, exporting, entering new markets, etc.). This choice was made on purpose, not because the strategic aspects of management are not important, but mainly, because it is hard to establish consensus over which are the best practices of this type. Hence it is difficult to rank and quantify them. On the contrary, the core management practices that the WMS focuses on are independent of the industry or the country in which a firm operates.

The interviews were performed over the phone from a common location (the Centre for Economic Performance at the London School of Economics) by a team of appropriately trained and supervised postgraduate students. The interviews were carried out using a “double-blind” survey technique. The first part of this double-blind technique consisted of ensuring managers were not told that they were being scored or shown the scoring grid. Managers only knew they were being “interviewed about management practices.” The other side of the “double-blind” approach entailed ensuring interviewers did not receive any information about the organisation’s performance or financials before the interview. Medium-sized (employing between 100 and 5,000 workers) manufacturing firms were randomly sampled. These firms are large enough for the type of systematic management practices chosen to be likely to matter. However, these are also small enough for the business press to report much on them. Thus, the interviewers had generally never heard of them before, and so they had no preconceptions. All the interviews were carried out in the native language of each manager.

For internal consistency and validity, we also performed two separate exercises. First, approximately three quarters of all interviews had a second person listening in as a “silent monitor”, to independently double score the interview. For these double-scored interviews, we found the correlation across scores was 0.887, which shows that two interviewers typically gave

the same score to the same interview. Second, we re-interviewed 222 (about three percent) firms using a different interviewer who spoke to a different manager from the same firm. The correlation between the first and second interview score was 0.51 and highly significant (p -value < 0.001), indicating that while the measurement of the management score is clearly noisy, it also shows significant management differences across firms.

Most importantly, following Bloom and Van Reenen's (2007) work, higher management scores are positively and significantly associated with higher productivity, firm size, profitability, sales growth, market value and survival. For example, Bloom, Genakos, Sadun and Van Reenen (2012) estimate production functions where they regress firm sales per employee (a very basic measure of firm labour productivity) on the management score controlling for conventional inputs (e.g. labour, capital, employee education) and other covariates (e.g. firm age, noise controls, industry, country and year dummies). In the cross section their results show that a one standard deviation increase in management is associated with a 45% increase in labour productivity.

In parallel work, Bloom, Kretschmer and Van Reenen (2009) find that well-managed firms tend to have better work-life balance and better facilities for workers. Similarly, energy efficiency is strongly associated with better firm-level management, as better managed firms tend to economise on energy use (Bloom, Genakos, Martin and Sadun, 2010). Finally, evidence from a randomised control trial conducted on 28 large Indian textile firms provides causal evidence that adoption of better management practices does lead to higher firm performance (Bloom, Eifert, Mahajan, McKenzie and Roberts, 2011).

Hence, the WMS data allows us to quantify management practices which are shown to be robustly associated with various aspects of firm performance. Below we summarise some of the main findings from the management data, emphasising the relative position of Greece.

3. International Comparisons of Management Practices

Figure 1 presents the average management score across all the 35 countries in the WMS sample. The United States has the highest average management score, followed by Japan and Germany.

At the bottom of the ranking there are many African countries together with other developing countries, such as India, Brazil and China. Greece, although somewhere in the middle of this graph, scores the lowest among OECD and EU countries.

Similar conclusions are drawn even if one splits the overall management score into its three broad categories: monitoring, target and incentives. In Table 1 I present this breakdown for the OECD countries in the WMS sample only, together with their ranking based on each practice. Although, overall, we see some kind of specialisation in management practices across countries, with some countries scoring higher in monitoring and target setting and others more so in incentives, Greece is consistently very near the bottom of the distribution across all three dimensions.

Another way to highlight the significance of these differences is to take a more macroeconomic perspective. In the spirit of development accounting, Bloom, Sadun and Van Reenen (2016) decompose the deficit of Greece to the US to a difference in the average management score and the reallocation effect (i.e. how easy it is to reallocate resources from the worst to the best performing firms).⁷ They estimate that improving Greece's (employment weighted) average management score to that of the US would increase Greek total factor productivity (TFP) by 16.5%, a third of the total TFP gap between Greece and the US. Improving reallocation⁸ by itself would bridge over 11% of the US-Greece TFP gap.

Moving beyond the cross country comparisons, it is also very informative to examine the distribution of management scores within each country. Figure 2 shows the histogram of management scores for US firms (bar chart) and its smoothed kernel fitted distribution (dark line). It also overlays the US distribution onto the histogram of management scores for Greek firms to ease comparisons. Two key lessons emerge. First, there is a significant dispersion of

⁷ To do this they used: (i) the size-weighted average management scores by country, (ii) an average treatment effect of a 10% increase in TFP from a one standard deviation increase in management; and (iii) 29 the cross country TFP differences from Jones and Romer (2010).

⁸ Interesting to note that Bloom, Sadun and Van Reenen (2016) find evidence of a very small and negative reallocation effect in Greece, indicating that the various regulatory and institutional barriers do not allow resources to move from the badly to the best performing firms.

management scores even within each country. Second, in comparison to the US, which we use here as the managerial frontier, Greece has a lower average score because its whole distribution is shifted to the left and it has a thick left tail of badly managed firms.

To quantify this pattern more robustly, Table 2 presents quantile regressions of each country against the US at the 10th, 50th and 90th quantiles. The ranking of the countries is the same as in Figure 1. At the top, Germany, Japan and Sweden, show no significant differences with the US at the top (10th) and median (50th) quantiles, whereas they seem to be significantly worse at the bottom of the distribution (90th). This implies that the top firms in these countries are just as well managed as the top firms in the US are, and it is the badly performing firms that are significantly worse than those in the US. Greek firms, on the other hand, are significantly worse compared to their US counterparts at every quantile of the distribution, with their differences getting larger as we move from the top (coef. -0.450) to the bottom of the distribution (coef. -0.728). In other words, compared to the US, the whole distribution of management scores for Greek firms is shifted to the left with the differences being more pronounced as we move towards the worst managed firms. Given the well-known finding in the trade literature that the larger and more productive firms are, the more likely they are to export to other countries, the lower quality of even the top firms in Greece, might go some way to explain its export underperformance since the start of the crisis.

4. What factors are associated with these differences in management practices?

The large dispersion of management practices both across and within countries raises the question of whether there are some systematic factors that seem to be correlated with these differences.⁹ Below I explore some of these factors.

First, the regulatory environment in which a firm operates can significantly constrain the choices that managers make. Starting from setting up a business, arranging electricity, credit, labour,

⁹ These correlations do not necessarily imply a causal relationship and hence they should interpret with caution. Although Bloom, Eifert, Mahajan, McKenzie and Roberts (2011) offer evidence on the causal impact of better management practices on firm performance, research has not yet analysed the particular channels presented here in a causal way.

product market regulations and to enforcing contracts and the efficiency of the justice system¹⁰, all of these factors matter enormously in how easily business is conducted in any country, and how the quality of management is affected too. Figure 3 plots each country's average management scores against the "Ease of Doing Business" index from the World Bank, which measures and ranks countries on multiple dimensions of their regulatory environment. Not surprisingly, the harder it is to do business in a country, the lower the average management quality of its firms is. As we can see in Figure 3, Greece has the lowest ranking among EU and OECD countries: this discourages new foreign direct investment and directly hinders existing firms by increasing their costs and lowering their productivity.

