Capitol Gains: The Returns to Elected Office from Corporate Board Directorships

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We frequently observe that politicians accept lucrative private sector employment after leaving office, but we have little systematic evidence that politicians are able to profit from their government service. In this paper, we examine the returns to office that many former senators and governors receive from serving on the boards of directors of publicly traded corporations, part-time positions where the average compensation exceeds $250,000 per year. We find that almost half of all former senators and governors serve on at least one board after leaving office. Using a fuzzy regression discontinuity design, we estimate that winning a Senate or gubernatorial election increases the probability of later serving on a corporate board by roughly 30%. For senators, we find that developing skills and connections through committee service, particularly in areas such as finance or military, is associated with increased board service after leaving office.

There is a widely held notion in American politics that politicians are able to personally profit from their time in public office. This perception is fueled by the observation that many politicians leave office and become lobbyists, earning millions by trading on their connections and lobbying their former colleagues.[1] While there is an extensive literature on the former politicians, staffers, regulators, and others with political connections who become lobbyists (Bertrand, Bombardini, and Trebbi 2014; Etzion and Davis 2008; i Vidal, Draca, and Fons-Rosen 2012), there are many other opportunities for former politicians to profit from their governmental experience and relationships. In this paper, we study the former US politicians who serve on the boards of directors of publicly traded corporations. Boards are an understudied but common destination for former public servants and a remunerative alternative (or supplement) to lobbying. Since 1992, fewer than 25% of former senators have worked for lobbying firms but 47% have sat on the board of at least one publicly traded firm.[2] Given the prevalence of former politicians on corporate boards, research examining lobbying may be looking for returns to office in the wrong place.

Analyzing returns to office is a challenging problem because most mechanisms through which politicians benefit from office are hard to observe. However, the Securities and Exchange Commission (SEC) and stock exchanges require publicly traded firms to disclose the membership and compensation levels for their boards of directors.[3] As a result, there are public records of board service, unlike many other potential opportunities for former officials. A board directorship allows a public servant to cash out on political connections and credentials without registering as a federal lobbyist and following increasingly strict, though still opaque, lobbying disclosure regulations. As a member of a board of directors, a former politician can help companies enter the

1. Two of the most notable examples are former Senators Trent Lott (R-MS) and John Breaux (D-LA), who teamed up after leaving office and then sold their lobbying firm to Patton Boggs three years later. Another notable example is Rep. Eric Cantor, who resigned from Congress after losing his 2014 primary to join Moelis & Co., an investment bank whose CEO was a longtime Cantor donor and supporter.

2. Our estimate for the extent of lobbying by senators was constructed from data available at opensecrets.org and is based on lobbying disclosures for paid work by lobbying firms. While approximately 50% of former senators are registered lobbyists, many perform unpaid lobbying for various organizations, and others are employed in house.

3. Compensation for board members is usually a mix of salary and stock.

political arena, navigate regulations and bureaucracies, and improve governmental relations and engagement. We use such board service to partially measure the returns to holding elected office in the United States.

Our analysis focuses on the returns to office for former US senators and state governors. We find that close to half of all former senators and governors accept positions on boards, and a substantial share of these board appointments can be directly attributed to having held elected office. Using a sample of all candidates from 1992 to 2012, we employ a fuzzy regression discontinuity design to estimate that holding elected office as a governor or senator results in a roughly 30 percentage point increase in future board service. On average, former officeholders serve on an additional half board per year, which is worth more than $125,000 annually. The estimated effect persists for a variety of robustness checks and under an alternative estimation strategy where we restrict the sample to include only elections with first-time candidates vying for open seats.[4] To help distinguish between the factors that contribute to the link between holding office and board service, we examine predictors of board service among former senators. We find that developing expertise and connections, particularly in areas such as finance or military, is associated with increased board service. Other characteristics such as leadership positions, past employment, and ideology do not have a meaningful effect. On the whole, observable senator characteristics do not explain the bulk of the variation in post-Senate employment on boards.

These findings contribute to the literature on the returns to holding office—and thereby help in assessing the financial value of political power. The previous literature on returns to holding office finds little evidence of financial gains while in office and mixed evidence on whether officials have benefited from their service after leaving office. Eggers and Hainmueller (2013), for example, finds that members of Congress do not appear to enrich themselves by trading on privileged information in financial markets while in office. Querubin and Snyder (2013) determines that members of Congress in the latter half of the nineteenth century did not appear to make large gains from holding office: across several decades, only Union members of Congress during the Civil War years systematically profited from serving in Congress. Upon leaving office, however, the results are slightly different. Eggers and Hainmueller (2009) shows that Conservative MPs in Great Britain received substantial increases in personal wealth following their service in Parliament compared to candidates who narrowly lost their elections. The

authors argue that much of this wealth gap is a result of MPs holding corporate directorships while in office (which is not allowed in the United States) as well as after leaving office. Examining data on board directorships (from a single year, 1983) for firms traded on the London Stock Exchange, they find that Conservative MPs who win elections are more likely to serve on boards. Diermeier, Keane, and Merlo (2005) develops a structural model of congressional career choices and estimates the value of holding a seat in the House or Senate based on income earned by politicians after leaving office. Using survey data from Chicago attorneys, the authors estimate the income earned by former lawmakers through employment as a lawyer or lobbyist and find that a Senate seat is worth almost $1.7 million. Thus, it appears that regulations, electoral accountability, and propriety all tend to limit outside earnings for legislators while in office, but the same limits do not exist after leaving office.

Directorships in particular are an attractive form of employment for former officeholders, offering substantial compensation for relatively little work. Executive search firm Korn/Ferry International estimates that a typical director works between 250 and 300 hours per year (about 15% of the hours worked for an employee in a full-time 40 hour per week job) and earns $251,000 (Green and Suzuki 2013). Why would firms tap former elected officials for these roles? There is substantial evidence that firms benefit from political connections, both to current members of government (Fisman 2001; Jayachandran 2006; Roberts 1990) and to former members (Goldman, Rocholl, and So 2009, 2013; Gulla 2005; Lester et al. 2008). Hillman (2005) finds that highly regulated firms are especially likely to appoint politicians to their boards of directors and that employing politicians on the board is associated with higher market performance. Lester et al. (2008) finds that corporations appoint former members of Congress to boards for their human capital (experience, expertise, and knowledge) and their social capital (connections and relationships). The authors argue that as a member of Congress's human and social capital deteriorate over time after leaving office, the probability of serving on a board decreases. Consequently, serving on boards may offer opportunities for some officeholders to "cash in" on their experience, knowledge, and relationships in the time following their service in government. For example, after Senator Blanche Lincoln's (D-AR) reelection loss in 2010, she joined the board of Entergy Corporation, an integrated energy company that provides utility services in Louisiana, Arkansas, Mississippi, and Texas and operates 10 nuclear power plants across the country. As the primary energy utility in Arkansas, Entergy would expect that Lincoln's political connections in the state were likely to be extremely valuable. Lincoln also brought the expertise,

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4. In the appendix, we consider further refinements.

knowledge, and connections that she developed on the Senate Committee on Energy and Natural Resources and the Senate Finance Committee to the board. In 2012, Lincoln earned $188,555 in cash, stock, and other benefits for her service on the board.[5]

Given the previous literature, our paper makes three distinct contributions. First, the set of channels through which former politicians benefit after their political careers have not been fully explored; our focus on board service complements the traditional focus on lobbying and adds nuance to our understanding of the choice problem faced by career-minded politicians.[6] Second, previous research has centered exclusively on returns to office for legislators at the national level; to our knowledge, there has not been any investigation into the financial gains from office at the state level or in nonlegislative positions. Third, we clarify which characteristics appear to lead to the observed uptick in board service among former lawmakers.

