



The Flattened Firm - Not as Advertised

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The Flattened Firm - Not as Advertised*

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Abstract

For decades, management consultants and the popular business press have urged large firms to flatten their hierarchies. Flattening (or delayering, as it is also known) typically refers to the elimination of layers in a firm's organizational hierarchy, and the broadening of managers' spans of control. The *alleged* benefits of flattening flow primarily from pushing decisions downward to enhance customer and market responsiveness and to improve accountability and morale. Has flattening delivered on its promise to push decisions downward? In this article, I present evidence suggesting that while firms have delayered, flattened firms can exhibit *more* control and decision-making at the top. Managers take note. Flattening can lead to exactly the opposite effects from what it promises to do.

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Introduction

For decades, management consultants and the popular business press have urged large firms to flatten their hierarchies. Flattening (or delayering, as it is also known) typically refers to the elimination of layers in a firm's organizational hierarchy, and the broadening of managers' spans of control. In fact, The Boston Consulting Group applied for a trademark in 2005 for the term *delayering* to designate its distinctive approach to flattening the corporate pyramid. The rationale for flattening seems sound: to remain competitive in the face of increased competition, for instance, firms must pursue a streamlined, efficient organization that can respond more quickly to customers. While flattening is said to reduce costs, its *alleged* benefits flow primarily from changes in internal governance: by pushing decisions downward, firms not only enhance customer and market responsiveness, but also improve accountability and morale.¹

Have large firms flattened their hierarchies? And, if so, has flattening delivered on its promise and pushed decisions down to lower-level managers? What has flattening meant *in reality*? Surprisingly, no one has addressed these questions rigorously and empirically.²

Accordingly, I set out to investigate the flattening phenomenon using a variety of methods, including quantitative analysis of large datasets and more qualitative research in the field involving executive interviews and a survey on executive time use (see "About the Research"). Using a large-scale panel data set of reporting relationships, job descriptions, and compensation structures in a sample of over 300 large U.S. firms over roughly a 15-year period, my co-authors and I began by characterizing the shifting "shape" of each company's hierarchy.³ We focused on the top of the pyramid: after all, it is the CEO and other members of senior management who make the resource-allocation decisions that ultimately determine firm strategy and performance. Then, to dig deeper into how decisions are made in flattened firms, we complemented the historical data analysis with exploratory interviews with executives - *what CEOs say* - and analysis of data on executive time use - *what CEOs do*.

We discovered that flattening has occurred, but it is not what it is widely assumed to be. In line with the conventional view of flattening, we find that CEOs eliminated layers in the management ranks, broadened their spans of control, and changed pay structures in ways suggesting some decisions were in fact delegated to lower levels. But, using multiple methods of analysis, we find other evidence sharply at odds with the prevailing view of flattening. In fact, flattened firms exhibited *more* control and decision-making at the top. Not only did CEOs centralize more functions, such that a greater number of functional managers (e.g., CFO, Chief Human Resource Officer, CIO) reported directly to them; firms also paid lower-level division managers less when functional managers joined the top team, suggesting more decisions at the top. Furthermore, CEOs report in interviews that they flattened to "get closer to the businesses" and become more involved, not less, in internal operations. Finally, our analysis of CEO time use indicates that CEOs of flattened firms allocate more time to internal interactions. Taken together, the evidence

¹ Boston Consulting Group claims that firms delayer to reduce costs, but that delayering also pushes decisions downward and "speeds decision-making, improves communication up and down the hierarchy, and increases accountability and morale." See Boston Consulting Group, "Global Delayering for Competitive Advantage," *BCG Opportunities for Action*, April 2006.

² See Teubner, 2001 for a theoretical exploration of flattening.

³ See Rajan and Wulf, 2006, for a detailed description of the study's sample, methods and variables.

suggests that flattening transferred some decision rights from lower-level division managers to functional managers at the top. And flattening is associated with increased CEO involvement with direct reports—the second level of top management—suggesting a more hands-on CEO at the pinnacle of the hierarchy.

Is this something managers should care about? Yes! Firms may flatten structure to delegate decisions, but doing so can have the opposite effect and lead to unintended consequences for other aspects of internal governance. For instance, a manager may flatten structure to push decisions down and then hire and develop division managers suited to “being the boss.” But if flattening actually pushes decisions up, the division managers are now out of sync with the organization: they don’t have autonomy to make decisions and there is a mismatch between managerial talent and decision rights. Moreover, a change in structure has implications, not only for who makes decisions, but also for how decisions are made. Flatter structures involve different roles for the CEO and the senior team.

This article will document the results of the flattening phenomenon at the top of the corporate hierarchy,⁴ defining what it is and describing what it means for internal governance, the role of the CEO and decision-making.

Corporate Structure as a Form of Internal Governance

Hierarchies supervise workers and coordinate their activities: they designate “who reports to whom,” thus specifying boss-subordinate relationships throughout the organization. Hierarchies and organizational structures shape how decisions are made and how information is communicated and processed.⁵ Another essential element of corporate structure is the design of compensation schemes that align managerial incentives and guide decision-making. Firms change their corporate structures in response to changes in their environments (Lawrence and Lorsch, 1967). An early example is the M-form organization (Chandler, 1962; Williamson, 1975), which defined a set of management roles and relationships that emphasized delegation of authority to operating divisions whose activities were coordinated and controlled by corporate management. This organizational form became pervasive among large companies throughout the 1950s and 1960s in response to market growth and technological change that drove greater diversity in products and markets.

Over the past several decades, deregulation and increased trade have enhanced product-market competition in globalized markets. Large institutional shareholders have replaced corporate raiders and hostile takeovers as sources of external governance. Declining costs and massive investments in information technology have created opportunities for more efficient

⁴ This research focuses on the top of the hierarchy, from division managers up to the CEO. If we are to investigate whether flattening is consistent with pushing decisions down—as the prevailing view of the phenomenon holds—the top of the hierarchy is the best place to start.

⁵ In terms of theory, flattening could embody two distinct but related aims with regard to how firms make decisions: to improve the processing and communication of information (e.g., Galbraith, 1973; Radner, 1993; Garicano, 2000) or to align incentives and improve governance by delegating authority (e.g., Williamson, 1967; Jensen and Meckling, 1976; Holmstrom and Milgrom, 1994; Aghion and Tirole, 1997; Baker, Gibbons and Murphy, 1999; Rajan and Zingales, 2001; Hart and Holmstrom, 2010).

organizational forms. In response to these massive shifts in their environment, firms have changed their strategies and redrawn their boundaries by divesting peripheral businesses, focusing on core areas while outsourcing selected activities, and merging at a historically unprecedented rate (e.g., Powell, 2001). New strategies and vastly more complex environments require different modes of internal governance: different structures, different ways of making decisions, different incentives and different skills. Shorter product life cycles require faster decisions that are more responsive to customers. More demanding shareholders set higher fiduciary standards for senior executives forcing structural changes that reduce inefficiencies in bureaucratic organizations. Advances in information technology improve access to data and facilitate coordination and communication within and across levels inside firms. Given all these upheavals, it is possible that the tall hierarchies of the past may no longer be effective. In fact, scholars and practitioners have described new corporate structures that are distinct from the traditional multidivisional form.⁶ In light of this, it makes sense for firms to change organizational structures and other methods of internal governance.

Against this backdrop of intensified competition in product markets, the belief was widespread that firms were eliminating layers in their internal structures and pushing decisions down to lower level managers. But we know little about whether reality matched that perception.

