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ABSTRACT

Why do some firms tend to offer executives a variety of perks while others offer none at all? A widespread view in the corporate finance literature is that executive perks are a form of agency or private benefit and a way for managers to misappropriate some of the surplus the firm generates. According to this view, firms with plenty of free cash flow that operate in industries with limited investment prospects should typically offer perks. The theory also suggests that firms that are subject to more external monitoring should have fewer perks. Overall, the evidence for the private benefits explanation is, at best, mixed. We do, however, find evidence that perks are offered most in situations where they are likely to enhance managerial productivity. This suggests that a view of perks that sees them purely as managerial excess is incorrect.

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Some firms offer their executives enormous perks. NorthWestern, a cash-strapped utility based in South Dakota, which had suspended its dividend, was scheduled to spend $450,000 in 2003 on the use of a corporate jet by its newly-appointed CEO, on top of a $565,000 salary, $600,000 signing bonus, and up to $423,000 in potential incentives. By contrast, the CEO of pharmaceutical giant, AstraZeneca, proudly states, "We use normally scheduled flights. You'll see me at the airport like everyone else." [1] Why do some firms offer employees such lavish perks instead of giving employees more choice and perhaps greater utility by giving them the monetary equivalent in additional pay?

By a perk, we refer to forms of non-monetary compensation offered to select employees. These range from the use of an executive jet or a chauffeur driven car to a giant corner office and country club memberships. Implied in the definition is that the perk is not strictly necessary for the accomplishment of the employee's duties (scheduled commercial flights are available or the executive only works out of a small portion of the office), hence it is a form of compensation.

In fact, the leading theory of perks in the corporate finance literature (following Grossman and Hart (1980) and Jensen (1976,1986)) is that they are a way for managers to misappropriate some of the surplus the firm generates. Managers can do so because perks are hard to observe by distant outsiders, and the value of perks is typically underreported to shareholders, if disclosed at all (there was public amazement at the size of the perks in former GE CEO Jack Welch's retirement package and these came to light only through court documents filed by his wife during divorce proceedings).[2] Moreover,

[1] From an article in USA Today, "Pricey Perks let Executives fly High", August 5, 2003.
[2] SEC disclosure rules require that perquisites worth more than a certain value must be reported as other annual compensation in the proxy statement for the five-highest paid executives. However, compliance and valuation of perquisites varies across firms. For example, AIG discloses no costs of perks provided to

perks are one sign that the firm has a "free cash flow" problem with more cash than it knows how to spend (Jensen (1986)) so excessive perks are typically only the tip of an iceberg of wasteful corporate practices such as over-investment and lax management. Legions of theoretical papers have been written where managers extract value through perks.

Despite the theoretical and popular focus on managerial excess as the explanation for why some firms offer so much more perks than others, there are other explanations. For example, firms may offer perks to improve managerial productivity or to reinforce status and authority. Our objective in this paper is to see whether the agency explanation just outlined offers an adequate description of the cross-sectional patterns in the data, or whether we have to turn to other explanations. To do this, we use a detailed database of job descriptions of top managers and their perk and compensation structures in over 300 large U.S. firms tracked over a period of up to 14 years. Since there is so little work on perks, we document the nature of perks offered to Chief Executive Officers (CEOs) and divisional managers across firms as well as how they change over time.

We then test the implications of the theories we have outlined. Since there is limited time variation in perks in our sample, we focus on the cross-sectional variation. Broadly speaking, even though in some industries, or in individual firms, perks may be a form of excess, the evidence in favor of private benefits is, at best, mixed. And, there is systematic evidence for other explanations -- such as perks as contributing to improved managerial productivity or enhancing managerial status and authority -- beyond simply

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management stating they are a business expense that facilitates the performance of management responsibilities (USA Today, Aug 5, 2003). As another example, Warren Buffet recognized shareholder sensitivity to excessive perks in his response to a reporter about Berkshire Hathaway's acquisition of a corporate jet, named "The Indefensible," he responded "I put it in our annual report in the tiniest type I could find. So, I kind of tip-toed into the arena." (Berkshire Hathaway Annual Report)

overpayment. In particular, time saving perks are far more common in settings where the time saved is the greatest, and for employees whose time is most valuable.

The narrow implication of these findings is that a blanket indictment of the use of perks is unwarranted. The broader implication is that there are very interesting aspects of organizational design that can be uncovered by examining non-monetary forms of compensation more carefully. This is therefore a call for further study.

I. Theories and their Implications

We will start by outlining some theories of why firms might offer perks and the patterns they predict in the data. Because of its prominence, we start with the theory that perks are a form of private benefit.

1.1. Perks and Private Benefits

Consider the detailed implications of theories that suggest perks are private benefits.[3] An immediate question is why perks and not pay? After all, would managers not prefer more fungible pay that they can use as desired? The answer has to be that perks are the preferred form of compensation because managers can get away with them more easily than with higher pecuniary pay – perhaps because the full value of perks is less likely to be disclosed to investors and investors are usually not in physical contact with management, so that they cannot see the extent of perk consumption for themselves.

[3] Hart (2001) defines perks as non-pecuniary benefits like "fancy offices, private jets, the easy life, etc…. that are attractive to management but are of no interest to shareholders—in fact they reduce firm value. Moreover, it is reasonable to assume that they are inefficient in the sense that one dollar of perks reduces firm value by more than a dollar." Conceptually, perks as private benefits implies that the financial cost of the perk exceeds the associated productivity gains. Perks as private benefits are distinct from pecuniary forms of compensation in that they are not transferable (or difficult to transfer).

Jensen (1986) points out that it is easier for managers to spend money on themselves in mature firms with few growth prospects (they have little by way of productive alternative investment) and substantial free cash flows (they do not have to go outside to raise resources from questioning investors). So perk consumption should be negatively related to the firm's growth prospects, and positively related to the "free" cash the firm generates. According to Jensen, it is the combination of low investment opportunities and high cash flow that is particularly conducive to perk consumption. Of course, since perks are a form of compensation, it is important to correct for performance in checking if "free" cash matters.

If perks are primarily a form of private benefit, better-governed firms will offer managers lower perks. Also, if perks are easier to pay because they are not disclosed, perks should be disproportionately more valuable to CEOs who disclose pay than to lower level managers who don't. Again, these effects should be most pronounced for firms that are prone to waste.

Managerial agency problems are not the only explanations for perks. Let us now turn to other explanations.

1.2. Perks and Productivity.

The firm may benefit more by offering perks than the individual manager does. For instance, a manager who arrives fresh after traveling in First Class on a transatlantic flight may be much better positioned to negotiate a multi-billion dollar contract than one who has been cramped in Economy class. The manager may not internalize the full value to the firm of being fresh, so he might prefer a cheaper form of travel if the firm did not pay for it.

It may also be more cost effective (in a broad sense) for the firm to provide some perks. The presence of an executive dining room obviates the need for executives to spend time away from work traveling to lunch. The dining room (or the coffee machine) may also increase serendipitous encounters between top executives, fostering greater communication. Finally, the firm may enjoy scale economies in providing a perk to its employees. For all these reasons, it may be cheaper for the firm to provide the perk than to have employees make individual uncoordinated choices.

The conjecture that perks are awarded so that the firm can enhance the productivity of its employees leads to a number of empirical implications.[4] First, more productive employees should get more perks. Second, in situations where the time saved by a perk is particularly high, more perks should be provided. Finally, since timesaving is most valuable to the most productive employees, perks should increase disproportionately to such employees when the potential for timesaving increases.

1.3. Perks and Status.

Perks may also be a form of status or positional good (Hirsch (1976)) that reinforces an employee's standing in the organization. In the colorful words of compensation expert Graef Crystal, [5]

"We don't wear crowns in this country or carry such symbols of office as a field marshal's baton. So it is hard to tell the players apart, to spot the chairman of the board in a crowd. He's the one wearing the Saville Row suit, but you have to be knowledgeable about clothes to pick him out. You're more certain when you see him go by in a chauffeur driven limousine. Or when you are ushered into his office, which is of such size that you think the New York Knicks must use it for practice in off-hours."

[4] In the absence of more sophisticated models, we do not distinguish between productivity-enhancing and cost-minimizing perks. The key distinction between productivity and private benefits explanations is that productive perks increase firm value, while perks that are private benefits do not.
[5] Crystal (1978) cited in Evans (1984).