ELECTED OFFICIALS WHO SERVE ON BOARDS

The prevalence of board memberships among former governors and senators is striking. Among former senators who have served in Congress since 1992, 46.8% sat on at least one corporate board between 2000 and 2013. For governors, the rate is within a few percentage points. Table 1 provides summary statistics of board service for the 52 senators and 66 governors who have served on a corporate board since 2000. Among those serving on boards in 2011, the average senator earned approximately $472,000 per year and the average governor earned approximately $294,000 per year from their work.[7] Senators who have served as directors sit on slightly more unique boards than governors over the course of their careers and on a per year basis after leaving office.[8]

Anecdotal evidence from research into postgovernment careers falls in line with these summary statistics. One of the most notable examples of a former senator with a significant career serving on corporate boards of directors is former

Majority Leader George Mitchell (D-ME), who retired from the Senate in 1995. Since 1995, Mitchell has served on many boards, including Walt Disney Company, Xerox Corporation, Fedex Corporation, and Staples, Unilever, Casella Waste Systems, UNUM Group, and Starwood Hotels and Resorts Worldwide. From 2004 to 2007 Mitchell was the Independent Chairman of Disney's board of directors. In addition to these board positions, Mitchell held several advisory roles with the federal government and public and private firms, and served as a partner at a major law firm.

Like Senator Mitchell, Sam Nunn (D-GA) has had an extremely impressive career as a corporate board member since retiring from the Senate in 1997. After his retirement, Nunn immediately joined the boards of Coca-Cola, General Electric, Texaco (now Chevron), Community Health Systems Inc., Scientific Atlanta Inc., Total System Services Inc., and National Service Industries Inc. In subsequent years, he also served on the boards of Dell Computer, Hess Corporation, and Internet Security Systems Inc. Nunn gradually retired from most of these boards as he entered his seventies, but he continues to serve on the Coca-Cola board as of 2015 at age 76. Since 2000, Nunn has served on the boards of 10 different companies and averaged service on 5.35 boards per year.

As one final example, Governor Bob Miller (R-NV) has one of the most notable postgubernatorial careers on corporate boards. Miller left office in 1999 (he was unable to run again due to term limits) and joined the boards of Newmont Mining Corporation, Zenith National Insurance Corporation, Paging Network Inc., and America West Holdings Corporation. He later joined the boards of Wynn Resorts Inc., a major casino company, and International Game Technology (IGT), one of the largest manufacturers of slot machines and other gambling products. While many of these companies operate globally, several are based in Nevada or have major business interests there, including Wynn, IGT, and Newmont Mining. In addition to his service on these boards, Miller also works as a lawyer and consultant and has been employed by a major gaming trade association.

Successful board careers are not just for retiring governors and senators following impressive careers. Following his Senate reelection defeat in 2006, Rick Santorum (R-PA) served for four years on the board of Universal Health Services Inc. Santorum left the board prior to his 2012 campaign for the Republican nomination for president. After retiring from the Senate after just one term in 1997, Senator Hank Brown (R-CO) joined several boards, including W. R. Grace and Company, a chemical and materials company, and Sealed Air Corporation, a materials and packaging producer. Since 2000, Brown has served on the boards of nine

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5. Entergy 2013 Proxy Statement, http://www.entergy.com/content/investor_relations/pdfs/2013_proxy.pdf.

6. There is a significant literature on these career concerns and the choice to run for reelection, higher office, or retire (Groseclose and Krehbiel 1994; Hall and van Houweling 1995; Jacobson 1989; Kiewiet and Zeng 1993; Mackenzie and Kousser 2014; Mattozzi and Merlo 2008) and career paths after leaving Congress (Herrick and Nixon 1996; Schlesinger 1966).

7. Senators earned $236,100 on a per board basis in 2011. Governors earned $172,236 on a per board basis in 2011. The widening in total annual earnings is due to the fact that senators served on slightly more boards per person and those boards offered higher compensation. See appendix B for details on compensation data.

8. Appendix C lists all of the corporate board positions held between 2000 and 2013 for the senators and governors in our sample.

Table 1. Senators and Governors who Served on Boards

Outcome	Senators			Governors		
	D	R	All	D	R	All
N	24	28	52	25	39	66
Compensation (2011)	$503,545	$440,852	$472,200	$208,258	$332,708	$294,063
Boards served upon (ever)	3.333	2.964	3.135	2.520	3.000	2.833
Boards per year	1.733	1.513	1.624	1.213	1.365	1.334

Note. The calculation of mean compensation for former officeholders who served on boards in 2011 uses all available compensation data. We were able to gather data for roughly 90% of boards served on by former senators and roughly 60% for former governors.

different companies and averaged 3.69 directorships per year. After Senator John E. Sununu (R-NH) lost reelection for a second term in 2008, he joined the boards of Boston Scientific and Time Warner Cable. In their 2010 Proxy Statement, Time Warner specifically articulated what Sununu brings to the board: "The Company's business is subject to extensive regulation, and Senator Sununu provides legislative and regulatory insight."[9] In his first four years after leaving the Senate, Sununu earned $1.9 million from these two boards, in addition to income from other employment and serving on the boards of two private firms.[10]

Overall, the patterns of board service for governors and senators are very similar. After leaving office, governors and senators who intend to serve on a board at some point generally accept board positions very quickly. Of the 24 governors who left office in 2011, 11 accepted at least one board position by the end of 2012. Figure 1 plots the time elapsed between leaving office and accepting their first board position for officeholders who served on at least one board. In our sample of officeholders who accepted board positions, 60% of governors and 59% of senators accepted at least one board position in the same year that they left office. Of those who take more than 1–2 years to accept their first board position, the lag is generally due to holding some other political office. For example, Tom Ridge resigned as governor of Pennsylvania in 2001 to become the first Secretary of Homeland Security. He left that position in February 2005 and joined the board of Home Depot in February, Exelon in May, and Vonage in August of that same year. Both governors and senators have had similar tenures, averaging 8–9 years of service on each board on which they sit.[11] Finally,

there do not appear to be significant differences between governors and senators across most industrial sectors, but senators are more likely to serve on the boards of insurance and oil and gas companies, and governors are more likely to serve on the boards of health care companies.

EMPIRICAL APPROACH

We have established that many former senators and governors have cultivated careers as directors for publicly traded companies; however, this observational evidence does not establish a causal relationship between holding elected office and board service. With this in mind, we utilize a regression discontinuity design to estimate the effect of holding office on subsequent corporate board memberships. The simplest way to approach this question would be to compare board memberships among officeholders to board memberships among candidates who have not held office. But this approach would almost certainly yield a biased estimate: winning an election is correlated with a host of other factors that are in turn correlated with service on a board. For example, previous educational or business experiences might make a candidate more likely to win an election and also more likely to gain a seat on a board.