Two more specific examples on the impact of the regulatory environment are worth emphasising. The beginning of the crisis saw the Greek economy facing the "twin deficit": both a budget and a current account (essentially, trade balance) deficit.¹¹ Although policymakers and the public have focused almost exclusively on the budget deficit, scant attention has been paid to the trade deficit. However, for Greece to revive its economy and to follow a sustainable long term growth plan, paying attention to and eliminating the trade balance deficit is equally important (see, Arkolakis, Doxiadis and Galelianos, 2016). Helping firms to export and trade across borders is an essential first step. Figure 4 plots the average management score for each country against the ease with which firms can "Trade Across Borders" (index from the World Bank). There is a significant negative association indicating that the harder it is to trade across borders, the lower is the management score of firms, on average, in that country.

Similarly, a restrictive labour market regulation framework can limit the ability of managers to hire, fire, pay and promote employees based on merit alone. Figure 5 plots each country's average management score on incentives management against an employment rigidity index from the World Bank, which focuses on the difficulties that firms face in hiring workers, firing workers and changing their hours and pay. Tougher labour market regulation is indeed

¹⁰ See, Papaioannou and Karatza (2016) on the key structural deficiencies of the Greek justice system and the necessary policy reforms.

¹¹ The current account balance measures the difference between a country's export revenues and import costs, see Arkolakis, Doxiadis and Galelianos (2016) for more details.

significantly negatively correlated with the management scores on incentives. Moreover, Greece has one of the most rigid labour markets: this directly hinders new employees, as rigid labour regulations make firms more reluctant to hire new workers, lowers firm productivity (by muting incentive management) and it is also a significant barrier for labour reallocation, as emphasised in the previous section.

Second, on average, we would expect more competitive markets to be associated with better management practices. During the interviews, managers were asked to report the number of major competitors that they face in the marketplace. As we can see from Figure 6, the average management score is higher as the number of competitors' increases, indicating that indeed competition does push firms to become better on average. This positive relationship has been shown to be robust to alternative proxies for competition, such as import penetration rates or Lerner indices¹² of competition (see, Bloom and Van Reenen, 2007). Unfortunately, the picture that emerges from various international indicators (World Economic Forum, World Bank, OECD) regarding the state of competition in the Greek economy before the crisis, is that there were high barriers to entry, heavy state control and very restrictive product market regulation, all of which naturally lead to less competition in product markets (see, Katsoulakos, Genakos and Houpis, 2016). In recent years, since the beginning of the crisis, reforms and changes in the legislation seem to be reversing these negative facts, but the process of deregulation to reinvigorate the competition in the internal product markets still has a long way to go.

A third important factor that seems to be strongly linked to management is ownership. Figure 7 plots the average management score by ownership type.¹³ Firms with dispersed shareholders and private equity ownership seem to be better managed on average than government or family firms, where the CEO is either the founder or a member of the family. This is particularly relevant as Greece seems to have a very large percentage of family owned firms, as shown in Figure 8. This corroborates the results presented by Bloom and Van Reenen (2007) who argue that non-

¹² The Lerner index is equal to mark-up (price minus marginal cost) divided by price and is a measure of the degree of market power that a firm possesses.

¹³ Because of the wide differences in ownership patterns across countries and industries, reported management scores have been corrected in a regression framework for firm size, country and industry fixed effects.

meritocratic family firms which do not hire external CEOs exhibit significantly worse management practices. Keeping the role of the CEO within the family appears to significantly reduce the talent pool of potential candidates and also to demotivate talented existing employees.

However, a related issue is the large difference that we observe between multinational and domestic firms within a country. Figure 9 plots management scores by country for domestic firms and foreign multinationals. Multinationals are not only better than domestic firms across all countries, but most importantly, they seem to be able to overcome their host country's particularities. For example, foreign multinationals in Greece are on a par with multinationals from countries such as the US, Sweden or Germany. This is both surprising and encouraging since it indicates that, despite the perverse regulatory and macroeconomic circumstances in the Greek economy, firms can find ways to be well-managed and hence productive.

A fourth factor that seems to play an important role is the quality of human capital. Figure 10, shows that for this entire sample the education of managers and employees is strongly correlated with high management scores. Although we would expect managers with a college degree to be aware of the benefits of modern manufacturing techniques, it is surprising to see an equally strong correlation with employees, perhaps suggesting that implementation of these techniques is easier when the workforce is more knowledgeable. This pattern is even more pronounced for Greece, as we can see in Figure 11, where the vast majority of managers are college educated and it is the employees' education level that drives the correlation with management scores. This is again encouraging for Greece, as it indicates that there is high quality human capital available and firms can take advantage of this and formulate their strategies accordingly.

Last but not least, for a firm to improve its managerial practices it must first be in a position to evaluate how well it is currently performing. At the end of these interviews we asked the managers: "Excluding yourself, how would you rate your company's management from 1 to 10, one being the worst and ten being the best?" Figure 12 reports their "true" average management score and their self-score for a sub-sample of countries. The first thing to note is that there is over-scoring all around the world, i.e. the average self-score is higher than the actual score in every country. Even more strikingly, Greece has the lead on this overconfidence: on average,

managers in Greece think that their firm is much better than it actually is, more than anywhere else in the world. This overconfidence can be an important stumbling block for future improvement: if you think that you are doing great, why search and try to improve?

5. Concluding remarks

Analysing and understanding productivity is a central question for any economy. In this paper, I use the World Management Survey data that was collected based on a new survey methodology with the aim to quantify the role of managerial practices in understanding productivity differences across firms and across countries. I present evidence demonstrating the low ranking of firms in the Greek economy compared to other EU and OECD countries. I also explore various factors that seem to be strongly associated with better managerial practices, such as competition, regulatory framework, type of ownership and quality of human capital.