More prosaically, employees may care both about their standing and the fact that it is well known within the organization. Unlike an employee's pay, which is not widely known within the firm (except for the top managers whose pay is publicly disclosed), the fact that an employee has a chauffeur driven car or that he uses the corporate jet is widely seen and noticed by other employees within the firm. If relative standing within the firm is an important element of the utility derived from compensation (see Frank (1985a,1985b)), then perks can motivate far more cost-effectively than equivalent amounts of cash.[6]

The army recognizes these sorts of motivation well by giving out medals for bravery that have a value far greater than the metal they are stamped on. [7] But this raises a number of questions. First, why cannot corporations invent their own medals or ribbons, which will cost them nothing, instead of paying with perks? In truth, most perks do not cost much relative to managerial compensation, so they may in fact be ribbons. [8] Second, why does the CEO need perks – after all, everyone knows who he is and how much he earns. One explanation may be that the CEO needs to be offered perks (in fact, the most perks) so as to legitimize the status attached to the perk: a prestigious country club membership would not convey as much status for other executives if the CEO did not belong to it. Finally, if perks are rationed by the firm to convey status, it becomes clear why employees cannot be allowed to bid for them with their own money – the entire status value of medals for bravery would be lost if one could simply buy them at Macys.

[6] In fact, even if everyone's compensation is disclosed, perks may still play an additional role in conveying status. There are only so many corner offices or so many places on the corporate jet, and who gets them can signal the recipient's place in the pecking order better than cash compensation (which is subject to noise of its own) can.

[7] Napoleon Bonaparte, the great French military commander, marveled at the motivational power of a small piece of ribbon (a decoration): "If I had enough ribbon, I could conquer the world."

[8] Hewitt Associates has a rule of thumb for the estimated value of CEO perks at approx 1-3% of total compensation.

Moreover, the firm could head off a "perk" race and gross overinvestment by determining allocations itself.

A number of implications follow if perks are meant to enhance status. If perks are meant to reinforce status, they are likely to be used in organizations that emphasize status by carefully delineating positions. Large firms are more likely to have well defined hierarchies. Also the steeper the hierarchy, the more likely are perks to be used at the top. Finally, the flattening of hierarchies is a recent event (see Rajan and Wulf (2003)). If perks have a strong inertial component, as we will document, older firms may offer more perks.

1.4. Perks and Taxes.

And finally, we have taxes. The value of perks may be underreported by firms. This suggests a rationale for the firm to pay through perks rather than through pay – the after-tax cost to employees of an undervalued perk is lower than if the employees had to pay for them out of salary.

1.5. Summary

We have outlined a number of explanations for why some firms pay their employees with perks rather than their monetary equivalent. Our explanations are not mutually exclusive. In fact, they may be mutually reinforcing. For instance, the firm could let the CEO signal his status by paying him more and letting him indulge in "conspicuous consumption" (see Veblen (1899) and also Frank (1985a, 1985b) or Bagwell and Bernheim (1996) for insightful recent treatments). But it may be cheaper to pay him with a perk that performs the dual role of enhancing his productivity on the job and letting him signal. Our endeavor here is to see whether the private benefit explanation accounts in

reasonable measure for the patterns in the data, and if not, what other explanations are tenable. Our aim is not, however, to arrive at a mono-causal explanation.

II. Data Description

2.1. Sample Description

The primary dataset used in this study includes a panel of more than 300 publicly traded U.S. firms over the years 1986-1999, spanning a number of industries. The data are collected from a confidential compensation survey conducted by Hewitt Associates, a leading human resources consulting firm specializing in executive compensation and benefits. The survey is the largest private compensation survey (as measured by the number of participating firms) and is comprehensive in that it collects data on more than 50 senior and middle management positions including both operational positions (e.g. Chief Operations Officer and Divisional CEO) and staff positions (e.g. Chief Financial Officer and Head of Human Resources).

The survey typically covers all the positions at the top of the hierarchy and a sample of positions lower down. [9] The data for each position include all components of compensation including salary, bonus, restricted stock, stock options, and other forms of long-term incentives (e.g. performance units) as well as a list of perks made available to that position. To ensure consistency in matching these positions across firms, the survey provides benchmark position descriptions and collects additional data for each position including: job title, number of employees under the position's jurisdiction, the title of the

[9] In this study, we use a subset of the survey's benchmark positions: Chief Executive Officer (CEO) and Divisional Manager (DM).

position that the job reports to (i.e. the position's boss), and the number of reporting levels between the position and the board of directors.

We believe the survey data are accurate for several reasons. First, Hewitt consultants are knowledgeable about survey participants because they are assigned to client teams and typically work with specific clients for several years. Moreover, while the participating firms initially match their positions to the benchmark positions in the survey, the consultant follows up to verify accuracy and spends an additional 8-10 hours on each questionnaire evaluating the consistency of responses with public data (e.g. proxy statements) and across years. Potentially of more importance, participants have an incentive to provide accurate data because they use the survey results to set pay levels and design management compensation programs.

The survey data are supplemented with information from several other datasets: Compustat for financial and segment information, CDA Spectrum for institutional shareholdings, Directory of Corporate Affiliations for year of founding, U.S. Census Bureau for data on county population and travel time to work, U.S. Department of Transportation for commercial flights by airport, and the U.S. Federation of Tax Administrators for marginal state tax rates. While the Hewitt survey is conducted in April of each year and the perk data describe the firm in the year of survey completion, some statistics (e.g. number of employees in the firm) represent the end of the most recent fiscal year. To maintain consistency, we match the supplemental datasets using the year prior to the year of the survey. Finally, not all variables are available for all positions, firms and years, and due to limitations in matching with the supplemental datasets, our samples are smaller for some parts of the analysis.

In Table 1, we present descriptive statistics for the firms in the sample. While the dataset includes more than 300 firms, the exact number varies over the period, as firms enter and exit as survey participants. The firms in the sample are large, well established and profitable with average size of approximately 44,000 employees, age of 93 years since founding, and operating return on assets of 16.7 %. The typical firm in the sample is thus a large, mature, and stable firm. The sample firms span many industrial sectors of the economy, with some concentration in the food, paper, chemical, machinery, electrical, transportation equipment, instrumentation, communications and utilities industries.

2.2. Checks for Representativeness

While Hewitt clients are more likely to participate in the survey, the sample includes many more firms than their consulting client base. In general, firms that participate in the Hewitt survey also participate in other compensation consulting firm surveys (e.g. Hay Associates, Mercer, Towers Perrin, to name a few). Consistent with Hewitt claims that many of the largest U.S. firms are survey participants, we find that more than 75% percent of the firms in the dataset are listed as Fortune 500 firms in at least one year and more than 85% are listed as Fortune 1000 firms. [10]

Nevertheless, an important issue in datasets such as this one is the question of sample selection. To test whether the firms in this dataset are distinctive from, or representative of, employers of similar size in their industry, we use Compustat data to match each firm in the Hewitt dataset to the firm closest in sales within its two-digit SIC industry in the

[10]The quality of a compensation survey to a participating firm is how representative it is of firms that the participant competes with in the executive labor market. Hewitt's promotional material states that survey participants include many of the Fortune 500 firms. For example, in 1995, they stated that their participant list included 70 of the Fortune 100 firms.

year the firm joins the sample. We then perform Wilcoxon signed rank tests to compare the Hewitt firms with the matched firms.

While the firms in the Hewitt dataset are slightly larger in sales than the matched sample in the year that the firm joins the sample, we found no statistically significant difference in employment and profitability (return on sales).[11] We also found no statistically significant difference in sales growth, employment growth, or annual changes in profitability for all sample years. In sum, while the Hewitt firms are larger than the matched sample, there is little additional evidence that these employers are not representative of the population of large industrial firms. This is not surprising given the large percentage of Fortune 500 firms that participate in the Hewitt survey.

2.3. Facts about Perks

As part of the annual compensation survey, Hewitt includes a section on perquisites in which they request detailed information on approximately 15 categories of perks. The term "perquisite" can represent several types of employee benefits including: time off without pay, executive services, nonperformance awards, healthcare, survivor protection, and retirement coverage. [12] Perks covered by the Hewitt survey are primarily executive services (e.g. company plane, chauffer service, financial counseling), with only a few classified as nonperformance awards (e.g. loans) and healthcare (e.g. hospital examination). A list and description of the perquisites covered in the 1995 survey are included in the Appendix.

[11] The Hewitt firms are larger in sales than the matched sample of firms because in a significant number of the cases, the Hewitt firm is the largest firm in the industry thus forcing us to select a matched firm smaller in size.

[12] Categories outlined in Ellig (1981) for purposes of tax discussion.