To avoid this potential bias, we employ a regression discontinuity design in an electoral setting (Lee 2008). The crucial assumption is that winning a very close election is largely due to random factors. The odds of being on one side or the other of the 50% threshold are as good as a coin flip as we approach the threshold. This approach relies on the continuity of the conditional mean function as we approach the threshold from at least one side (Lee and Lemieux 2010). We employ several robustness checks to provide additional evidence that (1) there are not jumps in the outcome at thresh-

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9. Time Warner Cable 2010 Proxy Statement http://timewarnercable .q4cdn.com/00b1b3d5-2264-4926-b1e9-d1ab232017e3.pdf.

10. Compensation data collected from Time Warner Cable and Boston Scientific 2010–13 Proxy Statements.

11. The board tenures of a large part of our sample are incomplete, as officeholders may still be serving on boards. However, this tenure estimate

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is roughly the same if we only look at board service terminating before the end of our sample, and there are no significant differences between the tenures of governors and senators.
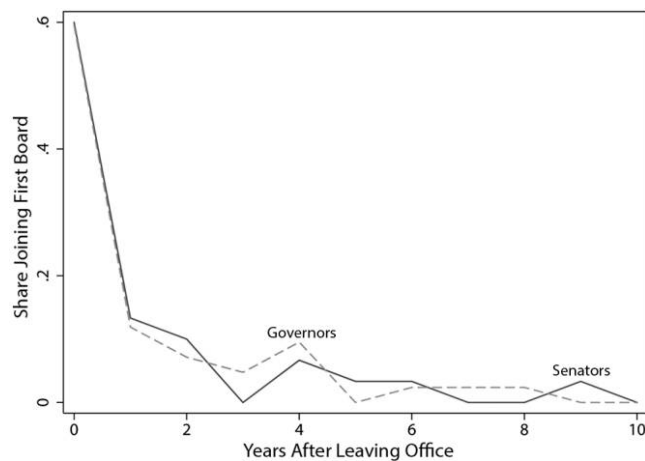
Figure 1. Time to first board position after leaving office. This figure shows the years elapsed between leaving office and accepting their first board position for the former senators and governors who served on at least one board. We restrict the sample to officeholders who left office after 2000 to match the BoardEx data (30 senators, 42 governors). Year 0 is the year the politician left office.

olds other than 50%, and (2) the assignment mechanism at the threshold is close to random (by showing that there is no effect of holding office on other pretreatment covariates such as region, gender, party, and age).

One general objection to the regression discontinuity approach is that narrow winners and narrow losers may in fact differ along pretreatment covariates. Caughey and Sekhon (2011) find that covariate imbalance actually worsens between winning and losing candidates in close elections in the House since 1942, a pattern suggestive of sorting among winners and losers. However, this objection does not appear to hold up across a range of different close elections in the United States (governor, Senate, local, etc.) and abroad (Eggers et al. 2015).

Because we are interested in estimating candidate-level effects our unit of observation is the candidate rather than the election year. We use close elections on a candidate's first attempt running for office as the mechanism for assignment into treatment (holding office) and control groups (not holding office). Importantly, there is not a one-to-one correspondence between the result of the first election and holding office. Candidates who lose their first election may later run again and win—a form of noncompliance.[12] Random assignment to the winning or losing side of the threshold alters the probability of treatment but it does not change from

0 to 1 as in a "sharp" regression discontinuity design. Instead, under this "fuzzy" regression discontinuity design, random assignment at the threshold is used as an instrument for treatment (Hahn, Todd, and Van der Klaauw 2001).

To model the discontinuity, we estimate a model of the form:

$$\text{Board}_i = \alpha + \beta \cdot \text{In Office}_i + \gamma \cdot f(\text{Vote Margin}_i) + \varepsilon_i, \quad (1)$$

$$\text{In Office}_i = \kappa + \lambda \cdot \text{1st Elect. Win} + \theta \cdot f(\text{Vote Margin}_i) + \eta_i, \quad (2)$$

where In Office$_i$ denotes whether a candidate served in Congress, First Election Winner$_i$ denotes whether a candidate won their first election, Vote Margin$_i$ denotes the margin by which a candidate won or lost, and $f(\cdot)$ is a polynomial function of the vote margin. This model can be estimated using two-stage least squares. The endogenous variable In Office$_i$ is instrumented for using First Election Winner$_i$ (the model is exactly identified). The estimate of β is the effect of holding office on subsequent board service.[13]

We employ two different measures of board service among candidates. First, we use a binary variable that indicates whether a candidate ever served on a board following their service as a senator or governor.[14] This outcome provides a blunt but valuable indicator of our quantity of interest. In addition, it abstracts away from the complications that can arise due to different eligibility criteria (see below). Second, we also examine the number of board seats per year held by former members of Congress. This measure accounts for both the number of boards that a candidate may serve on as well as the number of years that they serve on boards.

In this analysis, we estimate the relationship between holding office and serving on a corporate board for former senators and, separately, for former governors.[15] There are several important eligibility criteria necessary for classifying our outcome variables. For losing candidates, the criteria are relatively simple. In the binary case, we include in the sample every losing candidate who lived at least one year after 1999, who did not die in the same year that they first ran for office, and who was under the age of 80. In the board seats per year case, we include all years from 2000 to 2013

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12. Note that this approach, combined with incumbency, does lead to imbalance in terms of year of first election. A winner who runs again retains the same year of first election but likely runs against a challenger with a later year of first election. We discuss this source of bias at length in appendix A.2.

13. We assume that there is no causal effect of losing an election on a candidate's future board employment; we attribute the entire effect to winning the election.

14. For all regression analyses in this paper, we exclude boards that a candidate served on before their first election. In practice, this amounts to only a handful of cases.

15. See the data section for more information about assembling our sample.

where the candidate meets these conditions. For winning candidates, we use the same eligibility conditions, but they are applied once the candidate leaves office. This excludes anyone who dies in office. We measure the number of years of eligibility based on departing elected office, rather than the year of the first election.[16]

One consideration for eligibility is when candidates subsequently hold other elected offices or political positions that preclude them from simultaneously serving on a corporate board. For example, Ken Salazar resigned from the Senate in 2009 to become Secretary of the Interior. While Salazar was not able to join any boards during his four years as Secretary, we count these years as eligible because they are a post-Senate career choice. In 2013, after leaving the Department of the Interior, Salazar joined the board of Target Corporation. Salazar has served on one corporate board for one year out of the five years in which he has been eligible, resulting in a boards per year measure of 0.20. This consideration also factors in for governors who later become senators (or vice versa).[17] For instance, Evan Bayh served as the governor of Indiana from 1989 to 1997, when term limits prevented him from running again; he then won election to the Senate in 1999, where he served for two terms. In the gubernatorial analysis, we consider Bayh eligible for all years beginning in 2000 (the start of our boards data), even though he spent most of the following years in the Senate, and for the senators analysis, we consider Bayh eligible beginning in 2011.