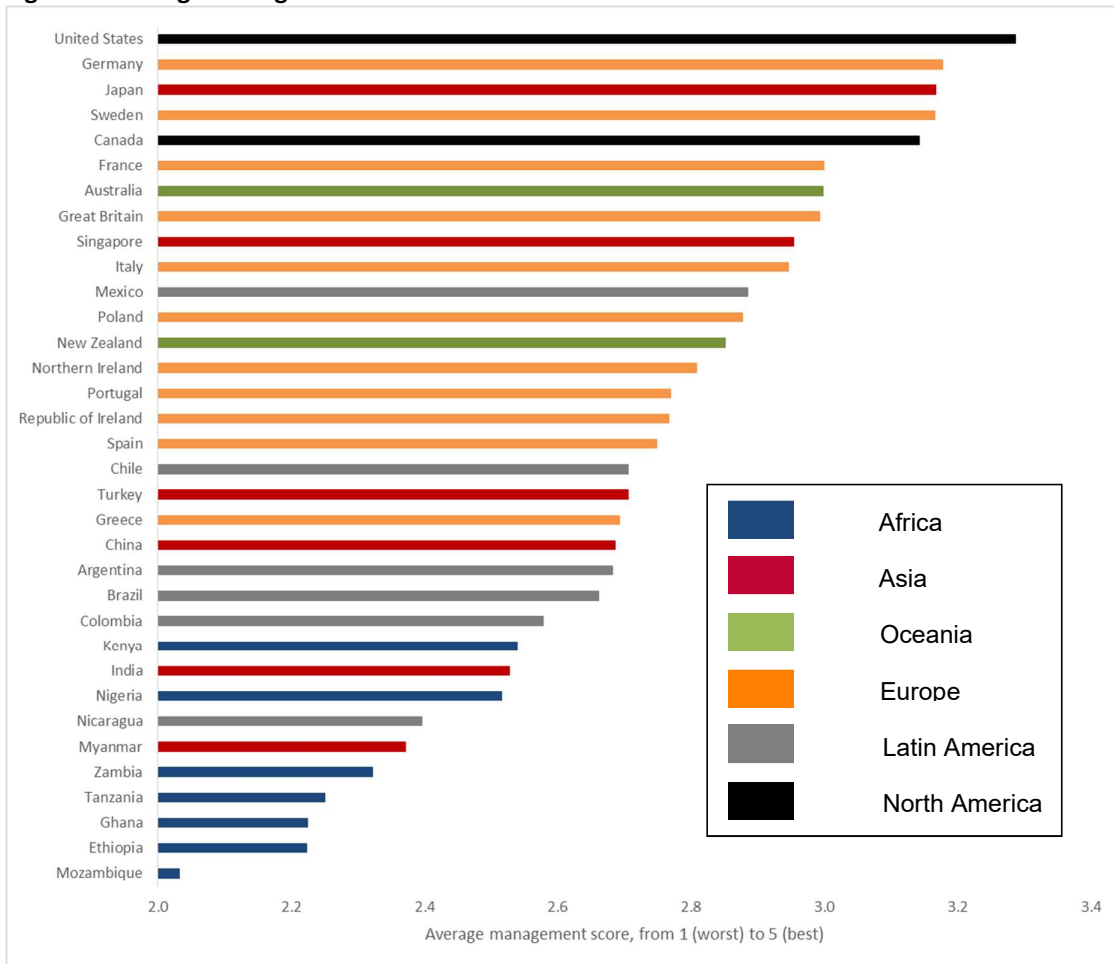
Overall, rigid labour and very restrictive product market regulation affects the quality of management in Greek firms by constraining incentive management and by lowering effective competition. Current efforts by the Greek governments in the last six years to liberalise product and service markets, and to remove unnecessary and distortive regulations more broadly, are critical for the restructuring of the productive potential of the economy.

With respect to the firm ownership, the large proportion of family firms in the economy is, in my opinion, an outcome of many forces (for example, inefficient financial markets) that requires further research. On the other hand, there are important lessons to be drawn from the management quality of foreign multinationals in Greece and their apparent ability to transfer knowledge and to overcome domestic regulatory and macroeconomic barriers. They set the management frontier on what is feasible and what domestic firms can realistically aim to achieve with the appropriate investment and effort. The high quality human capital and the unavoidable restructuring of many sectors due to the crisis provide an opportunity. In the tale of the two Greeces, only one can represent the future.

References

- Arkolakis, C., Doxiadis, A. and Galelianos, M. (2016). The Challenge of Trade Adjustment in Greece, in C. Meghir, C. Pissarides, D. Vayanos and N. Vettas (eds.), *Beyond Austerity: Reforming the Greek Economy*, MIT Press, *forthcoming*.
- Bloom, N., Eifert, B., Mahajan, A., McKenzie, D., and Roberts, J. (2011). Does management matter? Evidence from india. *Quarterly Journal of Economics*, 128(1), 1-51.
- Bloom, N., Genakos, C., Martin, R., and Sadun, R. (2010). Modern management: Good for the environment or just hot air? *The Economic Journal*, 120(544), 551–572.
- Bloom, N., Kretschmer, T., and Van Reenen, J. (2011). Are family-friendly workplace practices a valuable firm resource? *Strategic Management Journal*, 32(4), 343–367.
- Bloom, N., Sadun, R. and Van Reenen, J. (2016). Management as a Technology, NBER WP 22327.
- Bloom, N., and Van Reenen, J. (2007). Measuring and explaining management practices across firms and countries. *Quarterly Journal of Economics*, 122(4), 1351–1408.
- Bloom, N., and Van Reenen, J. (2010). Why do management practices differ across firms and countries? *Journal of Economic Perspectives*, 24(1), 203-224.
- Jones, Charles I. and Paul M. Romer. (2010). The New Kaldor Facts: Ideas, Institutions, Population, and Human Capital. *American Economic Journal: Macroeconomics*, 2(1): 224-45.
- Katsoulakos, Y., Genakos, C., and Houpis, G. (2016). Product Market Regulation and Competitiveness: Towards a National Competition and Competitiveness Policy in Greece, in C. Meghir, C. Pissarides, D. Vayanos and N. Vettas (eds.), *Beyond Austerity: Reforming the Greek Economy*, MIT Press, *forthcoming*.
- Papaioannou, E. and Karatza, S. (2016). The Greek Justice System: Collapse and Reform, in C. Meghir, C. Pissarides, D. Vayanos and N. Vettas (eds.), *Beyond Austerity: Reforming the Greek Economy*, MIT Press, *forthcoming*.
- Pelagidis, T. and Mitsopoulos, M. (2014). *Greece: From Exit to Recovery?* Washington: Brookings Institution Press.