Detailed information is collected for each perk including (i) eligibility criteria, e.g. number of domestic employees eligible and pay of the lowest position eligible, (ii) limitations, e.g. conditions for use of the company plane (i.e. when the plane can be scheduled without higher level approval) or limitations on personal use, and (iii) charge for use. Finally, the survey includes a perquisites eligibility table that asks the respondent to indicate which perks, if any, are provided to each survey position including multiple incumbents.

We start by reporting summary statistics on three perks: company plane, chauffer service, and country club membership. We focus on these perks because they are potentially the most valuable to the executive, most costly to the company, and they have been consistently defined in all years in the survey.[13] We will then sharpen the focus to company plane, which scores high on all these attributes and has the additional merit of being the canonical example of an excessive perk.

For each perk, we create an indicator variable equal to one if the perk is offered to the employee and zero otherwise. An alternative and possibly more sensible measure is the Hewitt valuation of each perk. However, valuation is not as precise as one might desire, even if firms and executives were willing to disclose full value, since firms are required by the SEC to disclose "incremental costs" of offering perquisites.[14] So, while Hewitt valuations provide some useful comparative benchmarks to survey participants,

[13] Other perks covered by the survey change slightly over time. For example, in earlier years, the types of company cars included luxury, full-size and intermediate. In the last year of the survey, car types included super, luxury i, luxury ii, and full-size.

[14] But, what is the incremental cost to an airline company of offering a company plane? In a similar vein, doesn't Warren Buffet, who works out of Omaha, Nebraska, value the company plane more than CEOs who live and work in New York City? In a passage in the 1992 Berkshire Hathaway annual report, Warren Buffet conveyed something about his implicit valuation of the corporate jet: "Those readers with particularly sharp eyes will note that our corporate expense fell from $5.6 million in 1991 to $4.2 million in 1992. Perhaps you will think that I have sold our corporate jet, The Indefensible. Forget it! I find the thought of retiring the plane even more revolting that the thought of retiring the Chairman."

they might suffer from significant measurement error.[15] Because of these limitations, we use measures that simply indicate whether a perk is offered (or not offered) to a position in a given year.

In this study, we focus on two positions: Chief Executive Officer (CEO) and the Division Manager (DM). The CEO is the highest executive in the corporation and the Division Manager is the highest authority in the division, which is defined as the "lowest level of profit center responsibility for a business unit that engineers, manufactures, and sells its own products." [16] We primarily analyze CEO perks with the unit of observation in the CEO dataset being a perk offering to a CEO in a given year. The divisional manager perk variable is equal to the proportion of divisional managers within the firm receiving the perk. We also construct a perk differential measure that captures perk differences across the hierarchical levels within the firm. Using company plane as an example, we construct a CEO-DM differential by subtracting the proportion of divisional managers with access to the plane from the CEO company plane indicator variable. A value of one in this example means that the CEO can schedule the company plane while no divisional manager can.[17]

Table 2 presents summary statistics for the perks for CEO and Divisional Manager (DM) positions and the differential between the CEO and Divisional Manager. The CEO can schedule the use of the company plane in 66% of the firm-years, gets chauffer service in 38%, and country club membership in 47% of the firm-years (column i). Thus the use

[15] Hewitt's median valuations for selected perks offered in 1994 to CEO positions in the survey are: $23,000 for the company plane, $17,600 for chauffer service, and $3,700 for country club memberships.
[16] For a thorough description of both of these positions, see Rajan and Wulf, 2003.
[17] Perk differentials defined in this way ignore the variation in the economic difference of the divisional manager positions across firms. While we report the raw differentials in Table 2 through Table 4, we control for differences in the relative importance of divisional managers across firms by including average division size in the differential regressions.

of the company plane is the most common of the significant perks. In comparison to CEOs, divisional managers (column iii) are much less likely to be allowed to schedule the company plane (30% vs. 66%), receive chauffer services (6% vs. 38%), and get country club memberships (28% vs. 47%). The largest difference again is with the use of the company plane.[18]

An obvious question to ask is: what is the relationship between pay and perks? Are high-paying firms more likely to offer perks? The answer is yes. The logarithm of CEO salary plus bonus is positively correlated with company plane (correlation coefficient =0.30) and chauffer service (0.28), but not correlated with country club membership. Of course these relationships might be explained by either firm size or industry effects--larger firms and certain industries pay more and they also grant more perks. To evaluate this, we regress the logarithm of salary and bonus on firm size, and industry and year indicators and estimate comparable regressions with each perk as the dependent variable (again controlling for size, industry and year). The correlations of the residuals from these regressions are smaller, but similar to the raw correlations listed above, with one exception: pay and country club are now positively correlated (0.07). So, on average, higher paying firms are more likely to offer perks to CEOs.[19]

Another interesting question is whether perk offerings have changed over time. One might imagine that perks have come under increased scrutiny with additional SEC

[18] Frank (1985a) argues that relative standing matters more than the absolute level of consumption with certain types of goods. In the example of the company plane, the CEO places more value on the right to schedule the plane when the division manager does not have that right.

[19] Also, individual perks offered to the CEO are positively correlated within firms: planes and chauffer service (correlation coefficient =0.28), chauffer and country club memberships (0.12) and planes and country club memberships (0.10). We find similar correlations between divisional manager perks.

disclosure requirements and pressure from the IRS to declare perks as taxable income.[20] However, we find little variation in perks over the period in our sample. Table 3 presents the yearly averages of perks that are offered to the CEO, the divisional manager positions, and the differential between the two. The table includes firms and divisions that appear in the dataset for two consecutive years. By focusing on this set of observations, we minimize biases from the exit and entry of firms.

As we see from Table 3, there is a slight downward trend in perks over time for this sample of firms and divisions. (The patterns for the whole sample are qualitatively similar.) Focusing on CEO perks, company plane decreases slightly on average over the period from 0.74 in 1987 to 0.64 in 1999 (column i) with similar declines in chauffer service, and country club membership (columns ii-iii). Turning to divisional manager perks, we see similar slight declines (columns iv-vi). These trends translate into relatively constant CEO-DM differentials (columns vii-ix). Overall, the propensity to offer perks declines slightly over the period for the sample of survey participants.

What might explain the slow downward trend in perk offerings especially given the large increases in pay and changes in both disclosure requirements and tax law over the period? Limited time-series variation in perks could be due to the offsetting effects of different regulations. Even if new disclosure rules had an adverse effect on the relative attractiveness of perks, subsequent tax legislation may have offset this, with the net effect

[20] The SEC adopted more stringent disclosure requirements (effective in January, 1993) for all pay components of the top-five highest paid executives. In this new ruling, perks worth more than $50,000 or 10% of the executive's total salary and bonus must be disclosed as other compensation in the proxy statement, and any perquisite worth more than 25% of the total of these extras must be detailed in a footnote. The stated purpose of the new rules were to "provide shareholders with a clear and concise presentation of compensation paid or awarded to executive officers, and the directors' bases for making such compensation decisions." For a discussion of whether the SEC inadvertently created a bias in favor of or against certain forms of compensation, refer to Nebraska Law Review, 1993 (72 Nebraska Law Review 804).

being little observable change.[21] Another explanation posited by compensation consultants is that employees consider perks a form of entitlement and as such, once they are granted, they are rarely taken away. Since our sample is comprised of older firms (average age of 93 years), this might explain the relatively low incidence of perk adoption and suspension over the period.

The limited change in perks over time suggests that cross-sectional analyses that explore the variation in perks across firms and across positions within firms might be more informative than the time-series changes.

One place to begin analysis of cross-sectional variation is to ask whether the propensity to offer perks differs across industries. Table 4 presents by 2-digit SIC industry, the average of the sum of the three perk indicators (Sum3) and each individual perk for the CEO and the sum of the three differentials (SumDiff3) and each individual CEO-DM differential. We include only industries in which we have 50 or more firm-year observations and rank the industries for both the sum of CEO perks and the sum of the differentials (rank of 1 is highest). Firms operating in the petroleum refining industry (SIC 29) offer the most CEO perks overall (rank of 1 in column ii) and rank the highest in each category. Moreover, the other oil & gas industry (SIC 13- Oil & Gas Extraction)

[21]For example, one year following the change in disclosure requirements, there was legislation passed which eliminated corporate tax deductibility for executive compensation in excess of $1 million unless it qualified as "performance-based" pay. This was a provision in the Omnibus Budget Reconciliation Act of 1993 (effective January, 1994) and implemented as section 162 (m) of the Internal Revenue Code. This change may have induced larger perk grants to high-paid CEOs as less visible forms of compensation moved increasingly "underground." However, Rose and Wolfram (2002) document little effect of this change in legislation on compensation and conclude that corporate pay decisions were relatively insulated from this policy intervention. While perk offerings may be similarly insulated to policy changes, McGahran (1988) finds that the combined effect of SEC perquisite disclosure requirements and IRS policy of taxing perquisites as income in 1987 caused a shift from perquisites to monetary compensation.

ranks the third highest in CEO perks. By contrast, firms operating in the machines & computers industry (SIC 35) offer the fewest CEO perks (rank of 14).

