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Are Perks Really Managerial Excess?

The business press frequently reports on lavish executive compensation, particularly the many non-salary perks that CEOs and other titans of industry enjoy. Often, such perks are portrayed as wasteful corporate spending that hurts shareholders and contributes little to the bottom line. But is this interpretation warranted? **In Are Perks Purely Managerial Excess?** (NBER Working Paper No. 10494), authors **Raghuram Rajan** and **Julie Wulf** explore the evidence and offer an alternative explanation: corporate perks may simply be a way to enhance managerial productivity.

Rajan and Wulf define executive perks as non-monetary compensation offered to select employees of a corporation; they include non-essential items such as use of corporate jets or club memberships. Traditionally, financial economists have regarded perks as “a way for managers to misappropriate some of the surplus the firm generates,” explain the authors, referring to this as the “private benefits” explanation of executive perks. Managers can get away with such behavior because perks are often unknown to outsiders and underreported to shareholders. In this view, perks would be especially prevalent within mature firms with low growth prospects (and thus few investment opportunities) and with substantial free cash flow (and thus less need to seek external financing from discerning investors). Perks also would be more prevalent in firms with less rigorous outside monitoring and corporate governance.

Alternatively, the authors posit that firms may benefit from offering perks more than individual managers benefit from receiving them. For

example, an executive who arrives fresh and well rested on a first-class trans-Atlantic flight may be better equipped to negotiate a major deal than an executive who dealt with the hassles and cramped accommodations of flying coach. Perks could enhance worker productivity in other ways, too. Executive dining rooms keep high-level managers in the office rather than having them waste time at outside lunches; they also may foster more chance encounters and synergies between executives of different divisions.

To assess the validity of these competing views, Rajan and Wulf examine data on more than 300 publicly traded U.S. firms between 1986 and 1999, spanning a number of

fewest perks. Rajan and Wulf also find that older and more hierarchical firms tend to offer more perks, consistent with the notion that perks are often inertial, and that firms may use perks to affirm status differences among employees and enhance CEO authority.

However, the authors find mixed evidence for the “private benefits” explanation for executive perks. For example, as noted earlier, perks should be greatest in firms that both generate substantial free cash flow and face few profitable investment opportunities. But Rajan and Wulf find that high-growth firms generating low cash flow are actually 11.3 percent more likely to offer CEOs use of the company plane. Similarly,

“Perks are a means to enhance executive productivity. The narrow implication of this finding is that a blanket indictment of the use of perks is unwarranted.”

industries. More than 75 percent of the firms were listed in the Fortune 500 for at least one year of the survey period. The data include compensation information for top executives and several positions down in the corporate hierarchy.

Rajan and Wulf find that CEOs have access to the corporate jet in 66 percent of the firm-years, receive chauffeur services in 38 percent of total firm-years, and enjoy country club memberships in 47 percent of the firm-years. For division managers, by contrast, the figures are 30, 6, and 28 percent, respectively. The authors find that higher paying firms overall are more likely to offer perks to CEOs. Firms in the petroleum refining industry tend to offer the most perks, while computers and machinery companies offer the

Rajan and Wulf find no direct relationship between stronger or weaker corporate governance and access to corporate jets.

By contrast, the authors find ample support in the data for the productivity view of managerial perks. For example, timesaving perks should be offered to executives who manage larger business units and whose decisions affect more people on the margin. Indeed, Rajan and Wulf find that managers operating larger firms receive additional perks. Also, the authors suggest that the use of the company jet may be more efficient for firms located far from airports compared to those in close proximity to airline hubs, which are more easily accessible in large urban areas. Indeed, they find that firms headquartered in more populated

areas are less likely to operate a company plane, and that CEOs working in headquarters located in close proximity to larger airports are less likely to enjoy access to corporate jets.

Finally, travel-related perks should be offered to executives who face greater travel demands. Consistent with this, the authors find that firms with geographically-dispersed operations that are far from busy airports are more likely to offer jet access while those with concentrated operations close to airport hubs are less likely to do so.

Rajan and Wulf also examine chauffeur service perks and find more evidence to support the productivity explanation. Firms located in more populated areas are more likely to offer chauffeur services to CEOs who chauffeur, so they can be more productive during their commutes. Similarly, CEOs who work in counties with longer median commute times are more likely to have access to chauffeur services.

“Overall,” the authors conclude, “we have found mixed support for the private benefits explanation.”