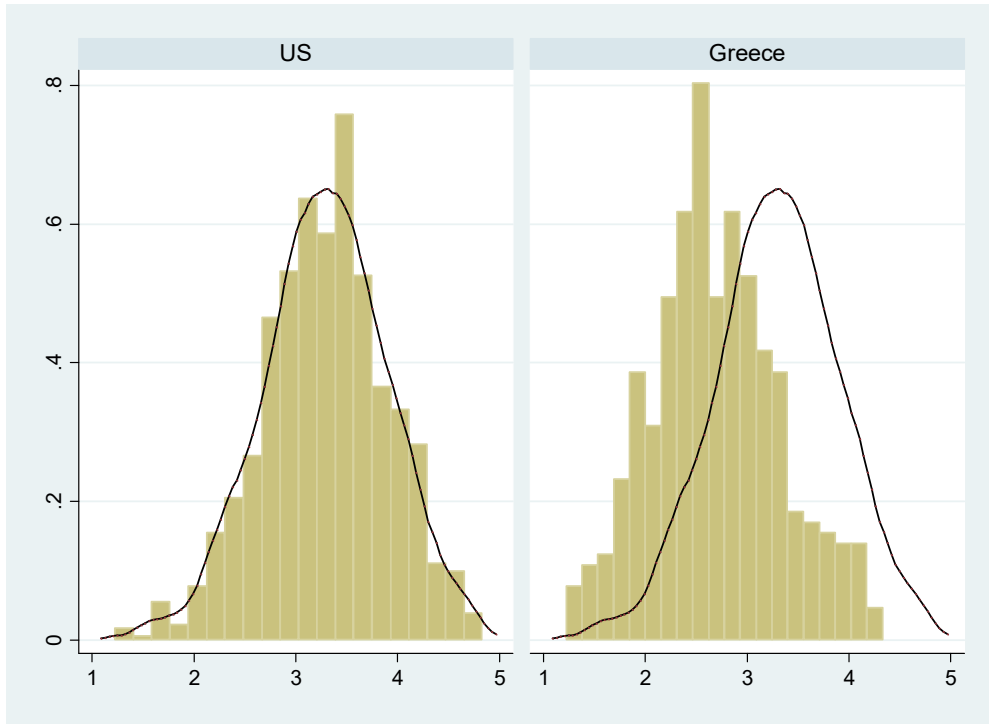
Figure 1: Average management score across countries



Note: Average management score calculated based on all firms in each country.

Source: WMS (2004-2014), available at www.worldmanagementsurvey.com

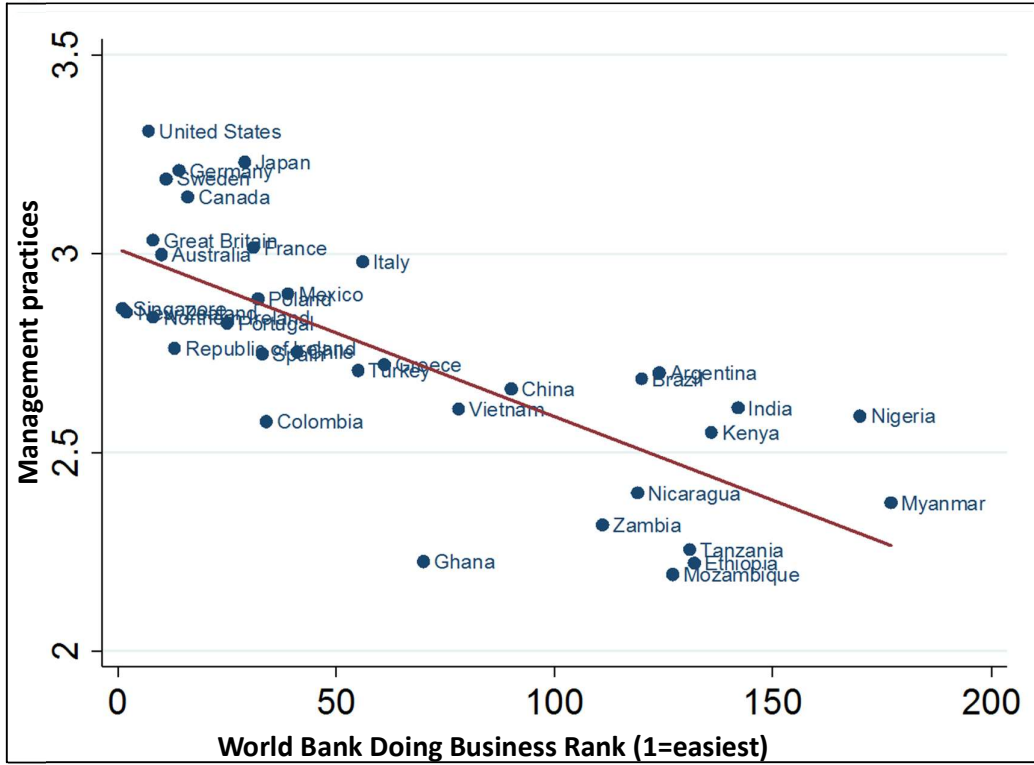
Figure 2: Distribution of management score within Greece and comparison with the US



Note: The bars represent the histogram of management scores in the two countries. The solid line overlays the US distribution onto the histogram of management scores for Greek firms to ease comparisons. Management scores: 1 (worst practice) to 5 (best practice).

Source: WMS

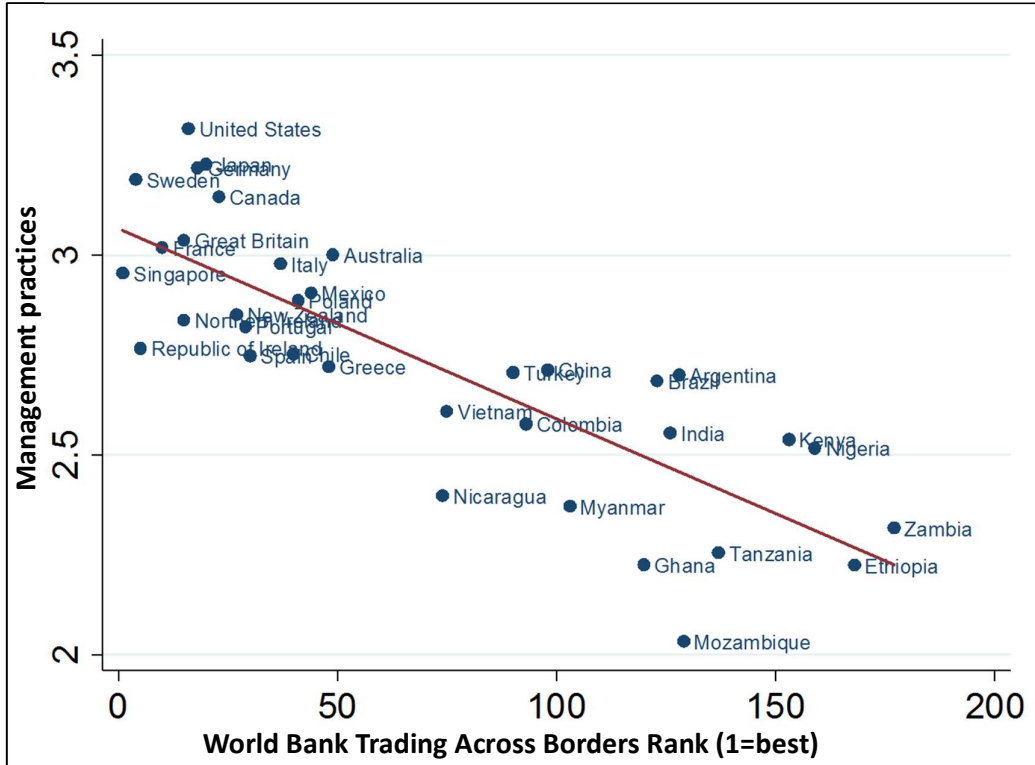
Figure 3: Ease of Doing Business and management across countries



Note: Management scores in the WMS survey plotted against the World Bank's 2014 doing business "Ease of Doing Business" rank, where 1 is best and 189 is worst. See <http://www.doingbusiness.org/rankings>.