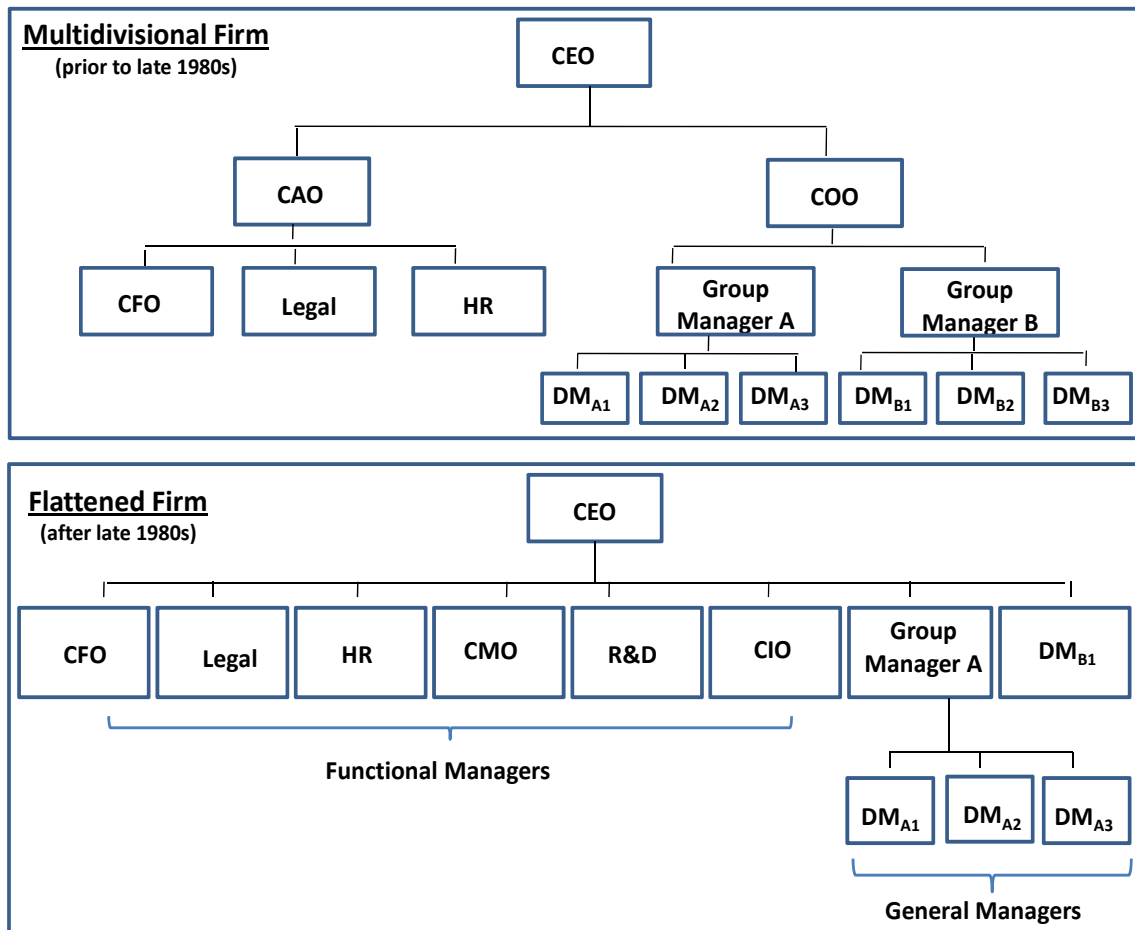
Investigation of the Flattening Phenomenon

Evidence supporting the “advertised” view

Using our large-sample dataset, we found that firm hierarchies have changed dramatically over the period from 1986-2006. Specifically, CEOs have flattened the hierarchical structure of senior management: they delayered and eliminated management levels and broadened their span of control. Many CEOs eliminated the Chief Operating Officer (COO) position and increased the number of division managers reporting directly to the CEO. The same CEOs also broadened their span of control significantly and increased the number of functional managers (e.g., CFO, CHRO, CIO) reporting directly to them. Firms dramatically changed the structure of management compensation by increasing their emphasis on performance pay (i.e., bonuses, stock options, restricted stock) relative to base salaries. Exhibit 1 illustrates the broad structural differences between the classic multidivisional firm and a flattened firm.

⁶ The literature on this topic is extensive. Select examples include: Bartlett and Ghoshal, 1993; Eisenmann and Bower, 2000; Malone, 2003; Simons, 2005.

Exhibit 1: The Flattened Firm (Illustrative Example for Large US Firms from 1986-2006)



Note: DMs are Division Managers, the lowest-level managers with profit-center responsibility.

Delaying

Our first main finding is that firms have delayed over the period 1986 to 1998 (Rajan and Wulf, 2006). They have systematically eliminated layers in the hierarchical structure of senior management. Part of this delaying can be attributed to the elimination of key senior management positions that served as intermediaries. For instance, the Chief Operating Officer (COO), who typically stood between the CEO and the rest of the firm, has become increasingly rare. The number of firms with COOs decreased by approximately 20 percent over the 1986-1998 period (55 percent had a COO in 1986 but only 45 percent did in 1998).⁷ But delaying did not consist merely of the elimination of a single intermediary position. To capture a more general portrait of delaying, we measured *depth*, defined as the average number of hierarchical

⁷ The trend in the elimination of the COO position continues through 2011 (Crist Kolder Volatility Report 2011) suggesting that delaying at the top and the associated increase in span of control continues to the present.

positions between the CEO and division managers.⁸ (We chose division managers because they were consistently defined as the lowest-level managers with profit-center responsibility.) We found that the number of positions between division heads and CEOs declined by about 25 percent, from 1.6 in 1986 to 1.2 in 1999. (See Exhibit 2).

But was this delayering or restructuring? The trend toward closer reporting relationships between division managers and the CEO could result from companies regrouping into fewer and larger operating divisions whose managers moved closer to the top. Interestingly, when we tracked the same division-manager position over time, we found that the position moved closer to the top of the hierarchy. Such changes cannot be explained simply by restructuring. Instead, our evidence suggests that firms delayered, eliminating management levels. By contrast to other studies on hierarchies (e.g., Baker, Gibbs and Holmstrom, 1994), our data allow us to track the reporting relationship of a given division-manager position over time and to trace its movement up the hierarchy.

We do find solid evidence of delayering—that is, firms eliminated layers of management. This finding is consistent with the prevailing notion of flattening.

A Broader CEO Span of Control

Our second main finding is that firms dramatically increased the CEO's span of control (Rajan and Wulf, 2006) over the same time period. The number of positions reporting directly to the CEO increased from 4.5 in 1986 to almost 7 in 1999. (See Exhibit 2). More recent data on a smaller sample of firms reveals that CEO span of control more than doubled from 4.7 in the second half of the 1980s to 9.8 approximately 20 years later (Guadalupe, Li and Wulf, 2011). (See Exhibit 3). Thus the size of executive teams more than doubled over a 20-year period. Part of this increase in span was certainly due to the elimination of intermediary positions such as that of COO. But even in firms without COOs, the number of positions reporting to the CEO increased substantially. Broader spans were driven to some degree by the migration of traditionally more junior "line" positions up the hierarchy, such as that of division managers reporting directly to the CEO. But new functional manager or "corporate staff" positions were also joining the senior executive team, such as the Chief Information Officer (CIO), in addition to the increasing importance of existing positions like the Chief Human Resource Officer (CHRO).⁹ We will discuss changes in the composition of the senior executive team below.