DATA

Our sample of candidates is based on people who ran for or served in the US Senate or a US state governorship from 1992 through 2012. The sample includes 230 Senate winners and 323 Senate losers, and 201 gubernatorial winners and 230 gubernatorial losers. The winners include candidates who ran for office (and won) since 1992, as well as senators and governors who were serving in 1992, but whose first election was prior to that year. For example, Senator David Boren (D-OK) was first elected to the Senate in 1978 and retired in 1995. He is included in the sample, and his vote margin in our regressions is based on his 1978 election. In determining eligibility, we exclude current incumbents, as

their position precludes board service, except in the case of officeholders who have served in office, left office, and then returned to public office between 1992 and 2010, such as Senator Dan Coats (R-IN), who left the Senate in 1999 and returned in 2011. We also exclude appointed senators and lieutenant governors who become governor due to a vacancy but who do not run in the subsequent special or general election. For appointed senators and vacancy-filling lieutenant governors who do run in the next election, we use their vote margin in that election to classify them as winners or losers.

We merged our sample to a database of board members employed by publicly traded firms from 2000 through 2013. Data on board memberships was provided by BoardEx, a company that collects and organizes data on corporate personnel and relationships and which maintains a comprehensive record of directorships for firms traded on public exchanges in the United States.[18] The BoardEx database includes data on thousands of public firms in the United States and other countries, and has time-series data for US and foreign public firms for at least the past 14 years. We manually matched the names of the candidates in our sample to the BoardEx database to determine if these candidates held board positions on public firms traded between 2000 and 2013.[19] While data are readily available on Senate and gubernatorial election winners, there is no public database of information on losing candidates. Consequently, we manually collected demographic information on the people in our sample who ran for office and lost (see appendix B; apps. A–D available online).

Table 2 presents summary statistics for the full set of candidates, broken out by office and whether a candidate won or lost his or her first election. Because of incumbency we have more candidates who have lost their first elections as compared to candidates who won their first election. Among the groups of eligible Senate candidates (based upon the criteria discussed above), 13.2% of election losers and 46.8% of election winners have served on the board of at least one publicly traded firm. On a boards per year basis, this amounts to 0.148 boards per year among election losers and 0.807 boards per year among election winners. Among gubernatorial candidates, 12.2% of election losers and 45.5% of

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16. We consider an alternate time window in the next section.

17. In our data, 10 people won both offices at some point in their careers, and several others won an election to one of the offices and lost an election to the other, or ran for and lost elections to both offices. These overlaps are not a concern, however, because our analysis is done separately for each office. Random assignment on either side of the threshold for victory in close elections assures that the estimates isolate the effect of holding only the office in question.

18. http://corp.boardex.com.

19. BoardEx contains complete data of all board members from 2000 to 2013. In some cases BoardEx includes previous board positions, but this may not be complete for all directors and all companies in earlier years. As a result, we restrict our analysis of board positions to this period. However, we include a larger range of races and public service (1992–2012) in order to increase the pool of eligible candidates for board positions.

Table 2. Senator and Governor Board Summary Statistics

	Senators		Governors	
	Loser	Winner	Loser	Winner
N	323	230	230	201
Eligible for board	318	111	230	145
On at least one board				
(eligible)	.132	.468	.122	.455
Total board years	470	781	232	827
Boards per year				
(eligible)	.148	.940	.102	.659

Note. Among eligible Senate candidates, 13% of losers and 47% of winners serve on at least one board. For gubernatorial candidates, 12% of losers and 46% of winners serve on at least one board.

election winners served as directors on the boards of publicly traded firms. Finally, losing gubernatorial candidates averaged 0.102 boards per year while winners averaged 0.659 boards per year.

RESULTS

Figures 2 and 3 illustrate the discontinuity that serves as the basis for our estimate of the impact of holding office on a binary board service indicator and board seats per year. The figures reveal that a noticeable uptick in board service exists for those who narrowly won elections as compared to those who narrowly lost. For both outcome measures, the conditional mean on the plot for senators has a slight upward slope for losing candidates, and there is also a noticeable jump at the point of the discontinuity. To help visualize this, we have included estimates of the conditional mean from a model with a quadratic polynomial $f(\cdot)$. It appears that the conditional mean approaching each side of the threshold varies substantially for both outcomes and for both offices. Among governors in particular, few narrow losers have spent any substantial time serving on a board, while narrow winners have spent considerable time serving on boards. Among senators, there is a noticeable uptick in high board service among winners, especially along the intensive margin of boards per year.

Ex ante, we believed that a linear model with separate fits on each side of the discontinuity would provide the best fit to the data for two reasons. First, among election winners we had no strong reason to expect that those who won their first election by a large margin would have more board service after leaving office than those who won narrowly. While unobservables like candidate quality likely play a role in margin of victory and in subsequent service on a board, it

was not clear that this correlation would hold among winners. Second, among losers, we expected that close losers would be more likely to serve on boards after the election than those who lost by large margins. Uncompetitive candidates are likely to be less qualified than more competitive candidates, with different backgrounds and experience prior to the election (Carson 2005; Lublin 1994; Squire 1989). Most significantly, many of the most competitive losing candidates have held prior elected office. Congressmen are more likely to give up their House seat to run for the Senate when there is an open seat or a vulnerable incumbent (Jacobson 1989). Similarly, many gubernatorial candidates have prior experience in state offices. In contrast, the candidates who lost by the largest margins might be less qualified, and therefore less attractive, to corporate boards seeking new directors. The results illustrated in figures 2 and 3 partially bear out this story. To the left of the cut point we observe a gradual upward slope in all the graphs. To the right of the cut point, the direction of the slope is much less clear (and, in our examples, looks to be almost flat for senators and slightly downward sloping for governors). Assuming a linear conditional mean seems less of a clear-cut choice after an initial look at the data.

We estimated models where $f(\cdot)$ was specified as a linear, quadratic, cubic, or quartic function of margin of victory. Looking across specifications, the quadratic polynomial appeared to offer the best combination of providing a more flexible functional form while not overfitting.[20] As a result, we use this specification when presenting our main findings, and we present a full set of results for the other specifications in appendix A. As an additional point of reference, we also include estimates from a local linear polynomial fit of the data around the discontinuity.