Source: WMS and World Bank

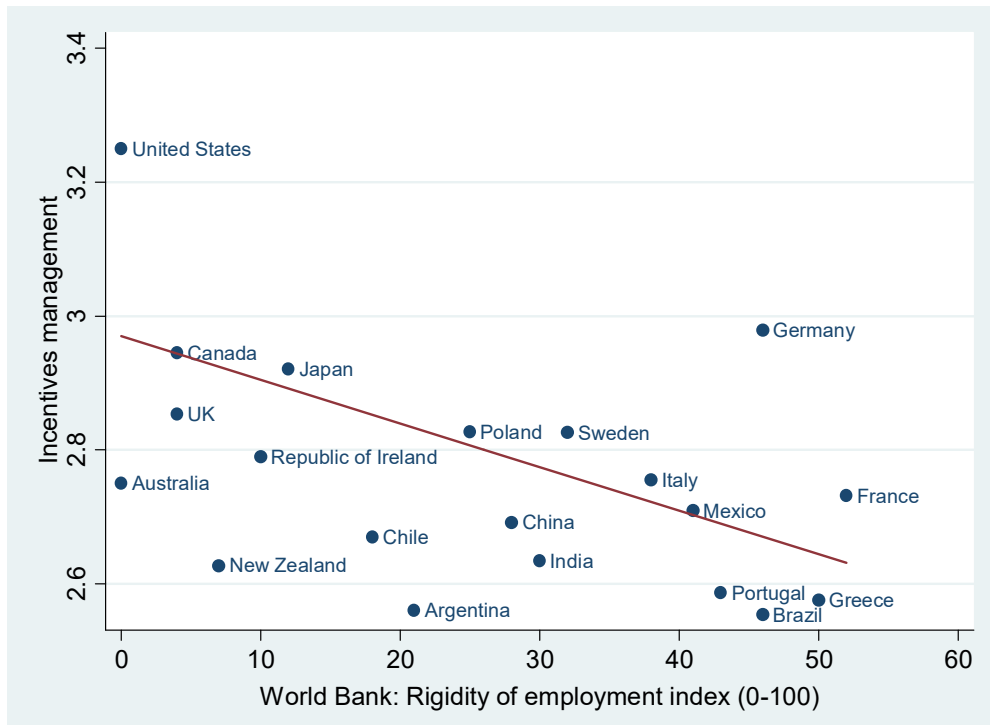
Figure 4: Trading across borders and management across countries



Note: Management scores in the WMS survey plotted against the World Bank's 2014 doing business "Trading Across Borders" rank, where 1 is best and 189 is worst. See <http://www.doingbusiness.org/rankings>.

Source: WMS and World Bank

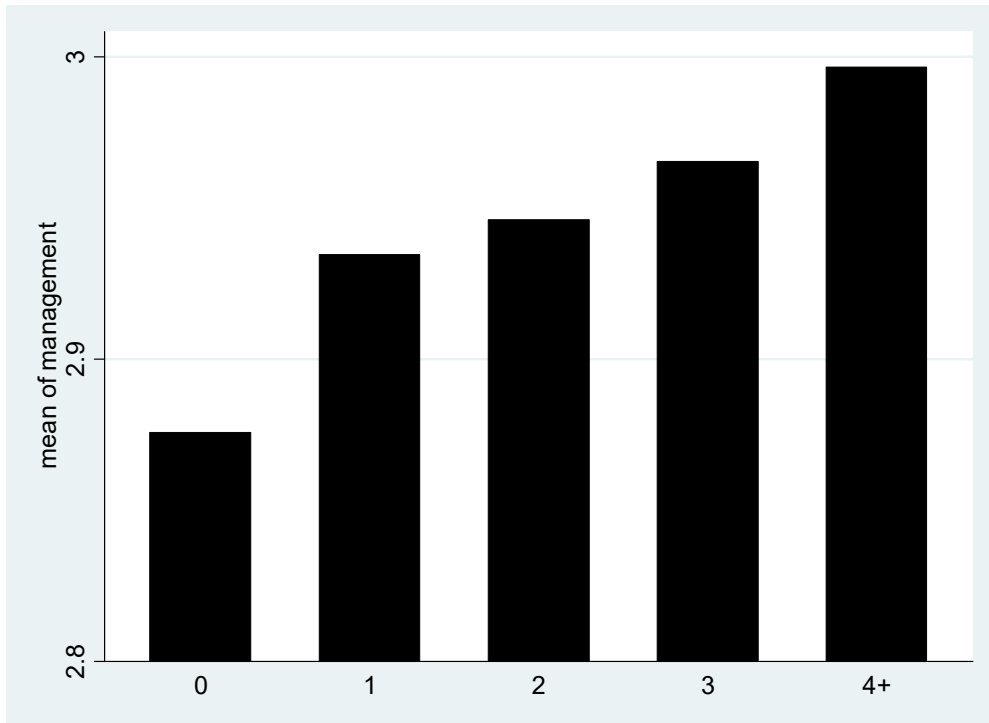
Figure 5: Labour market regulation rigidity and incentives management across countries



Note: Incentives management is defined as management practices around hiring, firing, pay and promotions. The index of labour regulation is from the Doing Business report of the World Bank.

Source: Bloom, Genakos, Sadun and Van Reenen (2012)

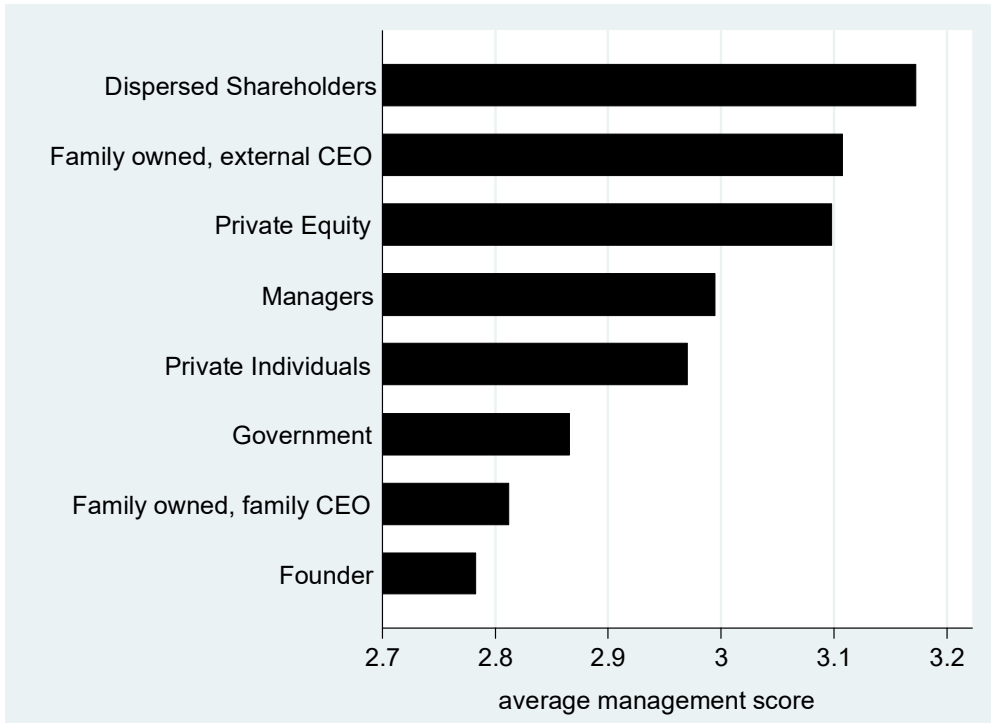
Figure 6: Competition and management scores across countries



Note: Self-reported number of competitors.