To evaluate the exclusivity of perks to CEOs by industry, we turn to the industry ranks of the sum of the three differentials. Again, the petroleum refining industry ranks the highest in the average of the difference between CEO and divisional manager perks (rank of 1 in column vi). Firms in the machines & computers industry rank the lowest (rank of 14). It is interesting that the industry Jensen singled out in his seminal 1986 paper as a canonical example of corporate excess caused by free cash -- the Oil and Gas industry -- seems to have a very high level of perks and also a high differential.

III. Analysis

3.1 Perks and Status

We conjecture that larger, more hierarchical, older firms are more likely to offer perks if they are meant to enhance status.

In Table 5, we begin with the dependent variable COPLANE: an indicator variable equal to one if the CEO has access to a company plane and zero otherwise. We sequentially include different measures of the firm's hierarchy in the probit regressions: firm's size (log of the number of employees), span of control or breadth of hierarchy (the number of positions reporting directly to the CEO) and depth or steepness of hierarchy (the average number of management levels between the CEO and division managers in a hierarchy). These latter two measures are developed in Rajan and Wulf (2003). We also

include year indicators to take care of any time trends, cluster errors by firm, and report estimates of marginal coefficients (evaluated at the mean).[22]

The coefficient estimate on size in column (i) is positive and significant (∃=0.16, t=6.04). A one standard deviation increase in SIZE is correlated with an increase of 29.0% in the probability of a firm offering a company plane (at the mean). The coefficient on span in column (ii) is negative and significant while the coefficient on depth in column (iii) is positive and significant. Flatter firms are less likely to offer a company plane to the CEO. A one standard deviation increase in SPAN is correlated with a decrease of 8.3 % in the probability of a company plane; while an increase in DEPTH is correlated with an increase of 9.2 % in the probability. We get similar results when we replace depth by the average depth across firms in the same two-digit SIC industry (unreported). Finally in column (iv), we include the number of years since the firm was founded (AGE) and it is positively correlated with the offering of a company plane. A one standard deviation increase in AGE is correlated with a 17.1 % increase in the probability of a plane.

Larger, flatter, older firms seem more likely to give access to a company plane. As described earlier, perks are positively correlated with pay**.** Clearly, some of these attributes of organizations are also correlated with pay (see Rajan and Wulf (2003), for example). Do the relationships between company plane and the size, hierarchy, and age of the firm persist even after we include CEO pay as an explanatory variable?

Since perks and pay are endogenous variables, we could have biased coefficients if we include pay directly. So, for example, a lax board of directors may authorize both

[22] We report robust standard errors by clustering by firm to address both heteroskedasticity and non-independence of errors within firms across time. Also, as a robustness check, we discuss a between estimate by running regressions based on firm averages of observations across years in Section 3.5.

high pay and excessive perks. Omission of a proxy for the strength of the board, would bias our estimated coefficients. One possibly exogenous determinant of pay is the incumbent's tenure in the CEO position. We use it as an instrument for the logarithm of salary and bonus and estimate a 2SLS regression where pay is the dependent variable in the first stage. We also include industry indicators to ensure that our proxy for organizational structure is not a proxy for industry. In Table 5 column (v) (the second stage), we see that the magnitude of the coefficient on size is larger and that on span is comparable to those of the earlier specifications that do not control for pay or industry.[23] Both coefficient estimates on size and span are significant. We also include industry indicators in Table 5 regressions that do not control for pay and coefficients generally remain significant (among the proxies for organizational structure, only depth loses significance). We don't report the results of a regression with all hierarchical variables because span and depth are highly correlated and we have a limited number of observations with firm age.

In sum then, larger, older, more hierarchical organizations tend to offer more perks. Size may just be because of scale economies in offering and keeping track of perks (how many small firms would have a company plane). The effect of age may simply be because inertia renders older firms more immune to the downward trend in whether a plane is offered. What is particularly interesting is that hierarchical organizations (narrower span, more depth) offer more perks, even correcting for size. These are also ones that delegate less responsibility and where the CEO is more remote from employees (see Rajan and Wulf (2003)). Perks may then serve to consolidate the CEO's status in the

[23] The 2SLS specification uses OLS estimation in both first and second stages, thus the estimates can't be directly compared to the earlier probit specifications. However, our primary objective in reporting these estimates is to demonstrate that the results are qualitatively similar when we control for pay.

eyes of employees, and allow his orders to be obeyed more easily. The importance of perks in enhancing CEO status is certainly an issue worth further exploration.

3.2. Perks and Taxes

Different states have different income tax rates. Executives living in high tax states may value perks more than cash compensation relative to those living in low tax states. To evaluate whether perks are a tax-advantaged form of pay, we test whether firms headquartered in high tax states offer more perks. Since CEOs are most likely in the highest tax bracket, we define STATETAX as the highest marginal state income tax rate for 2003 (published by the Federation of Tax Administrators).[24] In a regression of COPLANE on firm size, the tax rate for the headquarters state, SPAN, and industry and year indicators, the coefficient estimate on STATETAX is negative and insignificant (not reported). There is little support for the tax explanation in the cross-sectional analysis across firms.

3.3. Testing for Private Benefits

Let us turn now to evaluating Jensen's free cash flow hypothesis that states that consumption of private benefits should be larger in firms with lots of free cash that operate in industries with limited investment opportunities.

We begin by analyzing the relationship between a firm's free cash flow and the use of a company plane. Of course, to include a measure of free cash flow, we have to deduce how much cash is truly free and accounting can obscure this. We measure free

[24] CEOs may not live in the state in which they work. For example, many executives who work in New York City live in either New Jersey or Connecticut. However, this is more of an exception than the rule in most states. The results are robust to excluding firms that are located in New York County, NY.

cash flow (CASHFLOW) as lagged operating income before depreciation minus the sum of interest, taxes paid, and capital expenditures all divided by beginning of year assets.[25]

We would expect compensation to increase in performance. If we do not correct for performance, an observed positive correlation between free cash and perks could simply reflect the fact that better performance is rewarded than the fact that free cash flow is being misused. We include a crude measure of Economic Value Added computed as lagged operating income before depreciation minus the sum of depreciation, taxes paid, cost of capital (10% of beginning-of-year assets) all divided by beginning-of-year assets.[26] In Table 6 column (i), when we include both of these measures in addition to firm size, span, industry and year indicators, the coefficient estimate on free cash flow is positive and that on EVA is negative, but both are insignificant.[27]

A more subtle implication of Jensen's hypothesis is that perk consumption should be the greatest in firms that are generating free cash *and* are operating in industries with weak investment prospects. Executives in these "Jensen-type" firms are the most likely to be extracting firm surplus through private benefits. To test this, we compute industry investment opportunities (GROWTH) in a given year as follows: we average the percentage change in a firm's rate of investment (capital expenditures divided by lagged assets) in the future three periods for all firms in Compustat. We then average this

[25] Free cash could be thought of as the cash left after necessary and pre-committed expenses and investments. What we see is the operational cash flow after expenses, some of which may be necessary, some not. By subtracting all expenses, we may underestimate free cash flow. But not all investment is discretionary. By not subtracting investments, we may be biasing free cash upwards. Our measure of cash flow is defined as lagged operating income before depreciation (data 13)-interest (data 15)-taxes paid [taxes (data 16)-change in deferred taxes (data 74)]-capital expenditures (data 128) all divided by beginning of year assets (data 6).

[26] Our measure of EVA is defined as lagged operating income before depreciation (data 13)-depreciation (data 14)-taxes paid [taxes (data 16)-change in deferred taxes (data 74)]-10%*beginning of year assets (data 6) all divided by beginning of year assets.

[27] The difference between the two measures is primarily depreciation net of investment. The lack of a significant coefficient may simply be because variation in this difference is not enough to estimate the two coefficients precisely.

prospective growth rate across 3-digit SIC industries to obtain GROWTH for each industry.