The upper panel of table 3 presents our main findings on the relationship between holding office and the likelihood of sitting on a board. We estimate that winning a Senate seat results in a 29.5 percentage point increase in the likelihood of sitting on a board of directors for a publicly traded company (model 1). This effect is substantively large and significantly different from zero. In addition, the result does not change substantially upon the inclusion of a set of covariates such as region, age, party, and gender (model 2). In model 3, we include estimates from an alternative specifica-

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20. We made this assessment based on the Aikake Information Criterion, which accounts for the trade-off between model fit and adding additional parameters (i.e., overfitting), and we also considered recent research cautioning against relying heavily on higher-order polynomials (cubic and above) when making causal inferences. Gelman and Zelizer (2015) shows that regression discontinuity designs with higher order polynomials may result in understating the uncertainty of the estimates (due to overfitting).
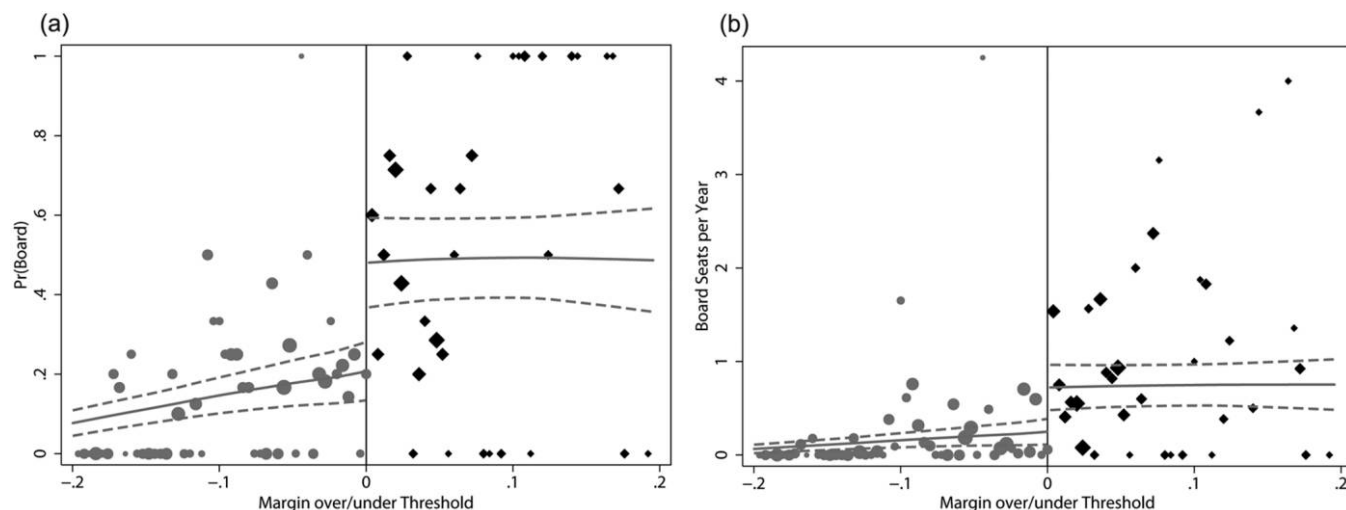
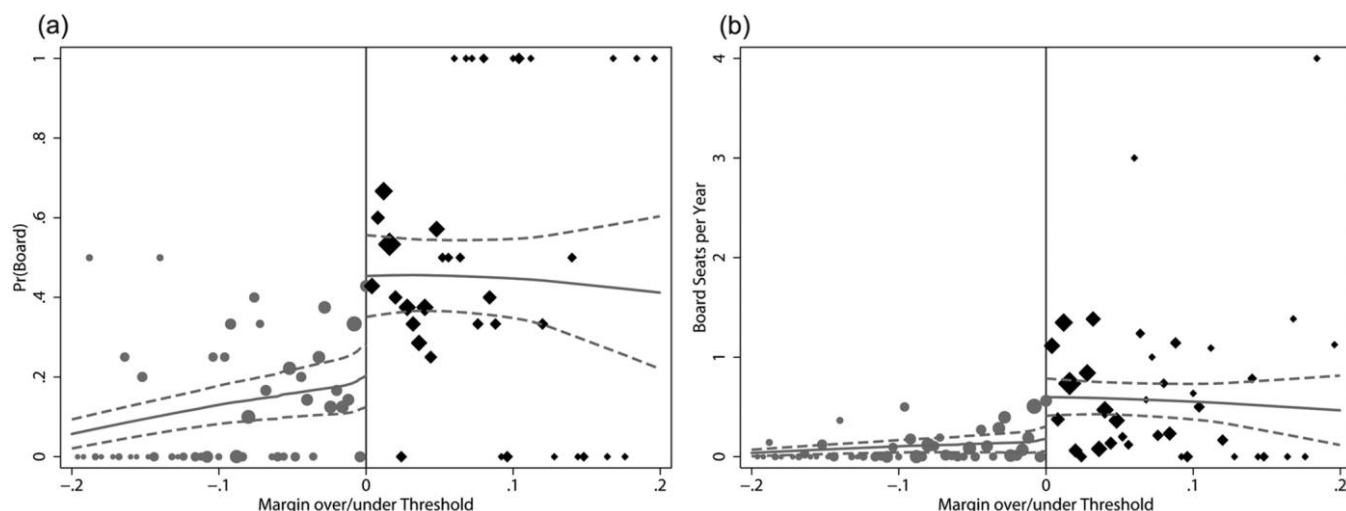Figure 2. Senators: *a*, on a board; *b*, boards per year

Figure 3. Governors: *a*, on a board; *b*, boards per year. These figures display the discontinuity between close election winners and losers for the binary outcome of board service (*a*) and boards per year (*b*). We have also included a line estimating the jump at the cut-off point, using a quadratic polynomial. Each point size is proportional to the number of candidates represented by the data point.

tion using a local linear fit. In this case, we determine the optimal bandwidth for the regression discontinuity using the method described in Imbens and Kalyanaraman (2012).[21] Using the local linear fit with optimal bandwidth slightly increases the point estimate. For governors, the estimated effect is strikingly similar: serving as a governor results in a 28.8 percentage point increase in the likelihood of sitting on a board of directors for a publicly traded company (model 4). Again, the result is stable when including the set of covariates as well (model 5). Similar to our findings with senators, using

a local linear fit with optimal bandwidth selection does not substantively change the meaning of the results, although it does yield an increase of roughly 10 percentage points in our estimates (model 6).

The lower panel of table 3 provides additional confirmation of a causal link between holding elected office and subsequent board membership by using boards per year as the outcome variable (as in figs. 2, 3). Using this outcome variable accounts for the magnitude and duration of service as well as for whether or not someone served on a board. We estimate that winning a Senate seat results in service on an additional 0.511 boards per year once leaving the Senate. The finding does not change substantially when including a set of covariates in our specification. When we use a local

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21. We also estimated results using an alternative optimal bandwidth selection routine outlined in Calonico et al. (2014), which we present in table 4.

Table 3. Fuzzy Regression Discontinuity: Effects of Holding Office on Board Service

	Senators			Governors		
	(1)	(2)	(3)	(4)	(5)	(6)
Effect on Pr(board)	.295***	.289***	.336**	.288***	.269***	.373**
	(.0784)	(.0799)	(.160)	(.0751)	(.0736)	(.152)
Observations	429	429	181	375	357	187
Effect on boards per year	.511***	.483***	.363	.482***	.453***	.630**
	(.162)	(.162)	(.305)	(.131)	(.132)	(.297)
Observations	429	429	222	375	357	204
Controls	No	Yes	No	No	Yes	No
Specification	Quadratic	Quadratic	Local linear	Quadratic	Quadratic	Local linear

Note. Standard errors in parentheses. Bandwidths for models 1, 2, 4, and 5 are ± .5, bandwidths for models 3 and 6 determined using optimal bandwidth selection based on Imbens and Kalyanaraman (2012), which results in bandwidths of ± 0.071 and ± 0.092 (senators) and bandwidths of ± 0.056 and ± 0.068 (governors).
* $p < .10$.
** $p < .05$.
*** $p < .01$.

linear specification with an optimal bandwidth, the direction and the magnitude of the estimate is similar as before; however, by reducing sample size the estimate becomes less precise and the 95% confidence interval overlaps with zero for this specification. For governors, we estimate that holding elected office results in service on an additional 0.482 boards per year. In addition, for governors the effect is significantly different from zero when we include covariates as well as when we use the local linear fit.