Source: WMS

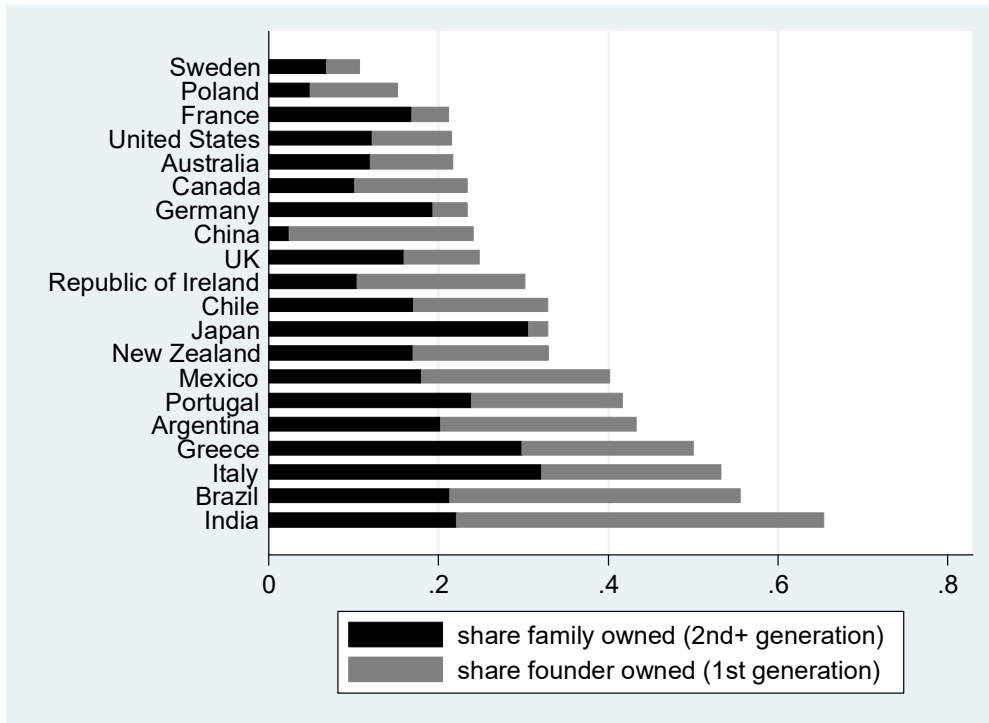
Figure 7: Competition and management scores across countries



Note: Management scores after controlling for country, industry and number of employees.

Source: WMS

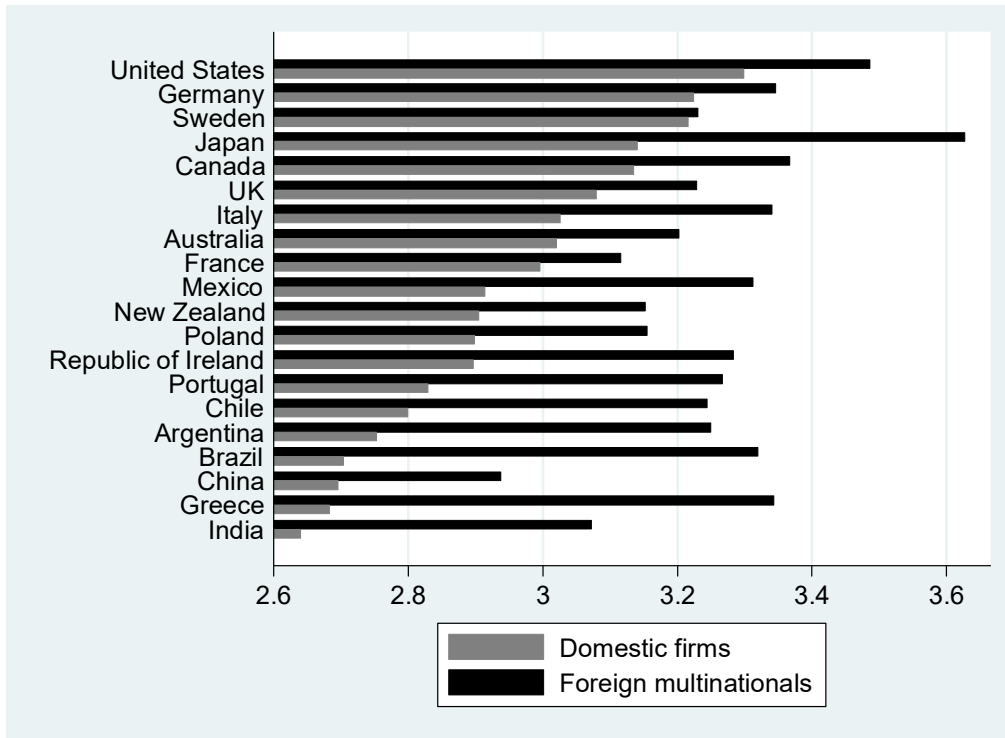
Figure 8: Family ownership across countries



Note: Percentage of 1st and 2nd generation family owned firms in each country in the sample.

Source: WMS

Figure 9: Multinationals vs. domestic firms across countries



Note: Domestic multinationals are excluded from domestic firms.