In Table 6 column (ii), we include this industry measure directly, CASHFLOW, and an interaction term between this measure and firm cash flow while controlling for firm size, EVA, SPAN, and year indicators.[28] The coefficient estimate on GROWTH is positive and significant **(**t=4.46). Firms in industries that are investing at a growing rate also seem to invest more in providing company planes to their CEOs. It may be that these firms have more access to funds or it may be that CEO time is more valuable in these firms. We will return to questions of productivity shortly. Interestingly, the coefficient estimate on the interaction term is negative and significant (t=-2.89).

The interaction could mean either slow growth firms with high cash flow have more perks or high growth firms with low cash flow have more perks. The former would be consistent with Jensen, the latter not. To test this, we construct an indicator (JENSEN) for "Jensen-type" firms -- those in the lowest quartile of growth and the highest quartile of cash flow in a year. We also construct an indicator (HiGrLoCF) for firms in the highest quartile of growth and the lowest quartile of cash flow.[29]

In Table 6 column (iii), we include the two indicators while controlling for firm size, EVA, SPAN and industry and year indicators. The coefficient estimate for JENSEN is insignificant. Interestingly, the coefficient estimate for HiGrLoCF is positive and

[28] We exclude industry indicators from this specification because our measure of growth is an industry measure. If we included industry indicators, we would only pick up the time series variation in GROWTH plus the differences between 3-digit SIC categories (used to define GROWTH) and 2-digit SIC indicators.
[29] For completeness, we also include indicator variables for firms in the highest quartiles of growth and cash flow and the lowest quartiles of growth and cash flow. The coefficients on these indicators are insignificant (unreported) and the regression results are not qualitatively different when the indicators are excluded.

significant (t=2.69). Firms operating in high growth industries that are generating low levels of free cash flow are 11.3% more likely to offer access to the company plane.

A more subtle prediction of private benefits--since perks are easier to hide from shareholders and CEOs disclose pay while divisional managers don't-- is that CEOs should get greater access to the company plane relative to divisional managers. So, one implication of the free cash flow hypothesis is that Jensen firms should have a higher differential. We estimate a specification similar to that in column (iii) but with the CEO-DM differential in company plane as the dependent variable (and only using those firm-years in which the CEO has plane access). We also include the average of the logarithm of division employees to control for differences in the importance of divisional managers across firms. In Table 6 column (iv), we find a positive and significant coefficient estimate on the HiGrLoCF indicator (t=2.66) and a negative, but not significant coefficient on the JENSEN indicator.

So growing firms offer more perks, especially firms that are growing but not financing through internal cash flow. The latter also offer their CEOs relatively more perks, unlike Jensen-type firms. Our findings are somewhat in contradiction to the spirit of the free cash flow hypothesis, but may well be a form of agency (Jensen and Meckling (1976)) where managers of growing firms financed from outside are less careful with other people's money.

If perks are some sort of agency problem, we should see that better external governance leads to lower perks and this relationship should be most pronounced in firms that exceed perk norms. One measure of exogenous changes in governance is changes in state takeover laws (see, for example, Bertrand and Mullainathan (2000)). They focus on

Business Combination (BC) laws that "are likely to have strong effects on [reducing the power of] disciplinary takeovers because they place in directors' hands, before the acquiring person becomes an interested shareholder, the right to refuse such transactions." [30] In essence, these laws tip the balance of power toward management and weaken corporate governance. We should see higher perks in firms that are incorporated in states with BC laws.

For our sample of firms, we use the state of incorporation as listed by Compustat. We create an indicator variable equal to one for the year in which the state adopts a BC law and the years following.[31] We regress COPLANE on the BC indicator while controlling for log of firm employees, cash flow, growth, EVA, span, and industry and year indicators. We find a positive and significant coefficient on the BC indicator (coefficient of 0.161 and t-stat=2.40; unreported). This suggests that CEO access to company planes is 16.1% more likely in firms that are incorporated in states with BC laws (and associated weaker governance). However, this relationship is not robust to the exclusion of those firms incorporated in Delaware.[32]

We now turn to firm measures of governance that vary somewhat over the period, but are potentially endogenous. We compute two measures. According to Shleifer and Vishny (1986), large shareholders should prevent managers from consuming excessive private benefits. So, one measure of good governance is FRACINST: the fraction of the

[30] "BC laws impose a moratorium (3 to 5 years) on specified transactions between the target and a raider holding a specified threshold percentage of stock unless the board votes otherwise before the acquiring person becomes an interested shareholder." (Bertrand and Mullainathan, 2000).

[31] For the adoption of BC laws, we use Table 1 of Bertrand and Mullainathan (2000). This information includes state adoptions up through 1995 and our sample includes years through 1999. However, most of the BC law adoptions occurred in years prior to 1995, particularly in states in which the majority of firms are incorporated, e.g. Delaware.

[32] The BC indicator equals one for approximately 78% of the firm-year observations by 1988, the year in which Delaware adopts a BC law.

firm's stock held by institutions with greater than 5 % ownership in the prior year. Another measure is LARGEINST: an indicator if the firm has an institutional investor owning 10 percent or more of the firm's stock in the prior year. Again, we include interactions between these governance variables and the two firm type indicators (as well as the indicators directly).

In Table 6 column (v) we find a negative, but insignificant coefficient estimate on FRACINST and positive, but insignificant coefficient estimates on Jensen and HiGRLoCF. Interestingly, we find a negative and significant coefficient estimate on the interaction term between Jensen and FRACINST (t=-2.32), but no significance on that between HiGRLoCF and FRACINST. These results are robust in the 2SLS regression that controls for CEO pay (column vi) and qualitatively similar results hold in an analogous regression using the other measure of governance (LARGEINST; not reported). So, on average, we find no direct relationship between governance and access to corporate jets and no direct effect of being a Jensen firm. Yet, in these Jensen firms, we find that better governance is associated with a lower incidence of plane ownership. However, we find no association between governance and high growth, low cash flow firms (HiGRLoCF).

The bottom line is that we do not see a pattern that is fully consistent with a free cash flow explanation or a broader agency explanation. Some firms offer more perks but these are not the firms predicted by the free cash flow hypothesis. On the other hand, governance does seem to be associated with lower perks in "free cash flow" firms but not in the firms earlier identified as having more perks than the norm.[33]

[33] Another implication of the private benefits theory is that if perks are easier to pay because they are not disclosed, the SEC's change to more stringent disclosure requirements for compensation in 1993 could

3.4. Testing for Productivity

In stark contrast to private benefits is the theory that perks are offered to enhance the productivity of recipients. Managers that operate larger firms should receive additional perks in order to enhance productivity. The evidence presented earlier suggests that larger firms are more likely to offer the CEO access to a company plane. In addition to firm size, the location of a firm's headquarters has implications for which perks might improve CEO productivity. In particular, the use of company planes may be more efficient for firms located far from airports relative to those in close proximity to airline hubs.

We begin by including characteristics of the county in which the firm is headquartered. Large airports, airline hubs, and thus convenient commercial flights are more easily accessible in large urban areas. In Table 7 column (i), we regress COPLANE on the logarithm of firm employees, the log of population for the county in which the firm is headquartered, span, and industry and year indicators.[34] The coefficient estimate for log of county population is indeed negative and statistically significant (t=-4.00). A one standard deviation increase in population is correlated with a decrease of 18.3% in the probability of a firm offering a company plane. Firms headquartered in more populated counties are less likely to operate a company plane.

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change the attractiveness of perks as a form of pay. In a regression that includes an indicator variable that equals one in the years after 1992 (SECDUM), in addition to firm size, SPAN, a trend variable, and industry indicators, the coefficient on SECDUM is positive and significant. So, while company planes are becoming less common (negative coefficient on trend), the downward trend has slowed after 1992. Certainly, the trends seem to be slower moving than a change in SEC disclosure (or a change in allowable corporate tax deductions of compensation) would imply. In fact, returning to Table 3 and the trends in perks, we see no discrete jumps in CEO company plane in any of the years.

[34] Population by county is the number of people in thousands for the county in which the firm is headquartered. Population figures are those reported by the U.S. Census Bureau in the years 1990 and 2000 (interleaving years are extrapolated using the annual growth rate between these years).

Certainly, we would expect county population to be highly correlated with proximity to those airports with a variety of scheduled flights in terms of frequency and destination. To test this further, we construct a more refined measure of commercial flight accessibility by using data for the largest 200 airports in the U.S. We define FLIGHTS as the logarithm of the annual number of departing flights in a given year from airports within a 50-mile radius of the center of the county in which the firm is headquartered.[35] In Table 7 column (ii), we include this measure in place of county population in the earlier regression. The coefficient estimate on the number of flights is negative and statistically significant (t=-3.14) and the magnitude of the association is economically significant. A one standard deviation increase in the number of flights is correlated with a decrease of 15.5% in the probability of a firm offering a company plane. CEOs that work in headquarters located in close proximity to larger airports are less likely to have access to a company plane. This evidence supports the productivity explanation of why firms provide CEOs access to corporate jets.