Instead, they have identified “more compelling and robust evidence” supporting other explanations, especially that perks are a means to enhance executive productivity. The “narrow implication of this finding,” they assert, “is that a blanket indictment of the use of perks is unwarranted.” More broadly, they believe that examining non-monetary compensation can unearth very interesting and research-worthy aspects of business and organizational design.

— Carlos Lozada

The Changing Path to Corporate Leadership

The executive suite at the world's most powerful corporations has changed substantially over the past twenty years with the leaders of today's global behemoths younger, more likely to be women, and less likely to be Ivy League educated than they were in the 1980s. Furthermore, the rise to the top is faster for today's executives and requires holding fewer jobs along the way.

In **The Path to the Top: Changes in the Attributes and Careers of Corporate Executives, 1980 to 2001** (NBER Working Paper No. 10507), authors **Peter Cappelli** and **Monika Hamori** examine career histories and personal characteristics of people at “the top ranks of the largest and most stable business operations, the Fortune 100.” The authors believe that it's important to study the path to power at these companies, given that most of them have more assets than do many countries and can take actions that “can alter the fate of entire nations.” Furthermore, analyzing the ascension of the modern executive illuminates a long-standing American interest in the dynamics of social mobility and the individual journey to success within the corporation.

Cappelli and Hamori remark that, to a certain extent, they simply wanted to know “whether individuals with different attributes are getting to the top now.” The answer

turned out to be a definitive yes. For example, in 1980, the average age of executives — high-level figures who include company presidents, chief executive officers, chief financial officers, and senior vice presidents, among others — was 56 while in 2001 it was 52. In 1980, the Fortune 100 featured no women executives, while in 2001, 11 percent were women.

In addition, Cappelli and Hamori point out that it used to be a given that the “Ivy League undergraduate education played a central role as a gatekeeper for a Fortune

company at a young age and, over decades, secures a position of power by methodically and slowly navigating the corporate hierarchy, climbing the classic “ladder to success” one rung at a time. These authors discovered that the executives of 2001 were much less likely to have “spent their entire career at the same company” than their counterparts from 1980.

Furthermore, over the 20-year period the average tenure of executives at their current firm dropped “by almost a full five years.” Cappelli and Hamori note that executives were able to rise to the top in less

“In today's more competitive environment, Ivy League connections are less important, top executives are more likely to come from outside a company, job tenure is much lower, and executives get to the top faster by holding fewer jobs.”

100 executive career.” They report that in 1980, “a full 14 percent of top executives in the Fortune 100 companies attended one of eight Ivy League institutions for their undergraduate education” and only 32 percent attended public or state-sponsored schools. But in 2001, only 10 percent had Ivy League pedigrees while almost half — 48 percent — had attended public institutions.

Cappelli and Hamori also report substantial change in the executive as the “Organization Man,” the type who builds a career by joining a

time because they held “fewer jobs on their climb up the corporate ladder.” Essentially, a single promotion in 2001 brought one closer to the executive suite than it did in 1980.

In addition, Fortune 100 firms were more inclined to hire executives from outside the company in 2001, rather than focusing so heavily on promoting from within. Cappelli and Hamori believe the changes they discovered are evidence that the post-1980 period was “an important breaking point” for the corporate career model, given

that the executive career pattern in 1980 was relatively similar to what it had been since the 1950s.

As for the reasons behind the changes, the authors note that the early 1980s ushered in a "watershed moment for the U.S. economy and for corporations in particular." A severe recession, a wave of deregulation, intensified global competition, and new shareholder demands for better financial performance sparked a spate of corporate restructurings. As a result of this upheaval, the "nature of executive career paths has changed," Cappelli and Hamori assert. In today's more competitive environment, Ivy League connections are less important, top executives are more likely to come from outside a company, job tenure is much lower, and executives "get to the top faster by holding fewer jobs." In addition, not only are women now a presence in the power structure, but women executives tend to be

younger (47 years versus 52), less likely to be lifetime employees (32 percent versus 47 percent), have spent less time in each of their jobs before being promoted (3.4 years versus 4.0), and broke into the executive ranks "much quicker (21 versus 25 years) than did their male counterparts," the authors find.