This result also allows us to gain a sense of the additional earnings from board positions due to having previously held office. Because board total compensation averages more than $200,000 per year, the average winning Senate candidate receives an income supplement amounting to more than half of the yearly Senate salary through service on a board. Governors make only slightly less on a per year basis from board service. Considering that a board directorship may represent only one of several channels used to "cash in" on government service, our findings suggest that the financial returns to holding a seat in the Senate or a governorship are hardly insubstantial.

While the estimated effect of holding office on board service (in terms of the probability of serving on a board, the number of boards per year, and earnings due to board service) is not identical when comparing governors to senators, we cannot reject the null hypothesis that the returns to office for each position are the same. Our findings suggest that service as a governor and service in the Senate both have a substantial,

positive effect on future prospects for employment as a director. That said, the results for governors are slightly more robust than those for senators (further evidence of this is presented in the next section). We view this as the product of several important technical distinctions between the offices. First, the majority of states have term limits for governors.[22] Term limits help soften a selection problem that surfaces in the Senate: many high quality officeholders in the Senate choose to remain in office rather than exit the Senate for private employment. Second, gubernatorial elections are generally more competitive than Senate elections. For instance, 54% of the Senate elections within our sample had vote shares that fell between 40% and 60% while 71% of gubernatorial elections fell within this window.[23] The combination of these two factors yields more observations near the threshold and allows us to estimate more precisely the conditional mean function at the threshold for governors.

The relationship between holding office and serving on corporate boards remains robust when estimating the model at progressively narrower bandwidths. Restricting the sample to closer elections does not change the previous results. Table 4 reports the estimated effect of service in office on

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22. Thirty-six states have various term limit regulations, including absolute term limits or consecutive term limits, and 14 states have no limits (Council of State Governments 2013).

23. Thirty percent of senators and 46% of governors are within the 45%–55% window.

Table 4. Fuzzy Regression Discontinuity: Effect of Holding Office on Board Service

	BW = ±.5 (1)	BW = ±.2 (2)	BW = ±.1 (3)	BW = ±.05 (4)	BW = Optimal (5)
Senate service on Pr(board)	.295***	.203**	.341***	.388**	.322**
	(.0784)	(.0953)	(.124)	(.169)	(.156)
Governor service on Pr(board)	.288***	.277***	.307***	.359***	.337**
	(.0751)	(.0843)	(.102)	(.137)	(.139)
Senate service on boards per year	.511***	.294	.442*	.532	.456
	(.162)	(.205)	(.265)	(.362)	(.346)
Governor service on boards per year	.482***	.434***	.545***	.673***	.590**
	(.131)	(.162)	(.185)	(.258)	(.271)

Note. Standard errors in parentheses. Standard errors are clustered at the state-year level. Columns 1–4 use models with quadratic polynomials. Column 5 uses a local linear model with optimal bandwidth selection as in Calonico et al. (2014).
* $p < .10$.
** $p < .05$.
*** $p < .01$.

both outcome variables (using a quadratic polynomial function) for the full sample and windows of 30%–70%, 40%–60%, and 45%–55%. For instance, when restricting the sample to only elections in a window of 40%–60% we find that Senate service resulted in a 34.1% increase in the probability of serving on a board. When we restrict the sample to vote shares between 45% and 55%, the increase in the probability of service is 38.8% and the 95% confidence interval does not overlap with zero. If anything, the narrower bandwidths suggest an even larger effect than we reported in the previous table. For governors, the effect is also slightly larger and even more robust. For example, when restricting the sample only to elections between 45% and 55%, we estimate the effect of serving as governor on future board service at 35.9% (and the 99% confidence interval does not overlap with zero). When we use the optimal bandwidth selection approach outlined in Calonico, Cattaneo, and Titiunik (2014) (as opposed to Imbens and Kalyanaraman 2012), for senators the bandwidth is ± 0.076 and for governors it is ± 0.07. Estimating the discontinuity using a local linear fit results in no substantial differences from the quadratic fit.

Turning to the boards per year outcome variable, the same results largely persist. Senate service results in a subsequent increase of 0.442 boards per year for vote shares between 40% and 60%. The estimate is 0.532 boards per year when we restrict the bandwidth further, although here the estimate is considerably noisier. Nonetheless, the direction of the effect is consistent across bandwidths, and by the time we restrict to the smallest bandwidth for Senate candidates only 130 observations remain in the sample. For governors, the effect grows stronger as we restrict the sample further. At the smallest bandwidth we estimate that service

as governor results in an additional 0.673 boards per year after leaving office (and the 99% confidence interval does not overlap with zero). When we use the optimal bandwidth selection approach outlined in Calonico et al. (2014), for senators the bandwidth is ± 0.072 and for governors it is ± 0.084. As with the previous case, estimating the discontinuity using a local linear fit results in no substantial differences from the quadratic fit.

We also observe a consistent, positive effect across a variety of different specifications, allowing for several flexible functional forms for the polynomial in margin of victory/loss. Tables A1 and A2 in appendix A.1 present these results. Because this paper focuses only on senators and governors who have served since 1992, adding interactions and higher order polynomials is quite taxing on the relatively small data sets we have assembled. Nonetheless, the direction, magnitude, and stability of the effect remain consistent.

Across specifications allowing for up to a fourth-order polynomial, the estimate of Senate service on the probability of holding a board seat ranges from 15.6% to 33.8%. When we examine board seats per year rather than the binary outcome variable, a similar story persists. That said, the result here appears less strong when we restrict the sample to a smaller bandwidth, although it remains positive across all specifications. The results for governors are stronger than the results for senators. For the binary board service variable as well as for boards per year, the effect of serving as governor is positive and significantly different than zero at standard significance levels.

Overall, the empirical strategy we have employed seeks to minimize bias while still including enough candidates in the sample to estimate precise effects and for these effects to

be plausible for the population as a whole. In appendix A.2 we present several other specifications to address potential bias arising from our sample selection criteria and outcome measures. In appendices A.3 and A.4, we present additional tests that support the validity of the regression discontinuity approach.

Alternative specification: Open seat candidate pairs

We present here what we believe is one of the most stringent robustness tests available. We construct the sample of candidates from only elections in which both candidates were running for the first time (i.e., for an open seat). This assures that there is symmetry in the construction of the sample (i.e., that we have intended to treat an equal number of candidates on each side of the threshold and that there is balance in terms of year of first election between winners and losers). While we would like to conduct this test using elections for both the Senate and governor, the number of instances where this has occurred for Senate elections is surprisingly small. Since 1992, there have been fewer than 30 open-seat Senate elections with two first-time candidates. As a result, we are only able to implement this alternate approach for governors.