Did flattening make sense—that is, was it optimal? Our evidence suggests that firms delayered and CEOs increased their span of control—firms became less tall and wider—in response to intensified competition in their product markets (Guadalupe and Wulf, 2010). We characterize intensified competition in a firm's industry by the reduction in tariffs associated with the liberalization of trade. In one of the first papers to document a causal effect on organizational change, we find that greater competition within a firm's industry caused firms to delayer (and to

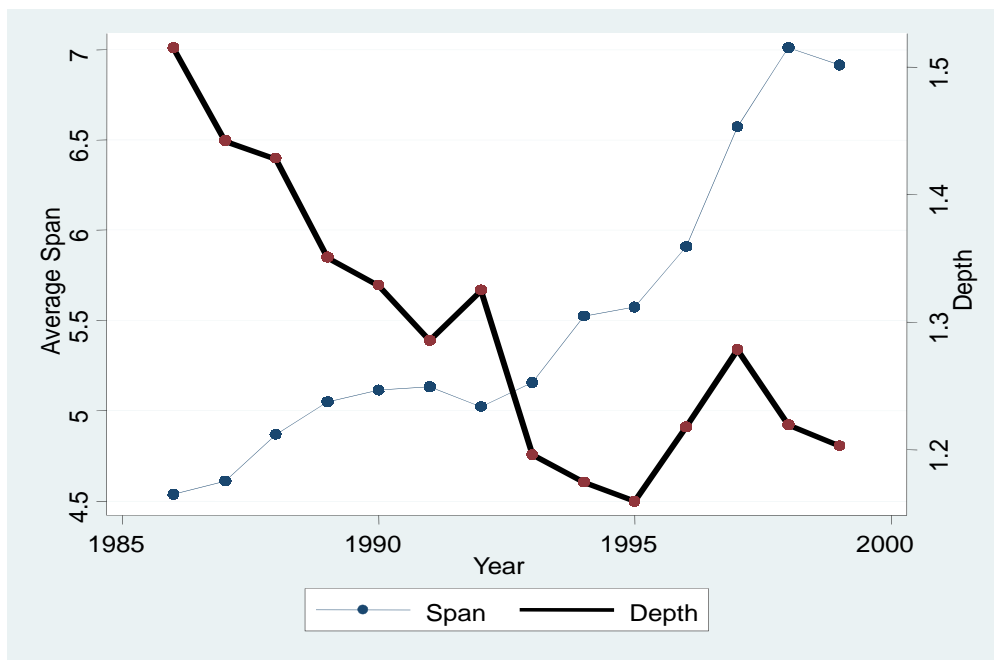
⁸ In Exhibit 1, division managers (DMs) are shown as reporting to group managers in the multidivisional firm. There are two positions between the CEO and the division managers, a depth of 2.

⁹ See Finkelstein, Hambrick and Canella (2009; chapter 5) for a review of the extensive management literature on top management teams. See Menz (2011) for a survey of the management literature on functional top management team members and Groysberg, Kelly and MacDonald (2011) on the changing skills in the C-Suite.

increase performance pay for division managers).¹⁰ Furthermore, CEOs narrowed the scope of their firms' business portfolios (becoming less diversified) and also broadened their span of control. The evidence suggests that firms flattened in response to change in the environment in which they operate. Firms may flatten to change decision-making and cut costs in the face of narrowing their portfolios of businesses.

So, we find that firms delayed and increased spans of control—i.e., they changed the “shape” of the hierarchy and became less tall and wider – in response to greater competition. This is consistent with our notion of flattening.

Exhibit 2: Division Depth and CEO Span of Control



Average CEO Span and Div. Depth, 1986-1999

Source: Based on data described in Rajan and Wulf (2006) and Guadalupe and Wulf (2010).

Delegation of Decision-Making at the Top

Our third main finding is that as firms flattened, they also changed incentives and the structure of pay for division managers—the positions historically at the lowest level in the top-management hierarchy (Rajan and Wulf, 2006). One might naturally expect incentive pay and decision rights

¹⁰ See Bloom, Sadun and Van Reenen (2010) for evidence of a positive association between competition and the delegation of decisions to plant managers.

to go hand in hand. That is, firms delegate decisions to division managers and simultaneously link their pay to performance to ensure that they make good decisions for the firm.¹¹ To infer whether this was the case, we looked at whether division managers' compensation changed when firms delayed. Several of our findings suggest that firms delegated greater decision-making authority to division managers as they delayed. First, as division managers moved closer to the top, their pay increased—both the amount of their compensation (salary plus bonus) and the fraction of it tied directly to firm performance (i.e., stock options, restricted stock). Second, division managers were more likely to be appointed corporate officers over time, a status that typically entails greater firm-wide responsibilities. Though not conclusive, this set of facts is generally consistent with greater delegation of authority to lower level managers in delayed firms.

So far, flattening appears to have done exactly what we would expect it to do: in the face of increased competition, firms shifted decision rights from the top of the organization downward. In other words, firms decentralized decision-making or delegated decisions to lower levels. But it turns out that the story is not so straightforward. For one thing, we uncovered some intriguing additional facts that are at odds with the widely-held perception of flattening. For another, it is inaccurate to label flattening as synonymous with either *decentralization* or *centralization*. It has elements of both.

Let's take a closer look at what a broader CEO span of control might mean for decision-making. Does it mean top-down or bottom-up decision-making? Does it mean that the CEO is more or less involved? On the one hand, a broader span may prevent the CEO from interfering in subordinates' decisions (e.g., Aghion and Tirole, 1997).¹² Since CEOs are time-constrained, they have less time to allocate to each subordinate when they have more direct reports.¹³ It follows that subordinates are making more decisions, and that CEOs are more hands-off as they push decisions down—a form of decentralization. On the other hand, a broader span means that the CEO has more direct connections deeper in the organization, and is potentially more involved in decision-making across more organizational units. Thus division managers' decision-making is subject to more direct oversight by a hands-on CEO who exercises more control and pushes decisions up—a form of centralization.

¹¹ Theoretical predictions (e.g., Athey and Roberts, 2001; Prendergast, 2002) are supported by empirical evidence on the complementarities between decision-making authority and incentive pay (e.g., Wulf, 2007).

¹² BCG describes a benefit of broader spans of control consistent with theory: "When managers have a greater number of direct reports to oversee, they are forced to stop meddling and micromanaging." See Boston Consulting Group, "Global Delaying for Competitive Advantage," *BCG Opportunities for Action*, April 2006.