Cappelli and Hamori acknowledge that the kind of companies that make up the Fortune 100 evolved over the past twenty years and that the changes observed in executive career paths could be a reflection of different corporate cultures dominating the group. For example, manufacturing concerns have gone from 17 percent to one percent of the Fortune 100, while financial services firm have risen from zero to 17 percent. But the authors find that the 26 companies that were in the Fortune 100 in both 1981 and 2001 exhibited many of the same changes in executive attributes that were found in the

relative newcomers. This result, they write, "suggests that the changes are likely to be systematic and widespread and not simply the result of changes in the type of companies that make up the Fortune 100."

Cappelli and Hamori also point out that Fortune 100 companies, by virtue of their size and influence, are the firms that would "most likely persist in the traditional organizational career model." Therefore, any changes in executive career paths at these relatively conservative institutions are likely more pronounced at other companies. "If we see changes in these firms, then there are good reasons for thinking that changes may be even more likely in other corporations, which are smaller, younger and less invested in the 'Organizational Man' approach to management," they conclude.

— Matthew Davis

Markets Can Predict the Future

Prediction markets — also known as information markets or events futures — first drew widespread attention in July 2003 when it was revealed that the Pentagon's Defense Advanced Research Projects Agency (DARPA) was establishing a Policy Analysis Market to allow trading in various forms of geopolitical risk,

In **Prediction Markets** (NBER Working Paper No. 10504), authors **Justin Wolfers** and **Eric Zitzewitz** describe the types of contracts that might be traded in prediction markets and then survey several applications, with special attention to market design issues. Finally, they assess the predictive value of such markets.

efficient; however, they acknowledge that a number of successes in these markets, both within firms and with regard to public events such as presidential elections, have generated substantial interest among both political and financial economists.

In a prediction market, the researchers note, payoffs are tied to unknown future events, and the design of how the payoff is linked to those events can elicit the market's expectations of many things. A "winner-takes-all" contract, for example, costs a specific amount and pays off a specific amount, and only pays if a specific event occurs, such as a particular candidate winning an election. The price on a winner-takes-all market represents the market's expectation of the probability that an event will occur. By contrast, for an "index" contract, the amount that the contract pays varies in a continuous way based on a number that rises or falls, like the percentage of the vote received by the candidate.

"By election day, the markets, with an average absolute error of around 1.5 percentage points, were considerably more accurate than the Gallup poll projections, which erred by 2.1 percent."

including economic and military scenarios. The objective was to discover whether trading in such contracts could help predict future events. Bowing to a storm of criticism that it was proposing "terrorism futures," DARPA dropped the program. But other prediction markets, dealing with everything from sports and entertainment to elections and finances, have emerged and gained growing interest and participation.

Wolfers and Zitzewitz begin by noting that much of the enthusiasm for prediction markets derives from the efficient markets hypothesis. In a truly efficient prediction market, the market price will be the best predictor of the event, and no combination of polls or other information can be used to improve on the market-generated forecasts. Wolfers and Zitzewitz do not insist that prediction markets are literally perfectly (or fully)

Finally, in “spread” betting, traders bid on the cutoff that determines whether an event occurs, like whether a candidate wins more than a certain percentage of the popular vote.

The various types of contracts may reveal the market’s expectation of a specific parameter: a probability, a mean, or median, respectively. But prediction markets also can be used to evaluate uncertainty about these expectations, for example a family of winner-takes-all contracts that pays off only if the candidate earns 48 percent of the vote, 49 percent, 50 percent and so on. This family of winner-takes-all contracts then will reveal almost the entire probability distribution of the market’s expectations. A family of spread-betting contracts can yield similar insights.

With these factors in mind, Wolfers and Zitzewitz examine the data compiled from analyses of the University of Iowa’s Iowa Electronic Market, which has offered trade on presidential election contracts since 1988. Charting the prices for the past four presidential elections, the data show that as election day drew nearer, the prediction markets’ projected candidate vote shares grow more accurate. By election day, the markets, with an average absolute error of

around 1.5 percentage points, were considerably more accurate than the Gallup poll projections, which erred by 2.1 percent. Prediction markets also appeared better calibrated than independent analysts on the probability of the ouster of Saddam Hussein. The Hollywood Stock Exchange likewise has proved highly accurate in predicting opening weekend box office success and Oscar winners.

Even some prediction markets with very small participation have shown striking results. An internal market at Hewlett-Packard produced more accurate forecasts of printer sales than did the firm’s internal processes, and at Siemens an internal market predicted the firm would definitely fail to deliver a software project on time, even as traditional planning tools said the deadline could be met. In each firm, the traders numbered only between 20 and 60 employees.