We combine this sample with a more restrictive approach to measuring the outcome variable. We examine board service only for a two-year window. For candidates who won office, we examine their board service only in the two years immediately after they left office. For candidates who lost office, we construct the outcome in two possible ways. First, we examine their board service in years 5 and 6 after running for election. This is the time frame in which they would be eligible had they won office, served a term, and then left office. Second, we examine their board service in years 9 and 10 (i.e., equivalent to winning the election and then serving for two terms). Measuring board service in this manner ensures that the calendar years under consideration are comparable for winners and losers.[24]

Table 5 presents the effects of holding office as governor on board service using this approach. The results are robust across most different bandwidths and the different conditions for constructing the outcome variable. Looking at the narrowest bandwidth of ±.05, we find that holding office as a governor leads to about a 30 percentage point increase in ever having served on a board. We find a 0.353 boards per year increase due to holding office when we examine

years 5/6 for losing candidates (panel B) and a 0.362 boards per year increase when we examine years 9/10 for losers (panel D). These results match very closely with the results for governors from our main specification in table 3, which also yielded increases of roughly 30 percentage points in ever serving on a board and an increase of around half a board per year. The approach presented here ensures that the potential board service years are comparable for winners and losers, and it ensures full balance across all covariates, including first election year.[25]

Predicting board service

The empirical evidence presented thus far demonstrates that holding office leads to increased probability of board service. Untangling the factors responsible for the observed effect presents an additional challenge. Choices made by elected officials in the Senate are collective and strategic, and interactions with lobbyists representing firms take place off the books. As a result, making definitive causal statements about the factors that account for board service is not feasible.

Here we strive toward the more modest goal of characterizing the traits of senators who do end up serving on boards. Examining variation within the Senate—that is, who joins a board and who does not—does allow us to highlight the key characteristics that appear to contribute to board service among elected officials. For example, do boards employ senators with specific characteristics, such as leadership positions, ideology, or policy expertise? These questions matter because they may have bearing on the incentives faced by politicians as they contemplate both whether to seek office and how to behave while serving in office.

We compiled data tracking senators who served and then left office in the time period under study. For variables measuring in-office performance (such as ideology, leadership positions, etc.), we employ data from the final Congress in which a former senator served.[26] Following Gelman (2008), we standardized explanatory variables to facilitate straightforward comparisons of effect sizes across binary and nonbinary variables (i.e., comparing the effect of serving as a committee chair to the effect of additional time spent in office).[27]

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24. See appendix A.2 for more discussion of how the sample and measures are constructed for this analysis.

25. Table A9 in appendix A.2 displays covariate balance for this approach.

26. Senate characteristics are compiled from Poole and Rosenthal (1997), Stewart and Woon (2011), and the Center for Responsive Politics (http://www.opensecrets.org).

27. We divided nonbinary variables by twice their standard deviation. A shift from 0 to 1 for a binary variable with $p = .5$ (i.e., a 2 SD shift) is comparable to a one-unit shift in the standardized nonbinary variable.

Table 5. Additional Sample Selection Checks: Effect of Holding Office as Governor on Board Service (Fuzzy RDD), First-Time Candidate Pairs and Two Year Windows

	BW = ±.5 (1)	BW = ±.2 (2)	BW = ±.1 (3)	BW = ±.05 (4)
A. Pr(Board), First Two Years Eligible for Winners, Years 5/6 for Losers				
Estimate	.308***	.304***	.233*	.264
	(.110)	(.113)	(.133)	(.172)
Observations	116	114	96	68
B. Boards per Year, First Two Years Eligible for Winners, Years 5/6 for Losers				
Estimate	.292**	.286**	.190	.353**
	(.125)	(.128)	(.152)	(.178)
Observations	116	114	96	68
C. Pr(Board), First Two Years Eligible for Winners, Years 9/10 for Losers				
Estimate	.303***	.291***	.277**	.322**
	(.0950)	(.102)	(.118)	(.150)
Observations	144	140	116	82
D. Boards per Year, First Two Years Eligible for Winners, Years 9/10 for Losers				
Estimate	.312***	.297***	.257*	.362**
	(.104)	(.111)	(.132)	(.163)
Observations	144	140	116	82

Note. Standard errors in parentheses and clustered at the state-year level. Results are presented for model with quadratic polynomial.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

We first consider the importance of committee service for future employment on a board. Differing committee assignments lead to variation in the distribution of issue-specific expertise, connections, and experience across senators. These factors can all be considered forms of human or social capital.[28] If we observe no variation whatsoever in board service across senators who served on different committees, then we might reject the notion that accumulating these skills and connections through Senate service is associated with increased board service. Figure 4 displays point estimates for a regression of board service on committee memberships. While there are not large differences in effects across committees, two committees do appear to be on the upper end of the continuum: Finance and Intelligence. Senators who served on the Finance Committee were nearly 40% more likely to serve on a board, and those who served on the Intelligence Committee were nearly 30% more likely to do so. Taking a broader view, a hypothesis test with the null that committees jointly have no relationship with board service can be rejected.[29]

These estimates are consistent with the notion that human and social capital developed through committee service in the Senate is valuable—particularly service on committees involved in crafting legislation that has clear financial and regulatory implications for industries such as finance and military contracting. However, these correlations are necessary but not sufficient conditions for a causal relationship.

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28. A framework similar to that set forth in Lester et al. (2008). Human capital can be broadly conceptualized as information and expertise. Social capital can take many forms, including the ability to set up a meeting with (and possibly influence) public officials who are still in office.

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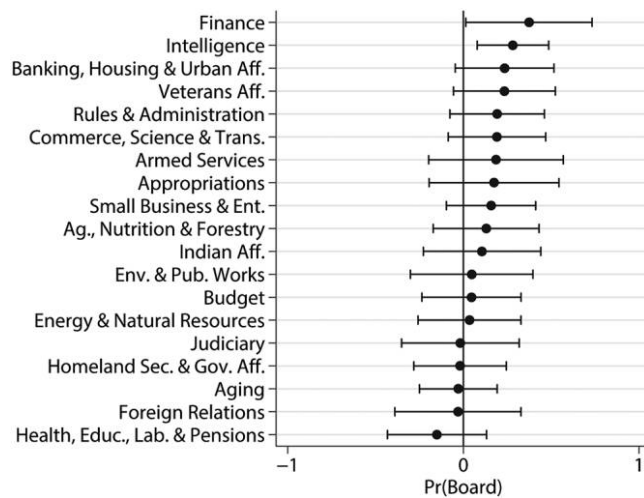29. The *F*-statistic for this hypothesis test is 5.0.

Figure 4. Committee memberships and board service among senators. This figure displays the effect on board service of past committee service. Committees are determined based on a senator's last term in office.

For example, an alternative explanation could be that ambitious senators seek out positions on prestigious committees such as Finance and also seek out employment on boards after leaving Congress. In this scenario, we would observe the same empirical pattern but development of skills and connections in the Senate would not be responsible for what we observe. One other alternative explanation is that senators with preexisting knowledge or experience in a certain area, such as expertise in Finance, select into these roles and then later serve on boards.