A more subtle implication of the productivity hypothesis is that more timesaving perks should be offered to managers who are most productive. A number of economists argue (see, for example, Calvo and Wellisz (1979), Rosen (1982)) that heads of larger units are likely to be more productive both because more talented managers are hired to head larger units and because their decisions impact more people at the margin. One measure of the productivity of a manager is therefore the size of the unit they head.

[35] The data source for the number of flights and airport location is the U.S. Department of Transportation T-100 database. The data source for the longitude and latitude of county centers is from the U.S. Census Bureau. We calculated the spherical distance between airport locations and county centers both specified by longitude and latitude coordinates.

So we should see that being more distant from a large airport should make it more likely that CEOs of larger firms should have access to a company plane. Therefore we include interactions between firm size and population and firm size and flights. We find the coefficients on the interactions to be negative and significant as expected when using population as a proxy for commercial airline accessibility (Table 7 column (iii)). The coefficient is negative, but not quite significant (t=-1.59) when we use flights in place of population.[36]

Another implication then is that the perk differential between the CEO and the divisional manager should increase in the size of the firm and decrease in the size of the unit headed by the divisional manager. In Table 7 column (iv), we regress the company plane differential on firm size, population, division size, and industry and year indicators**.** We do not find a significant coefficient for population, suggesting perhaps that productivity differences within firms are not sufficiently different to warrant substantially different access to the company plane. However, we do find that the differential goes up in the size of the firm and falls in the average size of the division, consistent with the productivity explanation.

Finally, we do have another perk that is directly related to travel: chauffer service. Firms that are headquartered in more populated areas should be more likely to offer chauffer service to CEOs in order to increase productivity during their commute. We define CHAUFFER as an indicator variable equal to one if the CEO has access to chauffer service and zero otherwise. We regress CHAUFFER on the log of firm

[36] County population and the annual number of flights from proximate airports are positively correlated (correlation coefficient=0.60). Two facts that reduce the correlation: (i) some hubs are located in less populated cities (e.g. TWA's hub in St. Louis) and (ii) in large metro areas, county population understates the number of people living in the metropolitan area that are served by large airports.

employees, the log of population for the county in which the firm is headquartered, and industry and year indicators (unreported). The coefficient estimate on firm size is positive and significant. Larger firms are more likely to offer chauffer service. Moreover, the coefficient estimate on population is positive and highly significant (t=3.47). Larger firms and firms headquartered in more populated counties are more likely to offer chauffer service to their CEOs.

Again, county population of headquarters is surely positively correlated with the length of the CEO's commute. However, we construct a more refined measure by defining TRAVEL as the median travel time to work in number of minutes for workers residing in the county in which the firm is headquartered. When we include this measure in place of county population in the earlier regression (unreported), the coefficient estimate is again positive and highly statistically significant (t=5.00).[37] CEOs that work in headquarters located in either larger counties or counties with longer median commute times are more likely to have access to a chauffer service. This evidence strongly supports the productivity explanation of why firms provide CEOs with chauffer service.[38]

In sum, there is evidence in support of the productivity explanation. Company planes are less common in firms that are headquartered in counties with larger populations and less common in firms that are in close proximity to larger airports.

[37] The data source for the median travel time to work is the U.S. Census Bureau. We use data reported from the 1990 and 2000 surveys, and based on the average annual growth rate over the decade, we extrapolate data for the intervening years and the years prior to 1990. The ideal measure for our purposes is the travel time for individuals who work in a county instead of those who reside in a county. This measure probably understates the commuting time for many CEOs because in some counties, the proportion of those living in a county that also work in a county is low. For example, New York City headquartered firms draw many people from surrounding suburbs and not many NYC residents work outside of the city, so median travel time for NYC residents will understate travel time for NYC workers.

[38] The coefficients on the interactions between firm size and population and firm size and travel are not significant in the CHAUFFER regressions, nor are the coefficients on the institutional shareholder measures.

Moreover, the economic significance of each of these correlations is significant and robust to alternative specifications. Especially interesting is that larger firms tend to offer more use of the company plane when the time saving entailed for their CEO is more substantial.

3.5. Discussion and Conclusion

Let us now turn to simultaneously evaluating the evidence supporting the private benefits and productivity explanations. In Table 7 columns (v) and (vi), we include both private benefit measures and productivity measures to evaluate the robustness of the statistical significance and the relative magnitude of the association between these measures and company plane access. We estimate the same basic regression as that in Table 6 column (v), but also include population as a proxy for airline accessibility and CEO pay as independent variables. In Table 7 columns (v) and (vi), the sign and significance of the coefficient estimates are qualitatively similar to the earlier analyses.

Most notably, firms headquartered in more populated counties and flatter firms are less likely to offer plane access and stronger governance in Jensen-type firms reduces the incidence of plane access. When we use the number of flights as a proxy for airline access and LARGEINST as a measure of governance, we get qualitatively similar results. Interestingly, the magnitudes of the correlations for the productivity measures are larger than those for private benefits. In column (v), a one standard deviation increase in population is associated with a 20.5 % decline in the probability of offering plane access, while a one standard deviation increase in the interaction between Jensen and FRACTINST is associated with a 5.1 % decline.

Finally, we have used a panel where we have clustered firm-specific observations. Since much of the information is in the cross-section, one way to correct (perhaps overcorrect) for correlation among errors is to compute a between estimate by running the regression based on firm averages of observations across years. We find that only the coefficient on population or flights continues to be statistically significant.

Overall, we have found mixed support for the private benefits explanation. We do not see a pattern that is fully consistent with a free cash flow explanation or a broader agency explanation. The firms that offer more perks are not those predicted by the free cash flow hypothesis and while governance does seem to be associated with lower perks in Jensen-type firms, it is has no such association in "perk-intensive" firms. By contrast, there is more compelling and robust evidence in support of alternative explanations—especially perks as a means to enhance productivity. More productive employees at the top of a firm's hierarchy are more likely to get perks. Time-saving perks are more common in settings where the time saved by the perk is higher and more frequently offered to the most productive employees as the potential for timesaving increases. Lastly, steeper firms are more likely to offer perks to CEOs. This is consistent with perks as a means to enhance CEO status, certainly an issue worth further exploration.

The narrow implication of these findings is that a blanket indictment of the use of perks is unwarranted. The broader implication is that there are very interesting aspects of organizational design that can be uncovered by examining non-monetary forms of compensation more carefully. This is therefore a call for further study.

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Table 1: Summary Statistics

Variable	Mean	STD	Min	Max	Firm-Yrs (N)
Size (000's Firm Employees)	43.82	69.38	0.94	825.00	2355
Sales ($M)	7752.46	12656.70	121.65	153627.00	2369
Return on Assets (ROA)	0.167	0.078	-0.071	0.965	2359
Number of Positions Reporting to CEO (SPAN)	5.5	2.6	1.0	14.0	2425
Number of Reporting Levels (DEPTH)	1.3	0.8	0.0	4.0	2415
Firm Age (Years since founding)	93.0	38.0	1.0	197.0	1107
Cash Flow	0.040	0.070	-0.319	0.539	2108
Economic Value Added (EVA)	-0.008	0.062	-0.268	0.473	2158
Growth (Industry Growth in Rate of Investment)	-0.053	0.119	-0.650	0.575	2418
Jensen (Low Growth/ High Cashflow)	0.077	0.267	0.000	1.000	2124
High Growth/ Low Cashflow (HiGRLoCF)	0.070	0.255	0.000	1.000	2124
Business Combination Law (BCDUM)	0.84	0.37	0.00	1.00	2311
Fraction owned by Institutions (FRACTINST)	0.083	0.102	0.000	0.648	1908
Presence of Large Institutional Shareholder (LARGEINST)	0.179	0.384	0.000	1.000	1908
Population by county of headquarters (000's) (POPULATION)	1645.8	1999.4	21.5	9329.9	2405
Annual flights within 50 mile radius of headqtrs (000's) (FLIGHTS)	328.8	275.8	0	961.7	2393
Median travel time to work in county of headqtrs (TRAVEL)	24.6	3.9	16.0	33.9	2369
State Income Tax Rate-highest marginal rate (STATETAX)	4.2	3.6	0.0	9.3	2405