Wolfers and Zitzewitz maintain that the success of prediction markets, like all markets, depends on their design and implementation. Some key design issues include: how buyers are matched to sellers; the specification of the contract; whether real money is used (some

prediction markets operate for entertainment purposes and use make-believe currency); and the kind of information available to provide a basis for trading. Prediction markets are better at pricing some events than others. The markets, like many individuals, are not always well calibrated on small probability events. In addition, markets on complex events, or events where there is likely to be inside information, often fail to attract sufficient liquidity.

Wolfers and Zitzewitz conclude with cautious optimism. They believe that prediction markets are extremely useful for estimating the market’s expectation of certain events. Simple market designs can elicit expected means or probabilities, while more complex markets can elicit variances, and contingency markets can be used to elicit the markets’ expectations of covariances and correlations.

Prediction markets have their limitation, the researchers caution, but they may be useful as a supplement to more traditional means of prediction, such as opinion surveys, expert panels, consultants, and committees.

— Matt Nesvisky

Hospital Report Cards Do Matter

In schools, report cards are given to students to stimulate better academic performance. This same idea has been applied to hospitals that provide cardiac surgery to patients, and some research indicates that, as with report cards in schools, the goal is being met: the quality of care is improved.

In **The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery** (NBER Working Paper No. 10489), authors **David Cutler, Robert Huckman,** and **Mary Beth Landrum** access data from the nation’s longest-standing effort to measure and report

health care quality — the Cardiac Surgery Reporting System (CSRS) in New York state — to assess the success of the system. The CSRS collects data on clinical outcomes, that is, whether or not the patient died in the hospital following surgery, and

Using CSRS data for 1991 through 1999, the authors find that the information made public by the bypass surgery reporting program has had an impact on both the volume of cases and the future quality at hospitals identified as poor performers.

“Information made public by the bypass surgery reporting program has had an impact on both the volume of cases and the future quality at hospitals identified as poor performers.”

data on the health history of the patient before the operation, using information on roughly 40 conditions, including diabetes, kidney failure, liver failure, or prior heart attack.

Indeed, those weaker hospitals have lost some relatively healthy patients to competing facilities with better records. This shift, the authors note, may mean that healthier

patients have the time and energy to search for higher quality providers of bypass surgery. Several other studies, though, suggest that cardiologists and managed care insurers have not used such report cards in referring patients to specific hospitals or in making contracts for care.

In any case, the hospitals identified publicly as offering relatively low quality surgery experienced a decline of 10 percent in the number of patients during the first 12 months after an initial report, and this decrease remained in place for three years. That amounts to about 4.9 fewer surgery patients per month. The average hospital performs about 50 bypass surgery operations per month. For patients subsequently choosing these hospitals, the good

news is that their risk-adjusted mortality rate declined significantly: about 1.2 percentage points.

One possible explanation for these changes, the authors note, is that surgeons at poorly performing hospitals may simply be choosing to do fewer procedures, or may be encouraged by hospital administrators to operate less often. In the extreme, some surgeons may not do bypass operations anymore. However, the data indicate that these low-performing hospitals are still doing the same volume of operations on higher risk patients where immediate surgery may be needed. Possibly, given the high marginal profitability associated with cardiac procedures, the hospitals are working harder to get more patients to replace

those patients choosing hospitals with a better record, the authors suggest. Alternatively, the hospitals and surgeons may be making efforts to improve their future quality out of concern for patient health and their reputations as providers of high quality medical care.

In contrast to the situation at lower quality hospitals, those hospitals with low mortality rates see a positive flow of patients in the first year following a report. But the volume declines after that. The authors cannot determine what has happened to the patients choosing not to have an operation in hospitals with poorer report cards. Some may simply have decided not to have an operation.

— David R. Francis

Did the ADA Reduce Employment of the Disabled?

Congress passed the Americans with Disabilities Act of 1990 (ADA), a law that broadly prohibits discrimination on the basis of disability in employment and other settings, with an unusual degree of political consensus and popular support. Yet evidence suggests that employment levels of individuals with disabilities have declined rather than increased since the ADA's passage. Some commentators have suggested that the relationship is causal: because the ADA's employment protection provisions may increase accommodation and firing costs while doing little to protect workers from discrimination in hiring, the ADA may, paradoxically, be doing more harm than good for the employment prospects of workers with disabilities.