Source: WMS

Figure 10: Education and management scores worldwide

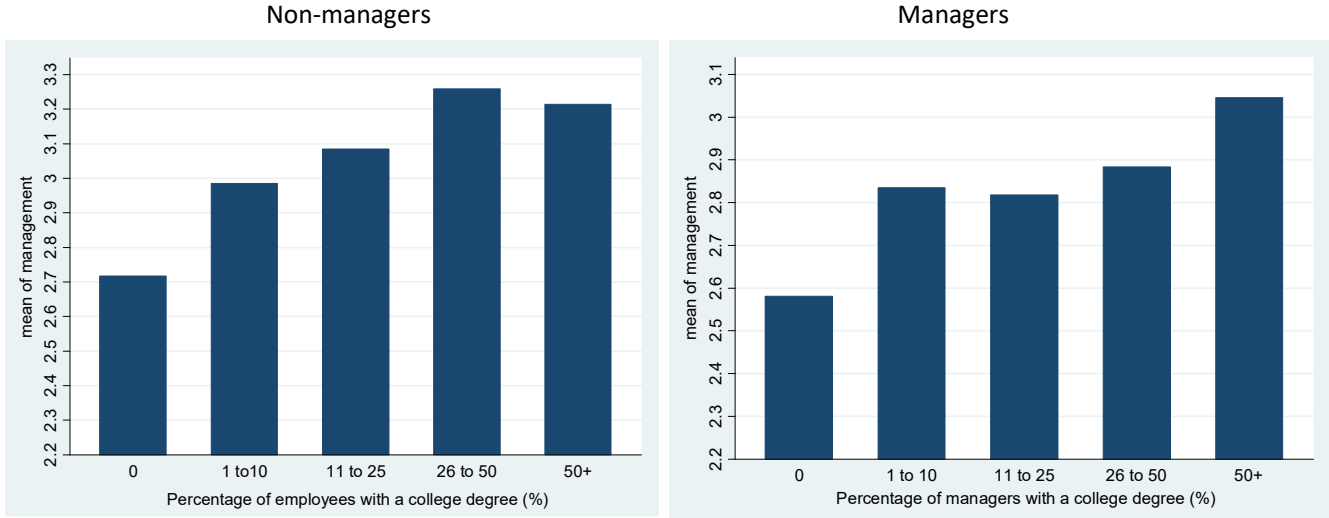


Figure 11: Education and management scores in Greece

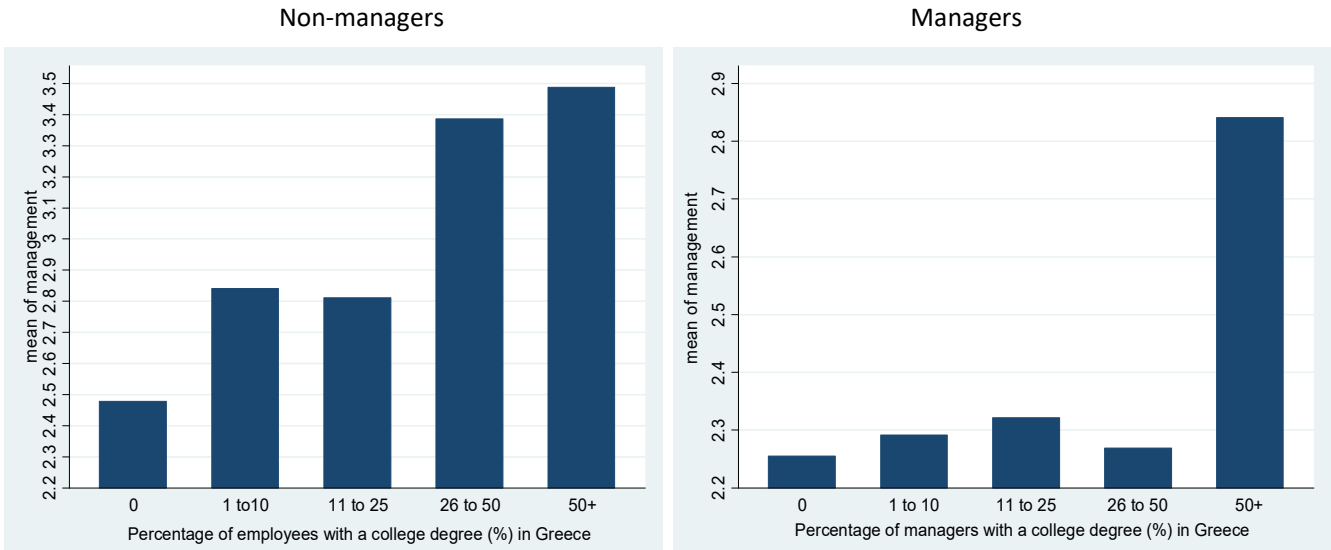
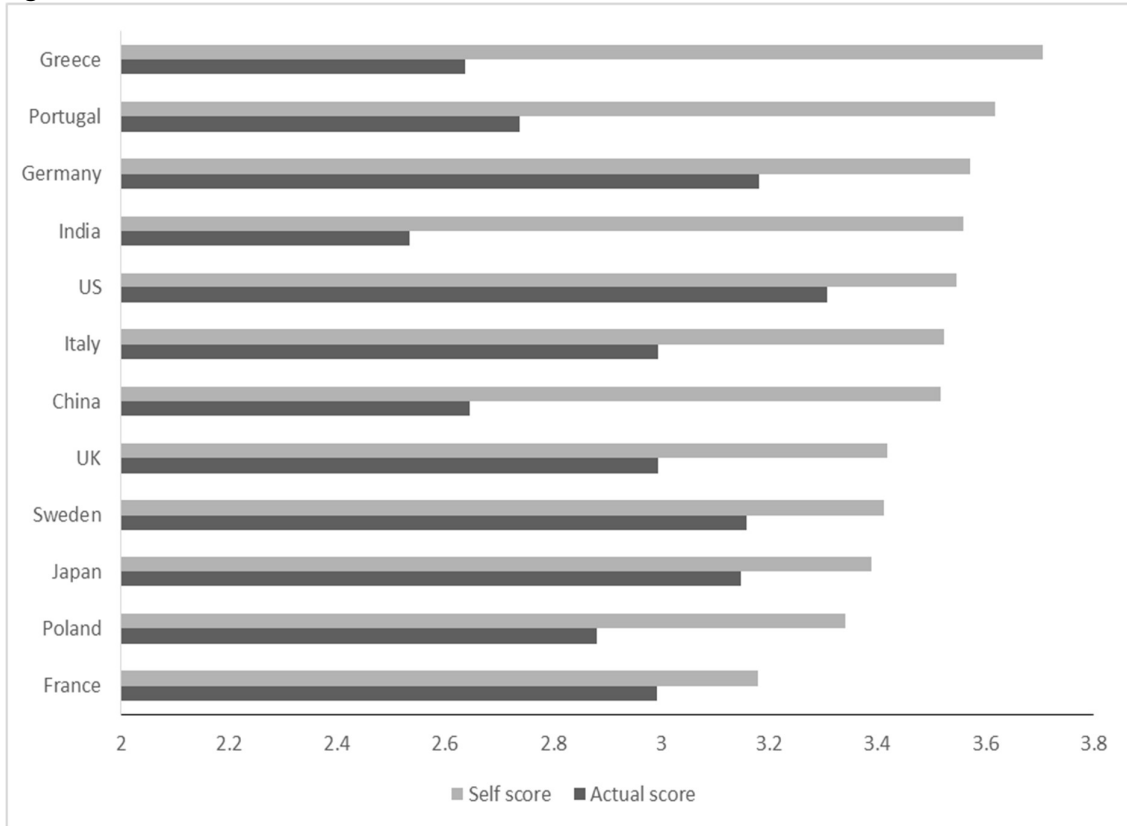


Figure 12: Actual vs. self-score across countries



Note: Actual score is the score given to the firm through the survey. Self-score is the manager’s response to the question “Excluding yourself, how would you rate your company’s management from 1 to 10, one being the worst and ten being the best?” Self-scores have been divided by two for comparability reasons.