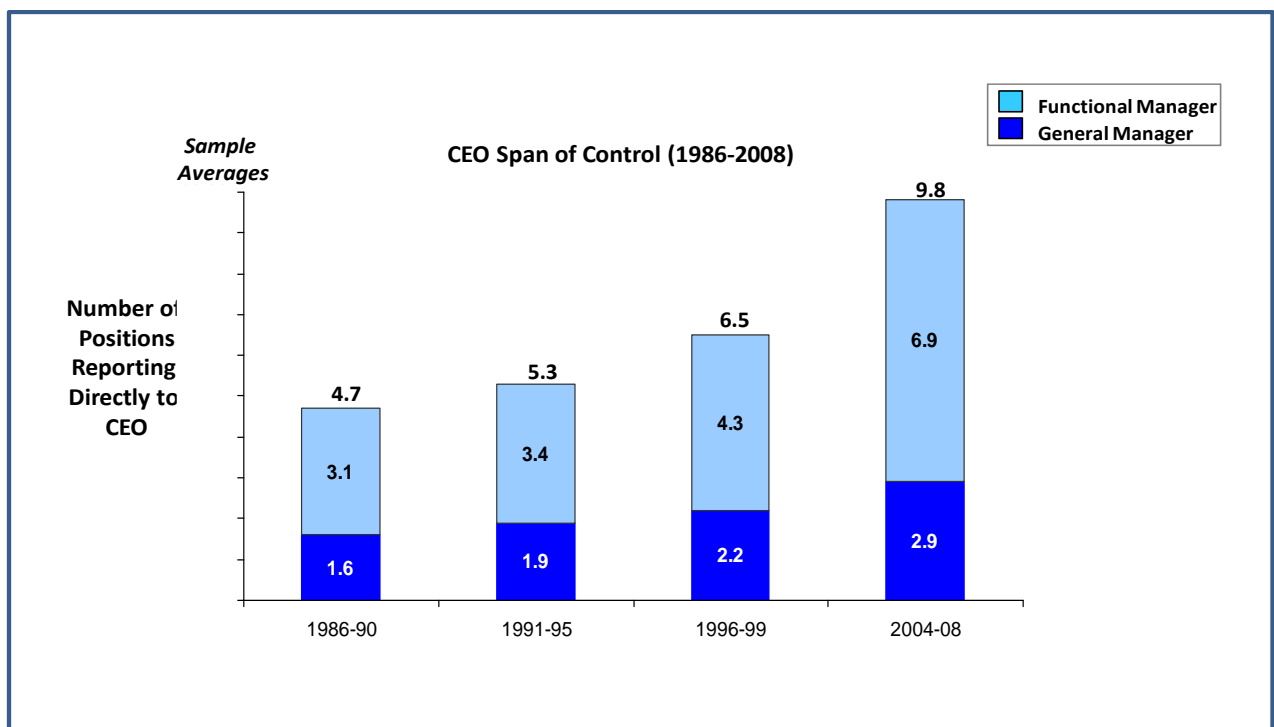
¹³ CEOs divide their time between external and internal demands. It is certainly possible that CEOs with broader spans allocate more time to internal operations by reducing the time they spend externally. We explore this possibility in our analysis of CEO time use and find that the tradeoff in time allocation from a broader span is not between internal vs. external, but instead between team work and individual work.

Evidence against the “advertised” view

Changes in the Composition of the Executive Team

Our fourth main finding is that CEOs also dramatically changed the *composition* of the types of positions that report directly to them (Guadalupe, Li and Wulf, 2011). We found that CEOs dramatically increased the number of corporate staff (or functional managers) that comprise their top executive teams. The C-suite became increasingly populated by functional specialists with firm-wide responsibility for a specific function, including the Chief Human Resource officer (CHRO), the Chief Information Officer (CIO) and the Chief Marketing Officer (CMO). The shift was dramatic. In fact, of the five positions added to the CEO’s span of control on average over the 20 year period, four were corporate staff (or functional managers) and only one was a line or general manager (e.g., division manager). (See Exhibit 3.)

Exhibit 3: Shift toward Functional Managers in the Composition of the CEO’s Top Team



Source: Guadalupe, Li and Wulf (2011).

What do these changes in the mix at the top imply about decision-making? Did they push decisions down? Quite the opposite. The composition of the executive team sheds light on the extent to which functions are centralized at the top. The shift toward functional managers suggests more centralized, corporate-wide decisions being made at the top.¹⁴ Thus the change in

¹⁴ Choices about which functions to centralize at corporate headquarters are critical to current formal theories of firm organization (e.g., Rotemberg, 1999; Cremer, Garicano and Prat, 2007; Alonso, Dessein and Matouschek, 2008; Dessein, Garicano and Gertner, 2010). The relevant tradeoff is whether to assign activities to corporate executives

the mix of the top team is at odds with pushing decisions down; instead it suggests more decisions at the top.¹⁵

We also found that CEOs changed the structure of their top teams in response to changes in their strategies and environments. While CEOs were increasing the number of corporate staff positions reporting directly to them, they were simultaneously narrowing the focus of their business operations (i.e., becoming less diversified) and investing in information technology (Guadalupe, Li and Wulf, 2011).¹⁶ In other words, companies became less diversified and focused more on their core businesses as they shifted toward more control at the top. One interpretation is that, by centralizing the functions, firms realized synergies across their increasingly related and interdependent businesses. Also, as the costs of communication and information technology dropped dramatically, it became easier for corporate-wide functional managers to coordinate across businesses and exploit synergies. One might expect advances in IT to increase the CEO's span of control. However, we found no support for this hypothesis. Instead, the adoption of IT is correlated with more functional managers at the top—and certain types of positions, i.e., CFO, CHRO, General Counsel-- suggesting that IT centralized certain types of functions. A well-known example of a CEO flattening to centralize decisions in the face of strategic change is Lou Gerstner's turnaround of IBM in 1993. Gerstner increased the number of corporate staff positions in the senior executive team to coordinate activities firm-wide in order to execute the new "One IBM" strategy based on an integrated product and service offering to customers.¹⁷

Which functional positions became more prominent? Specifically, the finance, law and human-resource functions –administrative functions -- were more likely to join the C-suite especially in firms that increased investments in information technology. (See Exhibit 4.) Interestingly, the functional positions closer to products and markets became more prominent when firms narrowed their business portfolios, consistent with the explanation of exploiting synergies across businesses.

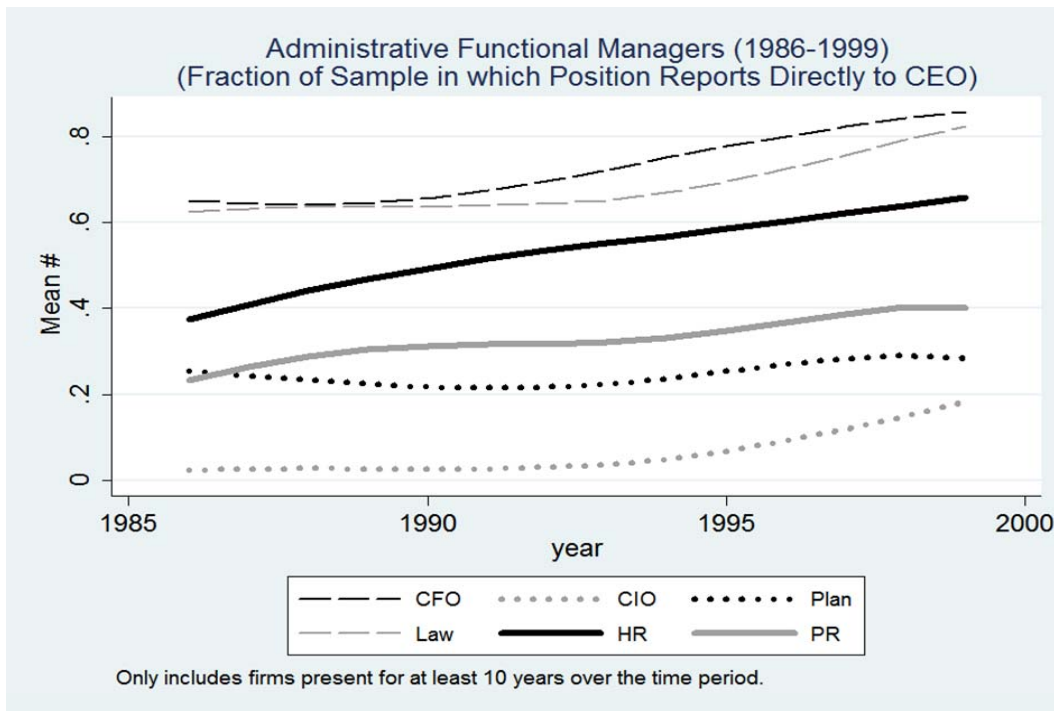
responsible for specialized functions in order to coordinate across business units and exploit synergies (e.g., Chief Marketing Officer and marketing activities) or to general managers (e.g., division managers) responsible for business units who may have better information about local markets/ customers or incentives to work harder.