Notes: ROA is defined as operating income before depreciation divided by beginning of year assets. SPAN is the number of positions reporting to the CEO and DEPTH is the average number of positions between the CEO and the divisional manager in a firm's organizational hierarchy (see Rajan and Wulf, 2003). AGE is the number of years since firm founding as reported by the Directory of Corporate Affiliations. CASHFLOW is defined as operating income before depreciation minus the sum of interest, taxes paid, and capital expenditures all divided by beginning of year assets. EVA is defined as operating income before depreciation minus the sum of depreciation, taxes paid, cost of capital (10% of beginning of year assets) all divided by beginning of year assets. GROWTH is defined as the average 3-digit SIC industry growth in the rate of investment (capital expenditures divided by lagged assets) in the future 3 periods. JENSEN and HiGRLoCF are indicator variables for firms in the lowest quartile of industry growth/highest quartile of cash flow, and highest quartile of industry growth /lowest quartile of cash flow, respectively, in a given year. BCDUM is an indicator variable equal to one for the year in which the state of incorporation for the firm adopts a BC law and the years following. FRACTINST is the fraction of shares owned by institutional shareholders with more than 5 % ownership. LARGEINST is a dummy variable equal to one if there is an institutional shareholder with greater than or equal to 10% ownership. POPULATION is the logarithm of the number of people in thousands in the county in which the firm is headquartered. FLIGHTS is defined as the logarithm of the annual number of departing flights in a given year from airports within a 50-mile radius of the center of the county in which the firm is headquartered. TRAVEL as the median travel time to work in number of minutes for workers residing in the county in which the firm is headquartered. STATETAX is the highest marginal state tax rate in 2003 as published by the Federation of Tax Administrators.

Table 2: Perquisites for CEO, Divisional Manager, CEO-DM Differential Company Plane, Chauffer Service, and Country Club Membership Sample Averages and Standard Deviations (1986-1999)

	CEO		Divisional Manager (DM)		CEO-Divisional Manager Differential		
Perquisite	Mean	STD	Mean	STD	Mean	STD	Firm-Years N
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	
Company Plane	0.66	0.47	0.30	0.44	0.36	0.46	2359
Chauffer Service	0.38	0.49	0.06	0.24	0.32	0.46	2359
Country Club Membership	0.47	0.50	0.28	0.43	0.20	0.39	2359

Notes: Each CEO perk variable is a dummy variable equal to one if the position is offered the perk in a given year and zero otherwise. Each divisional manager perk variable is the proportion of divisional managers within the firm that are offered the perk in a given year. CEO-Divisional Manager Differential is the difference between the CEO perks and the proportion of divisional manager perks within the firm in a given year. The differential takes the value of 1 when the CEO receives the perk and no divisional manager does and zero when both the CEO and all of the divisional managers receive the perk or when no position receives the perk.

Table 3: Trends in Perquisites-Sample with Two Consecutive Years (1987-1999)
Sample Averages for CEO, Divisional Manager, and CEO-Divisional Manager Differential

	CEO				Divisional Manager (DM)			CEO-Divisional Manager Differential			
	Plane	Chauffer	Country Club	Firms-(N)	Plane	Chauffer	Country Club	Plane	Chauffer	Country Club	Firms-(N)
	(i)	(ii)	(iii)		(iv)	(v)	(vi)	(vii)	(viii)	(ix)	
1987	0.74	0.40	0.53	134	0.34	0.08	0.32	0.41	0.32	0.21	133
1988	0.74	0.43	0.50	147	0.35	0.07	0.30	0.40	0.36	0.20	143
1989	0.72	0.47	0.51	152	0.33	0.09	0.30	0.40	0.36	0.21	149
1990	0.68	0.46	0.51	162	0.30	0.11	0.31	0.38	0.34	0.20	159
1991	0.66	0.44	0.47	172	0.32	0.10	0.28	0.35	0.33	0.19	170
1992	0.66	0.43	0.48	169	0.31	0.08	0.30	0.36	0.35	0.18	167
1993	0.68	0.40	0.49	174	0.31	0.06	0.29	0.37	0.34	0.20	173
1994	0.66	0.39	0.52	163	0.31	0.05	0.31	0.34	0.35	0.21	162
1995	0.64	0.35	0.49	157	0.31	0.07	0.29	0.32	0.29	0.20	154
1996	0.68	0.38	0.48	146	0.26	0.05	0.27	0.42	0.34	0.21	143
1997	0.71	0.32	0.43	138	0.32	0.04	0.27	0.39	0.28	0.18	132
1998	0.68	0.32	0.41	111	0.30	0.03	0.21	0.37	0.31	0.21	107
1999	0.64	0.31	0.38	95	0.23	0.01	0.22	0.39	0.31	0.18	88

Notes: Averages are for the sample of firms and divisions that appear in the dataset for two consecutive years. Refer to Table 2 for variable definitions.

Table 4: Distribution of Sample by 2-digit SIC Code
CEO Perks and CEO-Divisional Manager Perk Differential
Sample Average and Rank Among Industries
(rank of 1 as highest)

		CEO					CEO-Divisional Manager Differential					
SIC	Industry	Sum3	Rank	Plane	Chauffer	Country Club	SumDiff3	Rank	Plane	Chauffer	Country Club	Firm-Years
		(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	
29	Petroleum Refining	2.73	1	1.00	0.80	0.93	1.59	1	0.72	0.45	0.42	59
48	Communications	1.99	2	0.91	0.59	0.50	0.79	10	0.33	0.31	0.15	119
13	Oil & Gas Extraction	1.97	3	0.85	0.31	0.81	1.04	7	0.45	0.31	0.28	68
37	Transportation Equip.	1.83	4	0.90	0.38	0.54	1.23	3	0.65	0.37	0.21	201
28	Chemical	1.81	5	0.72	0.68	0.41	1.24	2	0.38	0.61	0.25	407
20	Food	1.76	6	0.86	0.51	0.39	0.94	8	0.41	0.43	0.11	165
26	Paper	1.60	7	0.92	0.32	0.36	1.13	4	0.60	0.28	0.25	132
36	Electronic Equipment	1.55	8	0.76	0.29	0.50	1.08	6	0.54	0.31	0.23	128
38	Instrumentation	1.43	9	0.61	0.38	0.44	0.91	9	0.41	0.30	0.20	127
73	Business Services	1.42	10	0.42	0.40	0.60	1.09	5	0.31	0.42	0.36	53
33	Primary Metals	1.35	11	0.68	0.04	0.63	0.50	12	0.39	0.00	0.11	71
49	Utilities	1.26	12	0.52	0.23	0.51	0.52	11	0.19	0.19	0.14	134
30	Rubber & Misc. Plastics	1.22	13	0.59	0.19	0.44	0.49	13	0.23	0.19	0.07	63
35	Machines & Computers	0.78	14	0.36	0.12	0.30	0.42	14	0.16	0.13	0.14	249

Notes: Industries represented include only those with 50 or more firm-year observations. Sum3 is the sum of CEO indicators for company plane, chauffer service, and country club membership. SumDiff3 is the sum of the CEO-Divisional Manager differential of company plane, chauffer service, and country club membership. Refer to Table 2 for additional variable definitions.

Table 5: Perks and Status-- Probit and Two-Stage Least Squares Estimation
Dependent Variable is Indicator of whether CEO has access to Company Plane (COPLANE)

					2SLS
	(i)	(ii)	(iii)	(iv)	(v)
SIZE (log of employees)	0.161***	0.168***	0.145***	0.168***	0.261***
	(0.026)	(0.025)	(0.026)	(0.036)	(0.101)
SPAN (# of CEO reports)		-0.021***			-0.018**
		(0.008)			(0.008)
DEPTH (# of hierarchical levels)			0.082**		
			(0.034)		
FIRM AGE				0.003***	
				(0.001)	
CEO Pay (log of salary + bonus)					-0.444
					(0.417)
Constant					6.267
					(5.302)
Year Indicators	Yes	Yes	Yes	Yes	Yes
SIC Indicators	No	No	No	No	Yes
Observations	2355	2355	2347	1101	2106
(pseudo) R-squared	0.13	0.14	0.14	0.19	-

Notes: SIZE is defined as the logarithm of the number of firm employees. SPAN is the number of positions reporting to the CEO and DEPTH is the average number of positions between the CEO and the divisional manager in a firm's organizational hierarchy (see Rajan and Wulf, 2003). AGE is the number of years since firm founding as reported by the Directory of Corporate Affiliations. In the 2SLS regression (column v), the first-stage regression is the logarithm of CEO salary plus bonus regressed on incumbent's tenure in the CEO position in number of months while controlling for firm size, span, and industry and year indicators. The coefficient estimate on tenure in this first-stage regression is positive and highly significant (t=6.66) and the R-sqd equals 0.55. We lose observations in the 2SLS specification because we do not have tenure data for 1998 or 1999. SIC indicators are 2-digit SIC codes. All specifications report robust standard errors by clustering by firm and all variables have been winsorized at the 99th percentile. ***/**/* represent significance at the 1%/5%/10% level.