Source: WMS

TABLE 1 - Management score and ranking by practice (selected OECD sample)

Country	Overall management	Rank overall	Monitoring management	Rank monitor	Targets management	Rank target	Incentives management	Rank incentives	# firms
Australia	3.00	7	3.28	8	2.99	6	2.73	9	459
Canada	3.14	5	3.52	3	3.04	5	2.92	3	418
Chile	2.71	16	2.99	15	2.56	16	2.60	14	412
France	3.00	6	3.43	6	2.93	8	2.69	12	491
Germany	3.18	2	3.51	4	3.14	4	2.94	2	430
Great Britain	2.99	8	3.30	7	2.94	7	2.82	5	889
Greece	2.69	18	2.90	17	2.56	17	2.55	17	416
Italy	2.95	9	3.26	9	2.92	10	2.70	11	437
Japan	3.17	3	3.46	5	3.26	1	2.84	4	125
Mexico	2.89	10	3.26	10	2.72	12	2.76	8	406
New Zealand	2.85	12	3.09	14	2.85	11	2.58	15	150
Poland	2.88	11	3.11	13	2.92	9	2.80	7	238
Portugal	2.77	13	3.12	11	2.69	14	2.55	16	193
Republic of Ireland	2.77	14	2.96	16	2.71	13	2.70	10	161
Spain	2.75	15	3.11	12	2.65	15	2.50	18	214
Sweden	3.17	4	3.58	1	3.16	3	2.81	6	258
Turkey	2.71	17	2.87	18	2.53	18	2.69	13	332
United States	3.29	1	3.53	2	3.18	2	3.17	1	1000

Notes: Overall management is the average score across all 18 questions. Monitoring management is the average score across questions 1 to 6 in Table 1 in the Appendix. Targets management is the average score across questions 8 to 12. Incentives management is the average score across questions 7 and 13 to 18.

Source: WMS (2004-2014), available at www.worldmanagementsurvey.com

TABLE 2 - Quantiles of management with US as the benchmark

Quartile	(1) 10th	(2) 50th	(3) 90th
Germany	-0.019 (0.030)	-0.070* (0.042)	-0.300*** (0.092)
Japan	0.007 (0.043)	-0.065 (0.070)	-0.362** (0.144)
Sweden	-0.005 (0.034)	-0.019 (0.049)	-0.459*** (0.103)
Canada	-0.030 (0.032)	-0.209*** (0.045)	-0.205** (0.096)
Great Britain	-0.100*** (0.029)	-0.277*** (0.035)	-0.555*** (0.070)
France	-0.146*** (0.041)	-0.264*** (0.043)	-0.561*** (0.080)
Australia	-0.060* (0.034)	-0.240*** (0.044)	-0.550*** (0.082)
Italy	-0.066* (0.035)	-0.357*** (0.046)	-0.639*** (0.080)
Mexico	-0.278*** (0.054)	-0.335*** (0.047)	-0.558*** (0.085)
Poland	-0.160*** (0.058)	-0.402*** (0.059)	-0.731*** (0.090)
Portugal	-0.250*** (0.074)	-0.535*** (0.065)	-0.831*** (0.086)
Republic of Ireland	-0.622*** (0.112)	-0.532*** (0.071)	-0.568*** (0.116)
Spain	-0.419*** (0.085)	-0.575*** (0.062)	-0.783*** (0.088)
Greece	-0.450*** (0.063)	-0.664*** (0.047)	-0.728*** (0.077)
Turkey	-0.022 (0.034)	-0.758*** (0.050)	-0.954*** (0.066)
Constant	2.292*** (0.015)	3.329*** (0.022)	4.352*** (0.055)
Observations	11,340	11,340	11,340
Adjusted R ²	0.081	0.134	0.061

Notes: The dependent variable is the management score of firm i , in country c . OECD countries reported only in the order of their average management score in Figure 1. Robust standard errors are reported in parenthesis below coefficients: *significant at 10%; **significant at 5%; ***significant at 1%.

Source: WMS (2004-2014).

Appendix

Table 1: The Management Practice Dimensions

Categories	Score from 1-5 based on:
1) Introduction of Modern manufacturing techniques	What aspects of manufacturing have been formally introduced, including just-in-time delivery from suppliers, automation, flexible manpower, support systems, attitudes and behavior?
2) Rationale for introduction of Modern manufacturing techniques	Were modern manufacturing techniques adopted just because others were using them, or are they linked to meeting business objectives like reducing costs and improving quality?
3) Process problem documentation	Are process improvements made only when problems arise, or are they actively sought out for continuous improvement as part of a normal business processes?
4) Performance tracking	Is tracking ad hoc and incomplete, or is performance continually tracked and communicated to all staff?
5) Performance review	Is performance reviewed infrequently and only on a success/failure scale, or is performance reviewed continually with an expectation of continuous improvement?
6) Performance dialogue	In review/performance conversations, to what extent is the purpose, data, agenda, and follow-up steps (like coaching) clear to all parties?
7) Consequence management	To what extent does failure to achieve agreed objectives carry consequences, which can include retraining or reassignment to other jobs?
8) Target balance	Are the goals exclusively financial, or is there a balance of financial and non-financial targets?
9) Target interconnection	Are goals based on accounting value, or are they based on shareholder value in a way that works through business units and ultimately is connected to individual performance expectations?
10) Target time horizon	Does top management focus mainly on the short term, or does it visualize short-term targets as a “staircase” toward the main focus on long-term goals?
11) Targets are stretching	Are goals too easy to achieve, especially for some “sacred cows” areas of the firm, or are goals demanding but attainable for all parts of the firm?
12) Performance clarity	Are performance measures ill-defined, poorly understood, and private, or are they well-defined, clearly communicated, and made public?
13) Managing human capital	To what extent are senior managers evaluated and held accountable for attracting, retaining, and developing talent throughout the organization?
14) Rewarding high-performance	To what extent are people in the firm rewarded equally irrespective of performance level, or is performance clearly related to accountability and rewards?
15) Removing poor performers	Are poor performers rarely removed, or are they retrained and/or moved into different roles or out of the company as soon as the weakness is identified?
16) Promoting high performers	Are people promoted mainly on the basis of tenure, or does the firm actively identify, develop and promote its top performers?
17) Attracting human capital	Do competitors offer stronger reasons for talented people to join their companies, or does a firm provide a wide range of reasons to encourage talented people to join?
18) Retaining human capital	Does the firm do relatively little to retain top talent, or do whatever it takes to retain top talent when they look likely to leave?

Note: Full set of questions can be found on www.worldmanagementsurvey.com

Source: Bloom and Van Reenen (2010)