

Notes on Data and Coding for “Consumption versus Investment: On Motivations for Political Giving”

Online Appendix

Sanford C. Gordon, Catherine Hafer, and Dimitri Landa

March 1, 2007

Data Collection

We gathered data on 1,144 corporate executives for all of the election cycles from 1996 to 2002, and an additional 528 for the 1996 and 1998 cycles only. Ideally, this would produce a full panel of 11,264 executive-years. Our sample size is significantly lower than this, however, because of frequent transitions into and out of the group counted as top five in a given company, as well as departures, retirements, deaths, etc. We also exclude several cases in which an executive reported receiving income from more than one company in a given year, but for whom we could not determine start and stop dates (we retain observations on the same executives from different years), and several cases in which the executive reported less than \$10,000 in base salary for that year. (These peculiarly low salaries – observations on the same executives from different years, which we retain, tend to be in the six- to seven-figure range – caused compensation elasticity to increase to between 17 and 22 standard deviations from the mean. Retaining these observations does not affect our substantive results, but does exert a massively disproportionate influence on our coefficient estimates.)

We have observations on compensation for 7,093 executive-years. Missing company-level data slightly reduces the sample size further, to 6,821. To facilitate matching analysis (not conducted for this paper), we employed a stratified random sampling design, oversampling executives who had more than one employer during this time period. Estimates employing sampling weights are substantively similar to the ones discussed in the paper.

Gathering political expenditure data was a difficult task, owing to frequent variations in the

Table 1: Summary Statistics for Model Variables

| Variable | Mean | Std. Dev. | Min. | Max. |
|---|--------|-----------|-------|---------|
| Political Contributions (thousands) | 1.86 | 13.13 | 0 | 572.71 |
| Compensation Elasticity | 0.16 | 1.52 | 0 | 82.52 |
| Total Current Compensation (millions) | 0.93 | 2.11 | 0.01 | 122.75 |
| Executive's Company Holdings (millions) | 15.67 | 128.41 | 0 | 5,587 |
| Company Total Assets (millions) | 6,912 | 16,466 | 14.96 | 250,766 |
| Company Cash on Hand (millions) | 259.33 | 687.47 | 0 | 11,192 |
| Company Current Ratio | 1.97 | 1.81 | 0.19 | 32.57 |
| Board Chair | 0.21 | 0.40 | 0 | 1 |
| Company President | 0.29 | 0.45 | 0 | 1 |
| Company CEO | 0.28 | 0.45 | 0 | 1 |
| Left Company That Year | 0.04 | 0.19 | 0 | 1 |
| Partisan Contributing Behavior | 0.14 | 0.34 | 0 | 1 |

Note: All dollar values are deflated to 2002 equivalents using the GDP Implicit Price Deflator.

identification of donors' places of residence and employers. For example, the same individual might list as an address her primary city of residence, the location of her firm, or a summer home. Likewise, the filer's decision whether to record a parent or subsidiary company or named division, or the old or new name of a company, posed a recurring challenge for our coders. Some executives list the philanthropic boards on which they sit in the employment field. These numerous indeterminacies were checked via Hoovers' Online, executive biographies on company web sites, and documents available on the internet more broadly. Each coder searched the files associated with two election cycles (1996/1998, 1998/2000, 2000/2002, and 1996/2002) and coded executives in the same order. Thus every executive-year was double-coded. We double-checked specific donations that were marked by only one of the coders, and verified the validity of approximately 90% of them. The remaining observations were classified as coding errors and discarded. Table 1 displays summary statistics for political contributions as well as independent variables employed in our analysis

We also created a dataset of 5,325 executive-candidate relationship observations for each contest (primary or general) in which a candidate ran and in which an executive made at least one contribution to that candidate. 62.6% of the observations in the dataset are at the \$1,000 per contest maximum. (Up through the 2002 election cycle, section 441(a) of the Federal Election Campaign Act dictated a \$1,000 limit on individual contributions to a single candidate in a given election contest. There are 152 instances in the data of contributions exceeding that limit.)

Option Valuation Methodology

An American call option is a right to buy a set number of a firm's shares at an agreed upon price (called the "exercise" or "strike" price) on or before an expiration date. U.S. firms relied increasingly on option grants to their executives in the 1980s and 1990s, ostensibly to solve the principal-agent problem by aligning their incentives with shareholder welfare. (One reason stock options were so attractive is that corporate accounting practices did not require that they be counted as a company expense. While no longer the case as of 2005, the practice of not expensing options was in place during the time period we examine. Thus, the recent move away from options and toward more esoteric incentive schemes should not affect our analysis.)

The standard methodology for valuing options relies on the formula of Black and Scholes (1973), modified by Merton (1973) to incorporate dividend payments. Let N be the number of shares, p be the asset price, x be the exercise price, t be the time to maturity, r be the risk-free interest rate, d the expected dividend rate, and σ the expected standard deviation of the stock return. Then the value of the grant is

$$N \left[pe^{-dt}\Phi(Z) - xe^{-rt}\Phi(Z - \sigma\sqrt{t}) \right],$$

where

$$Z = \frac{\ln(p/x) + t(r - d + \sigma^2/2)}{\sigma\sqrt{t}},$$

and $\Phi(\cdot)$ is the normal c.d.f. The application of the formula is slightly problematic, given that the Black-Scholes formula actually calculates the value of a European call option (which requires that the option be exercised *on* the expiration date). Despite this fact, until very recently the vast majority of analysts have relied on the Black-Scholes formula as a good first order approximation of American option values because of its ease of use, and for that reason we strongly suspect the executives in our sample (or their advisors) would employ it as well.

Option grants do not typically vest all at once; we ignore this fact, given that a) we do not know the vesting pattern for individual option grants, and b) options are valuable to the executive whether they have vested or not. Similarly, corporate executives in publicly traded companies are bound by Section 16 of the Securities Exchange Act of 1934, which creates restrictions on their ability to liquidate stock holdings. These restrictions will not create bias in our sample: they apply equally across all the executives whose behavior we examine, and as with options, they are valuable in and out of so-called "blackout" periods.

Execucomp reports the specifics of option grants as well as the total number of options an executive has in her portfolio in a given year. As Hall and Liebman (1998) discuss, in evaluating the total value of the portfolio, the challenge comes in (a) figuring out *which* options granted in prior years the executive still maintains possession of at a given time; (b) determining how to calculate the value of options granted before the time span covered by the data (which go back to 1992); (c) filling in missing exercise price data; and (d) adjusting for stock splits. We refer the reader to the appendix of their 1998 piece for the basic methodology. The biggest difference in their technique and ours is that Execucomp, which the authors did not employ as a data source, reports the total number of unexercised options held by an executive in a given year. Given this information, we are able to identify the executive's current portfolio of options by ranking their potentially live option grants from most to least recent (with the Hall and Liebman tie-breaking rules for options of equal age), and finding the oldest grant such that all the more recent ones sum to the total number of unexercised options.

References

- Black, Fischer, and Myron Scholes. 1973. "The Pricing of Options and Corporate Liabilities." *Journal of Political Economy* 81: 637-654.
- Hall, Brian J., and Jeffrey B. Liebman. 1998. "Are CEOs Really Paid like Bureaucrats?" *Quarterly Journal of Economics* 113: 653-691.
- Merton, Robert C. 1973. "Theory of Rational Option Pricing." *Bell Journal of Economics and Management Science* 4: 141-183.