In a recent paper, **Disaggregating Employment Protection: The Case of Disability Discrimination** (NBER Working Paper No. 10740), NBER Research Associate **Christine Jolls** and co-author **J.J. Prescott** use variation in pre-ADA state disability discrimination laws to disentangle the employment effects of the ADA's two main requirements, one of which requires special accommodations for disabled workers, and

the other of which imposes a conventional employment protection rule prohibiting firing and other employment decisions based on disability. If in fact the ADA caused declines in disabled employment, then it is important for policy reform purposes to know what category of

is, human capital accumulation) by individuals with disabilities.

In **Disaggregating Employment Protection...** Jolls and Prescott use comprehensive data on pre-ADA state-level legal regimes governing employment discrimination on the basis of disability.

“Apart from a short-term effect of the ADA's requirement of special accommodations, the ADA was not causally linked to declining disabled employment over much of the 1990s.”

employment protection is responsible for the negative effect. In a related paper on the ADA, **Identifying the Effects of the Americans with Disabilities Act Using State-Law Variation: Preliminary Evidence on Educational Participation Effects** (NBER Working Paper No. 10528), Jolls uses the variation in pre-ADA state disability discrimination laws to explore whether — to the extent certain aspects of the ADA did cause disabled employment to decline just after the law's enactment — the reduction in employment may be attributed to ADA-generated increases in incentives for schooling or training (that

Before the ADA, some states had regimes identical to the ADA, under which employers must both provide special accommodations for individuals with disabilities and refrain from making firing and other employment decisions on the basis of disability. Other states prohibited employers from making firing and other employment decisions on the basis of disability but did not require special accommodations for individuals with disabilities. And, a few states did not provide any employment protection to people with disabilities in the pre-ADA period. By comparing employment level changes in states in which certain ADA provisions

were innovations to employment level changes in a group of control states that already had such provisions, Jolls and Prescott are able to separate the effects of the ADA's two main requirements.

The authors find no evidence that the ADA's traditional employment protection rule, prohibiting firing and other employment decisions on the basis of disability, reduced disabled employment. This conclusion carries important implications for civil rights and other anti-discrimination laws that, in contrast to the ADA, do not require special accommodations, they suggest. With respect to the ADA's requirement of special accommodations for individuals with disabilities, the authors find a significant negative effect on disabled employment in the period just after the ADA's enactment, but not in the subsequent period. That short-term effect may reflect the fact that many accommodations, including physical alterations to the workplace and modification of workplace policies, imposed obvious but often one-time costs on employers — costs that may well have been exaggerated or particularly salient in employers' minds just after the ADA's enactment. Alternatively, short-term but not medium- and long-term effects may

derive from: the ADA's important symbolic effect and the resulting changes in attitudes over time; the possibility that the provision of accommodations ultimately could increase the flow of qualified disabled applicants after a short-term reduction as the disabled individuals responded to the ADA by pursuing more education (a possibility explored more fully by Jolls in ... **Preliminary Evidence on Educational Participation Effects**); and declining accommodation costs in response to technological changes and judicial refinements of the ADA's requirements.

Jolls and Prescott infer that, apart from a short-term effect of the ADA's requirement of special accommodations, the ADA was not causally linked to declining disabled employment over much of the 1990s. This conclusion, based on the relative effects of the ADA across states with different pre-ADA state-level regimes, stands in contrast to recent empirical work using national-level data. In light of their findings, Jolls and Prescott conclude that the apparent negative employment effect of the ADA through much of the 1990s plausibly reflects not the impact of the ADA itself, but rather other contempora-

neous changes disproportionately affecting individuals with disabilities. Otherwise, the authors suggest, it is not immediately clear why the magnitude of the disabled employment effect after the ADA through much of the 1990s would have no relationship to the degree to which the ADA was a legal innovation in a given state, when the authors find clear evidence of such a relationship in the immediate post-enactment period.

Jolls also examines educational participation among individuals with disabilities and offers preliminary evidence that it responded positively to the ADA's enactment in states with no pre-ADA restrictions on disability-based discrimination in employment. Individuals with disabilities who were not employed in the years following the ADA's passage were more likely than their pre-ADA counterparts to give educational participation as the reason for their employment status in states in which the ADA was the greatest innovation. Jolls concludes by emphasizing the value of further study, with better education data, of the relationship between the ADA's enactment and disabled educational participation.

— Les Picker

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