To explore the relationship between committee assignments and subsequent board service, table 6 presents a case study of service patterns for senators on the Finance Committee and the Banking Committee. Rates of service on boards that are directly related to the jurisdiction of these committees are higher among senators who served on these committees; in addition, the observed uptick is larger for relevant boards than for other, unrelated boards. Almost 17% of the former members of one of these committees served on a board from a related sector, while only 6% of nonmembers served on such a board. Service on other, unrelated boards is also higher, but relatively less so. Senators with committee service on Finance or Banking were 2.83 times more likely to serve on related boards than senators with no service on Finance or Banking; they were only 1.67 times more likely to serve on boards in unrelated sectors.[30]

These employment patterns suggest the importance of sector-specific human and social capital. We cannot rule

out self-selection entirely, but our results do illustrate a relationship between what senators do in office and subsequent board service. We extend this analysis by examining individual-level senator characteristics. Figure A1 and table A13 in the appendix present point estimates for senator characteristics, including past work experience, ideology, leadership, and prestige. Senators with previous work experience (before entering the Senate) in business or banking are no more likely to end up serving on a board than those without such experience. Senators with a military background do appear slightly more likely to work as directors overall; however, the 95% confidence intervals overlap with zero and the effect does not hold up for the most directly relevant sector; none of the senators who went on to serve on an Aeronautics/Defense sector board had served in the military. If past employment does not play an important role in predicting subsequent board service, then the development of skills and connections while in the Senate remains as the most plausible explanation for the observed board service patterns.

In contrast to the human/social capital explanation, ideology and party appear to play a less important role. First, our case study of the Finance and Banking committees does not reveal meaningful differences between the parties. Democrats are roughly as likely as Republicans to serve on boards in general; party also does not matter for employment in sectors related to Finance or Banking. More broadly, we find no relationship between ideology (using DW-NOMINATE) and board service in figure A1. This result may be somewhat surprising, as we might expect that board seats mirror corporate political spending in favoring Republicans.

Table 6. Finance/Banking Committees and Sector-Specific Board Service

On Committee	N	Share on Related Board	Share on Other Board
All senators:			
No	51	.059	.333
Yes	60	.167	.550
Democrats:			
No	25	.040	.320
Yes	27	.148	.593
Republicans:			
No	26	.077	.346
Yes	33	.182	.515

Note. The committees under consideration are Finance and Banking, Housing, and Urban Affairs. Related boards are in the following sectors (as classified by Boardex): Banks, Investment Companies, Private Equity, Speciality and Other Finance.

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30. In appendix A.6, we present a similar case study for the Intelligence committee. The results are similar but the sample size is much smaller.

We next consider alternative characteristics that might also play a role. First, we examine the role of prestige. Insofar as prestige is based on external perceptions rather than hard skills/assets (such as expertise or connections), it is conceptually distinct from the explanations considered so far. We employ two proxies meant to capture some aspects of prestige: tenure in the Senate and whether the senators retired or were defeated for reelection. Longer-serving senators may be more well known, making them more appealing to boards. Similarly, losing reelection may have harmful reputational effects, such that boards might prefer politicians who left office through retirement instead of defeat.[31] For both measures, we find no significant relationship with board service. The coefficient on time in office is negative but not significantly less than zero. Senators with longer tenures may be slightly less likely to later serve on boards because of the age at which they leave the Senate. Longer service in the Senate may also indicate less interest in board service, as these senators repeatedly choose to run for reelection and continue in public service rather than leave for private sector opportunities. This result implies that serving in the Senate for even one term appears sufficient to secure future employment as a director. We also observe no significant relationship between losing reelection and board service (the coefficient on losing reelection is weakly positive).

We next assess the effects of perceived leadership experience. We use experience as a committee chair, committee ranking member, and party leader (i.e., majority leader or whip and minority leader or whip) to proxy for leadership experience. We estimate precise zeroes for two of our three leadership variables. Neither time as a committee chair nor as a ranking member has any effect on future board service. Working in party leadership (i.e., party leader or whip) does appear to reflect a slight increase in the likelihood of serving on a board, although the estimate is imprecise. Finally, we also evaluate a personal characteristic of senators that might predict board service: personal wealth when leaving office. We find a significant negative relationship between wealth and board service. Board service appears more attractive to former senators who are not already wealthy.

While we cannot examine every possible variable associated with board service, we have been able to refine the set of possible predictors. The evidence is not consistent with the idea that characteristics such as prestige or perceived leadership are related to increased board service. Work in

the Senate on areas with clear application to the financial and military contracting sectors plays a more notable role. But we do not have the means to assess whether the value to firms is due to substantive knowledge or connections forged with senators who remain in office. Furthermore, this explanation does not account for the bulk of the variation in future board service. Committee service explains a quarter of the variation when a binary indicator for board service is the outcome; it explains even less when using boards per year as the outcome variable.[32] Other unobservables, such as relationships with firms developed while in office, could explain some of the remaining variation.[33] We leave further explorations and analysis of these factors to future work.

DISCUSSION

This paper has revealed that corporate boards are a real and significant employment opportunity and source of income for many former senators and governors. While political scientists have found little systematic evidence of members of Congress and other elected officials enriching themselves while in office, we show conclusive evidence of former senators and governors earning income directly based on holding public office. Winning election to one of these offices increases the probability of later serving as a director for a publicly traded firm by roughly 30%. For former senators and governors who are fully employed, serving on a board is an easy way to supplement employment income. For those who want to retire, serving on a board substantially increases their income for relatively little work. While most board members are unlikely to become multi-millionaires from their board compensation alone, the average board compensation is more than six times the average congressional pension and is a viable way to achieve a comfortable lifestyle in semi-retirement.[34]

Considering this state of affairs, what accounts for increased board service among former lawmakers? We find that observable senator characteristics, including tenure, leadership positions, and past employment, play a minor role in explaining variation in board service. Rather, patterns of

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31. Some retirements may be strategic (chosen in order to avoid electoral defeat). If there are reputational costs to losing reelection, this may encourage senators to retire strategically.

32. See table A13 in the appendix.

33. One possibility is that firms seek out former officials whose voting records align with the firm's interests. We explore this idea further in appendix D.

34. The average pension received by former members of Congress in 2012 was $40,560 under the FERS system, and it does not include social security (see Isaacs 2013).. The average board member of an S&P 500 company received $251,000 in compensation in 2012 and participated in eight board meetings (board meeting data from the Corporate Library, Companies 2012 data set; http://wrds-web.wharton.upenn.edu/wrds/ds /corplib/comp2012/index.cfm).

board service among former senators appear most consistent with being a product of development of human and social capital while in the Senate—for example, sector-specific knowledge or connections through committees that influence business in the finance and military sectors.

These findings raise questions about how to keep members of government accountable to the voters who elect them. Formal and informal mechanisms have developed over time to prevent abuses of power motivated by financial gain while in office, but our results highlight the degree to which considerations over future employment could nonetheless shape the in-office incentives faced by legislators and state executives. Even if firms hire purely for expertise developed while lawmaking, future employment considerations may deter a senator or governor from supporting or proposing policies that harm their chances at a seat on a corporate board. In this way, our results suggest that future employment prospects should be added to the long list of factors that may distort the translation of constituent preferences into policy.

ACKNOWLEDGMENTS

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