¹⁵ More functional managers at the top suggest that decisions are being centralized, but we don't know from whom the decisions are being withdrawn. If they are being taken away from division managers at the same level as functional managers, they have essentially moved horizontally, not up. If they are being taken from lower-level division managers (or other lower-level functional positions), the direction of movement is up. As described later, we find that division manager pay decreases, on average, when there are more functional managers at the top, suggesting that some decisions *are* being withdrawn and transferred up.

¹⁶See Bloom, Garicano, Sadun and Van Reenen, 2010, for theory and evidence on the relationship between organizational structure, decentralization and different types of IT. They find that communication technology pushes decisions up. See Bresnahan, Brynjolfsson and Hitt (2002) for the relationship between IT and work practices; Bartel, Ichniowski, and Shaw (2007) for the relationship between IT and plant productivity; and Baker and Hubbard (2004) for relationship between IT and firm boundaries.

¹⁷ See Guadalupe, Li and Wulf (2011) for a detailed description.

Exhibit 4: Importance of Top Functional Managers, by Position



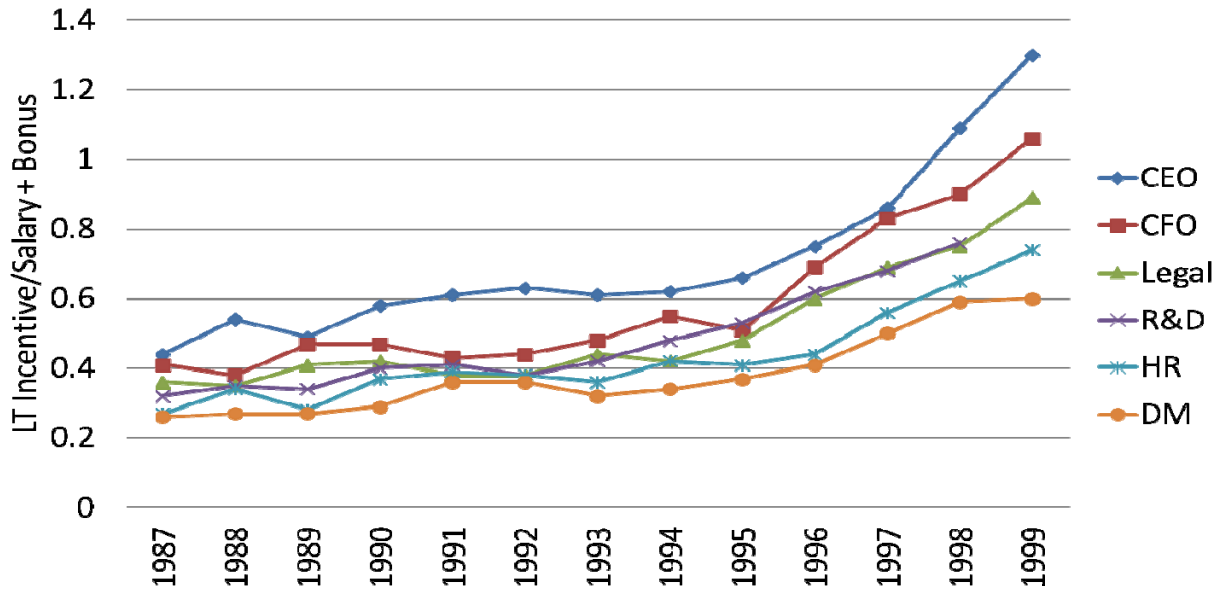
Source: Based on data described in Rajan and Wulf (2006) and Guadalupe, Li and Wulf (2011).

Changes in Pay at the Top

The structure of compensation—both the importance of performance pay and the selection of performance measures—can align managers’ incentives to motivate them to make decisions that enhance firm value. We argued earlier that more performance-based pay for division managers goes hand in hand with greater authority. But do changes in both the amount and structure of compensation for functional managers at the top reveal anything about decision-making?

There has been much discussion of rampant increases in CEO pay, primarily in the form of stock options (e.g., Hall and Leibman, 1998). We documented a similar trend for senior-management positions in general. Exhibit 5 plots the ratio of long-term incentive pay to cash compensation over a 13-year period for selected senior-manager positions. Long-term incentives include stock options, restricted stock and performance units; we defined cash compensation as salary plus bonus. What we see is a significant increase in incentive pay for many senior-executive positions—both functional and division managers—in addition to CEOs. We cannot determine whether the trends in the structure of pay are caused by flattening or the other way around. However, we do explore the relationship between incentive pay and the organizational structure at the top.

Exhibit 5: Performance Pay for Top Managers, by Position



Source: Based on data described in Rajan and Wulf (2006) and Guadalupe, Li and Wulf (2011). DM is Division Manager.

Our fifth main finding is that division manager pay declines as functional managers join the executive team (Guadalupe, Li and Wulf, 2011). Notably, this relationship is driven by “product” functional managers who perform activities that are typically the responsibility of division managers (e.g., marketing and R&D) and not the administrative functions (e.g., finance, legal, human resources). Moreover, as functional managers move to the top, they get paid more. If pay is positively correlated with decision rights, this finding suggests that functional managers made more decisions as they moved closer to the CEO, while division managers made less. In other words, functional managers at the top made decisions or performed activities that were previously performed by the division manager. This finding is directly at odds with what we think of as flattening: instead of pushing decisions down to lower-level division managers, functional managers at the top of the flattened firm are performing corporate-wide functional activities—a form of centralization.

What does flattening really tell us about decision-making?

What have we learned about flattening, internal governance and decision-making? Firms did delay while adopting high-powered incentives for division managers suggesting the delegation of decisions -- all in response to intensified competition in product markets. But CEOs also shifted the mix of the top team toward functional managers, meanwhile decreasing the pay of division managers as functional managers joined the top team. Standard classifications of

“centralization” or “decentralization” are too simple to represent accurately these changes in internal governance. Firms are doing both. However, this new corporate structure seems at odds with prevailing notions of flattening and more consistent with decision-making at the top—centralized decision-making via more oversight by higher-level functional managers and reduced roles for lower-level division managers.

The Changing Role of the CEO

Though some of our evidence suggests that flattening signifies more control at the top, it doesn't necessarily mean that CEOs are more involved and making more decisions themselves. Even when functional managers in the top team make more corporate-wide decisions, the CEO may remain uninvolved. Next, we investigated what flattening means for the role of the CEO.

Despite our large sample's representativeness and the length of the period covered (1986-2006), our measures (the structure of the organization and compensation) limited us to *inferences* about how decisions were made. That is, we did not observe decision-making inside the firms in our sample. More recently, to better understand what flattening means for the role of the CEO and how decisions are made in flattened firms, we conducted two types of research in the field: CEO interviews -- what CEOs say -- and analysis of CEO time use -- what CEOs do. Our quantitative and qualitative data are from two distinct time periods. The large-sample panel dataset covers the period from 1986 to 2006, while the CEO interviews and time use survey were conducted during 2010 to 2011. However, the implications of both analyses, despite the gap in timing, consistently suggest a robust organizational phenomenon that has persisted for at least the past two decades.