Table 6: Perks and Private Benefits—Probit and Two-Stage Least Squares Estimation
Dependent Variables are Indicator of whether CEO has access to Company Plane (COPLANE) and CEO-DM Differential Company Plane (DCOPLANE)

	(i)	(ii)	(iii)	(iv) Differential	(v)	(vi)-2SLS
SIZE	0.209***	0.169***	0.208***	0.110***	0.212***	0.323**
	(0.032)	(0.026)	(0.032)	(0.041)	(0.033)	(0.147)
CASHFLOW	0.022	-0.744	0.156	0.810	0.492	0.889
	(0.544)	(0.625)	(0.555)	(0.934)	(0.570)	(0.744)
EVA	-0.443	0.591	-0.505	-0.660	-0.796	-0.087
	(0.597)	(0.657)	(0.611)	(1.012)	(0.629)	(0.812)
GROWTH		0.585***	0.051	0.071	0.066	-0.031
		(0.133)	(0.136)	(0.185)	(0.149)	(0.145)
CASHFLOW*GROWTH		-5.745***				
		(2.035)				
JENSEN (Low growth/High Cash Flow)			0.027	-0.057	0.087	0.092
			(0.056)	(0.065)	(0.064)	(0.072)
HiGRLoCF (High growth/Low Cash Flow)			0.113***	0.172***	0.033	0.067
			(0.042)	(0.061)	(0.082)	(0.075)
DIVISION SIZE				-0.094***		
				(0.028)		
FRACTINST (Fraction of Shares Held by Institutions)					-0.0763	
					(0.269)	
JENSEN*FRACTINST					-1.211**	-1.214**
					(0.520)	(0.484)
HiGRLoCF*FRACTINST					0.523	0.091
					(0.526)	(0.550)
CEO Pay (log of salary + bonus)						-0.673
						(0.623)
SPAN (# of CEO reports)	-0.015*	-0.019**	-0.015*		-0.013	-0.020**
	(0.008)	(0.008)	(0.008)		(0.009)	(0.010)
Constant						9.024
						(7.583)
Observations	1927	2111	1927	1328	1524	1506
(pseudo) R-squared	0.33	0.15	0.33	0.12	0.33	-

Notes: All specifications include 2-digit SIC indicators (except for column ii) and all include year indicator variables. Column (iv) is based on the CEO-DM company plane differential defined in the notes below Table 2. Refer to notes below Table 5 for additional variable definitions and a description of 2SLS first-stage regression. Cash Flow is defined as (lagged) operating income before depreciation minus the sum of interest, taxes paid, and capital expenditures all divided by beginning of year assets. EVA is defined as (lagged) operating income before depreciation minus the sum of depreciation, taxes paid, cost of capital (10% of beginning of year assets) all divided by beginning of year assets. GROWTH is defined as the average 3-digit SIC industry growth in the rate of investment (capital expenditures divided by lagged assets) in the future 3 periods. JENSEN and HiGRLoCF are indicator variables for firms in the lowest quartile of industry growth/highest quartile of cash flow, and highest quartile of industry growth /lowest quartile of cash flow, respectively, in a given year. Division size is the average of the logarithm of division employees across divisions within a firm. FRACTINST is defined as the (lagged) fraction of shares owned by institutional shareholders with greater than 5 % ownership. All specifications report robust standard errors by clustering by firm and all variables have been winsorized at the 99th percentile. ***/**/* represent significance at the 1%/5%/10% level.

Table 7: Perks and Productivity-- Probit and Two-Stage Least Squares Estimation

Dependent Variables are Indicator of whether CEO has access to Company Plane (COPLANE) and CEO-DM Differential Company Plane (DCOPLANE)

	(i)	(ii)	(iii)	(iv) Differential	(v)	(vi) 2SLS
SIZE	0.210***	0.198***	0.930***	0.150***	0.216***	0.268*
	(0.029)	(0.030)	(0.345)	(0.028)	(0.035)	(0.155)
POPULATION	-0.112***		0.030	-0.001	-0.125***	-0.074**
	(0.028)		(0.073)	(0.026)	(0.031)	(0.032)
FLIGHTS		-0.088***				
		(0.028)				
SIZE*POPULATION			-0.052**			
			(0.025)			
DIVISION SIZE				-0.065***		
				(0.023)		
CASHFLOW					0.604	0.694
					(0.608)	(0.708)
EVA					-1.078	-0.321
					(0.657)	(0.748)
GROWTH					0.051	-0.038
					(0.158)	(0.132)
JENSEN (Low growth/High CF)					0.063	0.067
					(0.068)	(0.069)
HiGRLoCF (High growth/Low CF)					-0.004	0.050
					(0.084)	(0.068)
FRACTINST (Fraction of Shares Held by Institutions)					-0.221	-0.208
					(0.275)	(0.270)
JENSEN*FRACTINST					-1.020**	-1.048**
					(0.516)	(0.470)
HiGRLoCF*FRACINST					0.592	0.135
					(0.553)	(0.495)
CEO pay (log of salary + bonus)						-0.424
						(0.654)
SPAN (# of CEO reports)	-0.014*	-0.016**	-0.013*		-0.013	-0.017*
	(0.007)	(0.007)	(0.007)		(0.009)	(0.009)
Constant						6.934
						(7.688)
Observations	2146	2073	2146	2122	1524	1506
R-squared	0.36	0.36	0.37	0.17	0.38	--

Notes: All specifications include both industry (2 digit SIC) and year indicator variables. Refer to notes below Tables 5 and 6 for additional variable definitions and Table 5 for description of 2SLS first-stage regression. Column (iv) is based on the CEO-DM company plane differential defined in the notes below Table 2. POPULATION is defined as the logarithm of the number of people in thousands in the county in which the firm is headquartered. FLIGHTS is defined as the logarithm of the annual number of departing flights in a given year from airports within a 50-mile radius of the center of the county in which the firm is headquartered. DIVISION SIZE is the log of the average number of employees for divisions within a firm. All specifications report robust standard errors by clustering by firm and all variables have been winsorized at the 99th percentile. ***/**/* represent significance at the 1%/5%/10% level.

Appendix AI—Perquisite Descriptions—1995 Hewitt survey

Company plane: The ability to schedule the company plane, not merely use it on a space-available basis.

Chauffer Service: Chauffer service exclusively for executives, over and above general limousine service for business travel (e.g. to and from the airport).

Club Memberships: Company-paid memberships in luncheon, country, and health (athletic) clubs. Does not include company-sponsored membership available to broad groups of employees.

First-Class Air Travel: The opportunity to travel first class on an unlimited basis or under certain specified conditions.

Airline VIP Club Memberships: Company-paid memberships in airline VIP clubs (e.g. Red Carpet, Ambassador, or Admiral Club).

Spouse Travel: The opportunity for spouses to accompany executives on business trips on a company-paid basis.

Company Car: Company cars provided to executives and managers only. Does not include car policy for sales personnel.

Executive Dining Room: Executive dining facilities that are separate and apart from those provided for the broad-based employee group.

Individual Financial or Tax Counseling/ Estate Planning/ Income Tax Preparation: Any type of individual, one-on-one financial counseling, income or gift tax return preparation, tax planning, and financial counseling.

Financial Seminars: Seminars conducted for small groups of executives or managers. Such seminars are distinguishable from financial counseling by the lack of individually-tailored recommendations.

Physical Examinations: Routine physicals, comprehensive hospital examinations, and cardiovascular examinations.

Home Security Systems: Company-provided systems for executives' homes such as fire alarms, burglar alarms, or generators for use in power failures.

Loans: Loans provided to executives at below-market interest rates (with or without restrictions). Does not include relocation loans or loans available from a tax-qualified retirement plan.

Cellular Car Telephone or Other Mobile Communications Equipment: Company-provided car telephone equipment for use by the executive for business and personal calls.

Home Use of Company WATS line for Personal Calls: Ability to access company WATS lines for personal calls from the executive's home.