What CEOs Say--Flattening to “Get Closer to the Businesses”

If, as our evidence suggests, CEOs flattened in order to centralize functions and to make more decisions at the top—the question remains--did CEOs become more or less involved in subordinates' decisions and activities? An example of flattening at the top is the organizational change undertaken by the CEO of General Electric in 2002. Jeffrey Immelt eliminated the position of the chairman of GE Capital and instead had the four business-unit heads of GE Capital report directly to him. That is, Immelt flattened the organization by increasing the span of control and reducing the number of reporting levels between the unit heads and the CEO. Immelt's reasoning was as follows: “The reason for doing this is simple—I want more contact with the financial-services teams. With this simplified structure, the leaders of these four businesses will interact directly with me, enabling faster decision making and execution.”¹⁸ This statement links greater involvement on the part of the CEO with faster decision-making. Is greater involvement the aim of flattening in general?

As a first step to answering this question, we conducted exploratory interviews with seven CEOs of large US Fortune 500 firms from January through June, 2011 (on average, \$50 billion in revenues and 120,000 employees). (See “About the Research”). While a small sample, five of the

¹⁸ General Electric press release, “GE Announces Reorganization of Financial Services; GE Capital to Become Four Separate Businesses”, July 26, 2002. See Ocasio and Joseph (2008) on organizational changes in General Electric over time.

seven firms we interviewed were present in the large-sample studies. We collected detailed data on changes in the organizational structures at the top from the companies and used the interviews to get a rough sense of whether the trends from the earlier sample extended through more recent years. However, the main purpose of the interviews was to discuss the flattening of firms, and more specifically the broadening of the CEO's span of control: what had caused it, its consequences and its meaning for decision-making and the role of the CEO. While we cannot generalize from such a small sample of firms, the exploratory interviews shed some light on possible mechanisms behind the flattening phenomenon.

Our main insight from the interviews is that flattening is not about delegation of decision-making to subordinates and a hands-off role for the CEO. In fact, the most consistent message from the CEOs was that they had changed the structure of their executive team and broadened their span of control to “get closer to the businesses.” They or their predecessors had eliminated the COO position in pursuit of more control, more oversight and more involvement in business operations and decisions, not less. This finding is in stark contrast to the prevailing perception of flattening. Whatever the term used—*delegation of decision-making*, *empowerment* or *decentralization*—the perceived objective of flattening is to push decisions down. But the evidence from our interviews suggested exactly the opposite: CEOs flatten to achieve more control, to get more involved and to become more hands-on. Among the CEOs that we interviewed, flattening at the top involved more decisions at the highest level in the pyramid.

CEOs offered several explanations for broadening their spans of control, but three themes were particularly relevant: to get access to information and bring more voices to the table; to more effectively drive change through the top team in rapidly changing business environments; and to assess and develop executive talent. More broadly, advances in information technology (email, voicemail, access to performance dashboards) have reduced the costs of communication and coordination, increasing CEO' management capacity. CEOs have invested this additional capacity by eliminating the COO position, managing more subordinates and getting more involved in internal operations. CEOs reported that having no COO gave them direct access to unfiltered information—in contrast to the vertical information flows associated with a steeper hierarchy and additional management levels. An accompanying cost of having no COO is the difficulty of developing successors without the general-management training of the COO position. To address this problem, CEOs have adopted alternative mechanisms, such as horizontal rotation and “double-hatting” so executives acquire both staff and line experience. Relatedly, flattened firms limit “vertical” promotion opportunities for division managers and firms partially address the associated executive development challenges via multiple assignments at the same level for development (e.g., same job, but different business or location).

Although flatter structures go hand in hand with more involved CEOs, the role of the CEO and in flattened firms in particular, does not appear to match traditional notions of command and control. Based on evidence from the interviews, CEOs with broader spans of control claimed to have shifted from a hub-and-spoke model of interaction to a team-based collaborative model. Hub-and-spoke models—with the CEO as the hub and subordinates as spokes—are based on vertical information flows and entail extensive one-on-one interaction with the CEO in his role as integrator. In contrast, the collaborative model involves team-based interaction among the CEO and subordinates, characterized by more horizontal information flows and a CEO who

facilitates discussion and devotes less attention to integration.¹⁹ Also, based on our interviews, the shift in the composition of the top team by CEOs toward functional managers is associated with more coordination among the top team and a different role for the CEO and senior executives.

To sum up, the evidence from the interviews suggests that a flatter hierarchy at the top is not associated with a hands-off CEO who delegates decisions to subordinates—on the contrary, CEOs are much more involved. Nor does their involvement consist of the typical command and control associated with the hub-and-spoke model. Instead, the CEO facilitates more team-based interactions. This configuration has implications for information flows, executive development and the skill sets needed in the top team.

What CEOs Do--Flattening and Increased Allocation of CEOs' Time to Internal Operations

The evidence from the interviews suggests that flattening corresponds with CEOs involving themselves more intensively in internal operations and subordinates' activities. But what CEOs say and what they do (e.g., Mintzberg, 1973; and more recently Porter and Nohria, 2010) may be two different things. For a more objective portrait of the role of CEOs in flattened firms today, we analyzed how CEOs allocate their time (Bandiera, Prat, Sadun and Wulf, 2011) (see "About the Research"). In January 2010, we compiled a unique data set using a survey instrument that enabled us to track time-use over the course of a representative week for a sample of 65 CEOs attending an executive education course at Harvard Business School.²⁰ We measured with unprecedented detail the daily activities of CEOs and their interactions with their external and internal constituencies. We distinguished between time alone and time interacting with others (meetings), and further between interactions with insiders and outsiders. We also documented the nature of interactions between CEOs and their subordinates (e.g., length of the meeting, number of participants and functions represented). These data allow us to assess how CEOs' activities vary by the structure and composition of their executive teams.²¹

Our time-use findings are largely consistent with the CEO interviews. Specifically, a flattened structure at the top corresponds with a CEO who is more involved with internal operations. Though one might expect CEOs with more direct reports to work longer hours, we find no evidence of this pattern. However, we do find that how CEOs allocate their time depends heavily on the structure of the executive team. First, CEOs with broader spans of control spend more time in meetings and less time alone—a finding consistent with greater involvement. We also find that a COO acts as a substitute for CEO attention to internal functions/operations: CEOs who have COOs spend less time in interactions and more time alone. When we analyze time spent in long meetings with insiders, we find that broader spans are associated with a certain type of meeting: multi-participant, planned in advance and cross-functional in nature. Needless to say, we cannot observe how decisions were made in these meetings. But given the extreme time

¹⁹ See Tushman et al. (2011) for descriptions of the hub-and-spoke and ring-based models of decision-making for CEOs.

²⁰We used the survey instrument developed and described in Bandiera, Guiso, Prat and Sadun, 2011.

²¹ While the CEOs participating in the time-use study included some large firms, the average firm size was much smaller and corresponded to a smaller average span of control.

constraints facing CEOs, it seems reasonable to assume that if the CEO attends the meeting, he or she has some role in decision-making.

That broader spans are associated with more time spent in meetings with multiple insider participants is consistent with the theme from the interviews that CEOs at flattened firms are closer to the businesses and more involved in internal operations. This evidence too broadly suggests that flattening at the top is at odds with pushing decisions down to subordinates. Instead it is consistent with more control at the top on the part of a more involved, hands-on CEO.

What Are the Implications for Managers?

Ultimately, does any of this actually matter to managers? A general principle of governing managerial human capital is that when you change one component of governance, you must change the other elements as well. An effective system of internal governance requires components that are complementary and fit together.²² For instance, organizations that grant autonomy and latitude to division managers should also link their pay to firm performance to assure that managers make decisions that benefit the firm, not just their individual silos. And organizations that grant autonomy should hire managers who value it and then take pains to develop their managerial decision-making skills. For optimal firm performance, in short, latitude in decision-making should be bundled with firm-based performance pay and with selection of managers who value autonomy and are skilled at making decisions. It follows that internal governance instruments—organizational structure, decision rights, managerial talent and incentive design—should all match up.

Thus, we see that flattened firms require a different system to govern the hiring, development, motivation and decision-making of managers. What can go wrong otherwise? If you flatten to push decisions down and instead the decisions go up, then division managers that you have hired to “be the boss” are out of sync with the way decisions are made. Clearly, there is a mismatch between managerial talent and decision rights. So, flattening is not just about structural change. It affects the role of the CEO, how decisions are made, and managerial incentives. But its consequences are far-reaching for strategy, execution, and for the ways that firms create value. And it also has consequences for the internal governance of managerial human capital, undeniably one of the most important resources for firms today.

Conclusion

So, what can we conclude about “the flattened firm”? According to our research, it has fewer levels and broader spans of control. Division managers are closer to the top and have more performance-based pay. But the top team consists of more and higher-paid functional managers making corporate-wide decisions. And the senior executive group is led by a CEO who is more involved, not less. The flattened firm also appears to rely on more coordination among the top team and a different role for the CEO. The evidence is at odds with simply pushing decisions

²² See the extensive theoretical literature on complementarities, e.g., Milgrom and Roberts, 1995; Holmstrom and Milgrom, 1994; Rivkin and Siggelkow, 2003; Roberts, 2004.

down. Flattening at the top is a complex phenomenon that in the end looks more like centralization.

At the same time, standard classifications of “centralization” or “decentralization” are too simple to explain the flattening phenomenon. Our research shows that, in fact, firms are doing both. And while our evidence is at odds with simply pushing decisions down, it seems crucial to consider different types of decisions and activities and how they vary by level in the hierarchy. For example, division managers may “be the boss” for decisions that are closer to products like what customers/segments to target, what prices to charge, and what competitors to monitor. In contrast, more “staff-related” decisions around shared resources -- like managing the corporate brand, implementing a corporate-wide lean manufacturing process, or auditing and control of administrative functions such as finance, legal, and human resources – may be made at the top. To better understand these issues, it is necessary to get detailed information on decision-making at different levels and across functions.

The highly-decentralized multidivisional form became prevalent as firms diversified their business portfolios in response to the increasingly complex environments in which they operated – “structure follows strategy” (Chandler, 1962). Over the past several decades, large US firms have shifted their strategies dramatically narrowing the focus of their business portfolios. Our research on the flattening phenomenon suggests that firms, in response to changes in their environments and along with shifts in strategy, have adopted a structure that is distinct from the traditional, highly-decentralized multidivisional organization.

About the Research: Data Used in This Study

Large-sample panel dataset (1986-2006): The large-sample findings reported in this article draw on a detailed panel database of managerial job descriptions, reporting relationships and compensation structures in a large sample (300+) of established U.S. firms over the 14-year period 1986-1999. The companies in the sample represent a range of industries and have on average almost 50,000 employees and are most representative of Fortune 500 firms. The organizational variables (e.g., span of control, depth) in the dataset were constructed using data from a compensation survey of more than 50 senior and middle management positions conducted by Hewitt Associates, a large employee-benefits consulting firm. We reconstruct firm hierarchies and characterize their breadth (CEO span of control) and depth (number of positions between CEO and division manager) by using the title of the position that each position reports to. We capture the flattening of firms through *changes* in CEO span of control and depth of division manager positions over time. (See Rajan and Wulf, 2006, for a detailed description of the study's sample, methods and variables.) We extended the time period to 2006 for the positions reporting directly to the CEO for a subset of firms using data from detailed organizational charts collected by The Conference Board (see Guadalupe, Li and Wulf, 2011).

CEO interviews (2011): We conducted exploratory interviews with seven CEOs from large US Fortune 500 companies from January to June, 2011 (on average, \$50 billion in revenues and 120,000 employees) (see Neilson and Wulf, 2012 for some details of the interviews). The firms were led by CEOs with varying tenure in position, covered a variety of industries, and included firms in related businesses plus more diversified businesses. While a small sample, five of the seven firms were present in the large-sample studies. We collected detailed data on changes in the organizational structures at the top of these firms in advance of the interviews and used the interviews to explore whether the trends from the earlier sample extended through more recent years.

Time-use data (2010): The data contains time-use information on a sample of 65 CEOs attending an executive education course at Harvard Business School in January 2010 (described in detail in Bandiera, Prat, Sadun and Wulf, 2011). Each CEO's time allocation is monitored over a pre-selected work-week. Using a novel survey instrument designed by Bandiera, Guiso, Prat and Sadun (2011), we classify time allocation into several categories with unprecedented detail: time alone, time interacting with others (meetings), time interacting with insiders vs. outsiders. We explore additional characteristics of the meetings to better document the nature of the interactions between CEOs and their subordinates (length of meeting, number of participants, cross-functional participants, duration, planned vs. unplanned, function-specific interactions). About two thirds of the subjects are based in North America, while the rest are mainly in Europe and Asia. The time use data is complemented by organizational chart information, specifically the number and types of positions reporting directly to the CEO. Given the challenge in getting access to CEO calendar, most of the firms participating in the time use study are much smaller than those in the large-sample, longitudinal studies. While we have rich detail about CEO time allocation, our survey does not collect any information about decision-making, per se.

References

- Aghion, Philippe, and Jean Tirole. (1997). "Formal and Real Authority in Organizations," *Journal of Political Economy*, 105 (1): 1-29.
- Alonso, Ricard, Wouter Dessein and Niko Matouschek. (2008). "When Does Coordination Require Centralization?," *American Economic Review*, 98 (1): 145-179.
- Athey, Susan, and John Roberts. (2001). "Organizational Designs: Decision Rights and Incentive Contracts," *American Economic Review*, 91 (2): 200-205.
- Baker, George P., Robert Gibbons and Kevin J. Murphy. (1999). "Informal Authority in Organizations," *Journal of Law, Economics & Organization*, 15 (1): 56-73.
- Baker, George; Michael Gibbs and Bengt Holmstrom. (1994). "The Internal Economics of the Firm: Evidence from Personnel Data." *Quarterly Journal of Economics*, 109 (4), 881-919.
- Baker, George P. and Thomas N. Hubbard. (2004). "Contractibility and Asset Ownership: On-Board Computers and Governance in U. S. Trucking." *Quarterly Journal of Economics*, 119 (4), 1443-79.
- Bandiera, Oriana, Luigi Guiso, Andrea Prat, and Raffaella Sadun. (2011). "What Do CEOs Do?," Working paper.
- Bandiera, Oriana, Andrea Prat, Raffaella Sadun and Julie Wulf. (2011). "Span of Control and Span of Activity," Working paper.
- Bartel, Ann, Casey Ichniowski and Kathryn Shaw. (2007). "How does Information Technology Affect Productivity? Plant-Level Comparisons of Product Innovation, Process Improvement, and Worker Skills," *Quarterly Journal of Economics*, 122 (4), pp. 1721-1758.
- Bartlett, Christopher A. and Sumantra Ghoshal. (1993). "Beyond the M-Form: Toward A Managerial Theory of the Firm," *Strategic Management Journal*, 14 (S2): 23-46.
- Bloom, Nicholas, Raffaella Sadun and John Van Reenen. (2010). "Does Product Market Competition Lead Firms to Decentralize?," *American Economic Review*, 100 (2): 434-438.
- Bloom, Nicholas, Luis Garicano, Raffaella Sadun and John Van Reenen. (2010). "The Distinct Effects of Information Technology and Communication Technology on Firm Organization." Harvard Business School Working Paper, No. 11-023.
- Boston Consulting Group. "Global Delaying for Competitive Advantage," *BCG Opportunities for Action*, April 2006.
- Bresnahan, Timothy F., Erik Brynjolfsson, and Lorin Hitt. (2002). "Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence," *Quarterly Journal of Economics*, 117 (1): 339-376.
- Chandler, Alfred D. (1962). *Strategy and Structure: Chapters in the History of the Industrial Enterprise*. Cambridge: MIT Press.
- Cremer, Jacques, Luis Garicano and Andrea Prat. (2007). "Language and the Theory of the Firm," *Quarterly Journal of Economics*, 122 (1): 373-407.
- Crist Kolder Associates. (2011). *Volatility Report*.
- Dessein, Wouter, Luis Garicano and Robert Gertner. (2010). "Organizing for Synergies," *American Economic Journal: Microeconomics*, 2 (4): 77-114.

- Eisenmann, Thomas R. and Joseph L. Bower. (2000). "The Entrepreneurial M-Form: Strategic Integration in Global Media Firms," *Organization Science*, 11 (3); 348-355.
- Finkelstein, Sydney, Donald Hambrick and Albert Cannella. (2009). *Strategic Leadership: Theory and Research on Executives, Top Management Teams, and Boards*. New York: Oxford University Press.
- Galbraith, Jay R. (1973). *Designing Complex Organizations*, Reading: Addison-Wesley.
- Garicano, Luis. (2000). "Hierarchies and the Organization of Knowledge in Production," *Journal of Political Economy*, 108 (5): 874-904.
- Groysberg, Boris, L., Kevin Kelly, and Bryan MacDonald. (2011). "The New Path to the C-Suite," *Harvard Business Review* 89 (3).
- Guadalupe, Maria and Julie Wulf. (2010). "The Flattening Firm and Product Market Competition: The Effect of Trade Liberalization on Corporate Hierarchies." *American Economic Journal: Applied Economics* 2 (4).
- Guadalupe, Maria, Hongyi Li and Julie Wulf. (2011). "Who Lives in the C-Suite? Organizational Structure and the Division of Labor in Top Management." Working paper.
- Hall, Brian J. and Jeffrey B. Liebman. 1998. "Are Ceos Really Paid Like Bureaucrats?" *Quarterly Journal of Economics*, 113 (3), 653-91.
- Hart, Oliver and Bengt Holmstrom. (2010). "A Theory of Firm Scope." *The Quarterly Journal of Economics*, 125 (2), 483-513.
- Holmström, Bengt and Paul Milgrom. (1994). "The Firm as an Incentive System," *American Economic Review*, 84 (4): 972-991.
- Jensen, Michael C. and William H. Meckling. (1976). "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics*, 3 (4): 305-360.
- Lawrence, Paul R. and Jay W. Lorsch. (1967). *Organization and Environment*. Boston: Harvard Business School Press.
- Malone, Thomas. (2003). "Is Empowerment Just a Fad? Control, Decision Making, and IT" in *Inventing the Organizations of the 21st Century*, Thomas Malone, Robert Laubacher, and Michael Scott Morton ed., Cambridge: MIT Press.
- Menz, Markus. (2011). "Functional Top Management Team Members: A Review, Synthesis, and Research Agenda," *Journal of Management*. Forthcoming.
- Milgrom, Paul and John Roberts. (1995). "Complementarities and Fit: Strategy, Structure, and Organizational Change in Manufacturing," *Journal of Accounting and Economics*, 19: 179-208.
- Mintzberg, Henry. (1973). *The Nature of Managerial Work*. New York: Harper Collins.
- Neilson, Gary L. and Julie Wulf. (2012). "How Many Direct Reports?," *Harvard Business Review*, 90 (4): 112-119.
- Ocasio, William and John Joseph. (2008). "Rise and Fall – or Transformation?: The Evolution of Strategic Planning at the General Electric Company, 1940-2006," *Long Range Planning*, 41 (3): 248-272.
- Porter, Michael E. and Nitin Nohria. (2010). "What is Leadership? The CEO's Role in Large, Complex Organizations." N. Nohria and R. Khurana eds, *Handbook of Leadership Theory and Practice: A Harvard Business School Centennial Colloquium*, Boston: Harvard Business School Press.

- Powell, Walter. (2001). "The Capitalist Firm in the Twenty-First Century: Emerging Patterns in Western Enterprise," pp. 33-68 in Paul DiMaggio (Ed.), *The Twenty-First Century Firm*, New Jersey: Princeton University Press.
- Prendergast, Canice. (2002). "The Tenuous Trade-off between Risk and Incentives," *Journal of Political Economy*, 110 (5): 1071-1102.
- Radner, Roy. (1993). "The Organization of Decentralized Information Processing," *Econometrica*, 61 (5): 1109-1146.
- Rajan, Raghuram G. and Julie Wulf. (2006). "The Flattening Firm: Evidence from Panel Data on the Changing Nature of Corporate Hierarchies." *Review of Economics and Statistics*, 88 (4) 759-773.
- Rajan, Raghuram G. and Luigi Zingales. (2001). "The Firm as a Dedicated Hierarchy: A Theory of the Origins and Growth of Firms," *Quarterly Journal of Economics*, 116 (3): 805-851.
- Rivkin, Jan W. and Nicolaj Siggelkow. (2003). "Balancing Search and Stability: Interdependencies among Elements of Organizational Design," *Management Science*, 49 (3): 290-311.
- Roberts, John (2004). *The Modern Firm: Design for Performance and Growth*, New York: Oxford University Press.
- Rotemberg, Julio. (1999). "Process- Versus Function-Based Hierarchies," *Journal of Economics & Management Strategy*, 8 (4): 453-487.
- Simons, Robert. (2005) *Levers of Organization Design: How Managers Use Accountability Systems for Great Performance and Commitment*, Boston: Harvard Business School Publishing.
- Teubner, Gillian. (2001) "Flattening the Organizational Structure: Encouraging Empowerment or Reinforcing Control?" *Research in Organizational Change and Development*, 13: 147-168.
- Tushman, Michael L., Wendy K. Smith, and Andy Binns. (2011). "The Ambidextrous CEO." *Harvard Business Review*, 89 (6): 74-80.
- Williamson, Oliver E. (1967). "Hierarchical Control and Optimum Firm Size," *Journal of Political Economy*, 75 (2): 123.
- _____. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications: A Study in the Economics of Internal Organization*. New York: Free Press.
- Wulf, Julie. (2007). "Authority, Risk, and Performance Incentives: Evidence from Division Manager Positions inside Firms." *Journal of Industrial Economics*, 55 (1), 169-96.