New Evidence on What happens to CEOs after They Retire

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Abstract

I analyze directorships held by CEOs who retired during 1989-1993 and 1998-2002. My results suggest that retired CEOs became more popular on boards. Also, although pre-retirement accounting performance helps explain the number of outside directorships a retired CEO held in the 1989-1993 sample, as Brickley, Linck and Coles (1999) found, it does not in the 1998-2002 sample. Third, a company's stock performance during a CEO's tenure is negatively related with the number of outside directorships in the 1998-2002 sample, not in the 1989-1993 sample. In a meanwhile, it positively affects whether he became an inside director of that company after retirement. A 25% change in stock price performance increased the probability by 11% in the 1989-1993 sample, and 51% in the 1998-2002 sample. Finally, if a retired CEO worked in a regulated industry, his probability of serving at least one outside directorship fell by 34% in the 1989-1993 sample, and 24% in the 1998-2002 sample.

JEL Classification: G34, G38, J44, L10, L51, M40

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1 Introduction

There are many studies of CEO pay and of corporate governance. Something important to both of these is the fact that CEOs often join board of directors, of their own firms or outside ones, after they retire. It is natural to ask whether they are rewarded for good service as CEO by these post-retirement jobs, whether ex-CEOs make good directors.

The goal of this paper is to study what has happened over time to the selection of retired CEOs as board members.[1] Some environmental changes in corporate governance over the past years mainly motivate this paper. For instance, in the demand for directors, there has been increasing pressure for firms to have outside directors (new NYSE rules, etc.). Also, shareholder activism has criticized for having directors who serve on too many boards. In the supply side, the number of potential board members in the market might have been decreased because the Sarbanes-Oxley Act increases the responsibility of directors. Potential directors might have escaped from the director market due to fears of liability (Enron, etc.) To analyze the change in the selection of directors, I revisit Brickley, Linck and Coles (1999) (hereafter, BLC). They identify 277 retired CEOs from U.S firms during 1989-1993 and analyze the directorships they serve after retirement.[2] First, I construct a more recent sample following their method to look at what changed. Then, I compare the two samples, as well.

I find that retired CEOs became more popular on boards. The percentage of retired CEOs who hold at least one board directorship (inside or outside) 2 years after retirement in the full sample increased from 75.1% in 1989-1993 to 94.4% in 1998-2002. The average number of directorships held by retired CEOs also increased significantly from 1.8 to 2.53, which implies that the total number of retired CEOs on boards has risen.[3][4] As

[1] There are many studies about the trend in corporate governance over the past years. Holmstrom and Kaplan (2003) and Holmstrom (2005) point out that the enormous increase in equity-based payment and shareholder activism are two notable changes in U.S. corporate governance over the past 20 years. Linck, Netter and Yang (2006a) show that the structure of boards has changed, too. This trend is in response to both internal and external environments which include globalization, shareholder activisim, and corporate scandals. The size of boards declined from the early 1990s to the late 1990s but this trend shows a break after the Sarbanes-Oxley Act passed. The proportion of outside directors on boards increased over the last 15 years.

[2] The main contributions of Brickley, Linck and Coles (1999) are that: (1) they provide evidence on a previously unidentified source of managerial incentives, and (2) they suggest that firms consider ability in choosing board members. The quality of CEO has positive effects on the probability of serving directorships after retirement. They also explore other factors (firm size, regulation and so on) which have effects on the selection of board members.

[3] I randomly select 50 firms among U.S fortune 500 firms and analyze the board composition in 1995 and in 2005. The data shows that: (1) the size of boards has declined significantly, but (2) the total number of outside directors on boards has not changed significantly. Also, I find that: (1) the number of other firm's retired CEO on boards, (2) $\frac{\text{the number of other firm's retired CEO on boards}}{\text{the size of boards}}$ and (3) $\frac{\text{the number of other firm's retired CEO on boards}}{\text{the number of outside directors on boards}}$ have increased significantly. Unfortunately, there is no study which tests the significant change in the number of boards and outside directors with larger samples over the past years.

[4] From a slightly different angle, Ferris, Jagannathan and Pritchard (2003) provide evidence that the mean number of directorships held by outside directors (current CEO, retired CEO, lawyer, professor and so on) is 1.89 based on 1995 board data sets. The average number of directorships (inside or outside) held by retired CEOs who have at least one outside directorship is 3.03 during 1998-2002, compared to 2.8 during 1989-1993 . We can conjecture that retired CEOs tend to have more directorships than mean level of directorships held by outside directors.

for the first finding, there are three potential explanations why retired CEOs became more common on boards; (1) The firms are required to have enough outside directors (new NYSE rules, etc.). At the same time, shareholder activism mainly critcizes multiple directorships of directors with full time jobs (current CEO, lawyer, professor and so on), making it hard to hire qualified directors with full time jobs, which implies that retired CEOs without full time jobs become more popular in the market for outside directors. (2) Since the amount of work assigned to board members might be increased, other candidates for outside directorships with full time jobs have less time to devote as a board member. It could be the case that Institutional Investors actively communicate with executives and board members to put a great deal of pressure on boards. Alternatively, an increased work burden could come from corporate scandals. Holmstrom and Kaplan (2003) suggest that the Sarbanes-Oxley Act increases the responsibility of managers and board members. Subsequently, it increases the workload and risk of boards. Linck, Netter and Yang (2006b) find evidence that after the Sarbanes-Oxley Act, firms pay more directors fees, which is consistent with the theory that the Sarbanes-Oxley Act places large burdens on boards. My data sets cover retired CEOs during 1998-2002, and I focus on the number of directorships two years after retirement, so my time frame partially overlaps with the post-Sarbanes-Oxley Act (2002). (3) Firms begin to strongly prefer retired CEOs as independent board members because retired CEOs have enough skills and experience to advise executives. Holmstrom (2005) describes the reason why current CEOs and retired CEOs serve on the boards of other firms. They are more knowledgeable in understanding the firm's strategy and information. In this sense, more uncertain managerial environments due to globalization and mergers could increase the demand for retired CEOs as directors in order to invite higher quality advice for management. The organizational complexity of firms due to globalization (diversification) and mergers over the past twenty years could make retired CEOs more attractive as board members because they may have greater knowledge about the management, organization of firms, or about the global managerial environment, making them optimal choices for better monitoring.

The second finding is that pre-retirement accounting performance explains the number of outside directorships CEOs hold two years after retirement in the 1989-1993 sample. In contrast, it has no explanatory power in the 1998-2002 sample. A 5.6% increase in accounting performance produces a 7% increase in the probability of holding at least one outside directorship after retirement in the 1989-1993 sample. It is, however, not significantly correlated with the number of outside directorships in the 1998-2002 sample. BLC (1999) argue that accounting performance might reflect a CEO's ability well. I used Return on Asset (ROA) and industry adjusted ROA for performance variables, just as BLC (1999) did, so we need to discuss why this change has taken place. There are four possibilities which could explain this puzzle; (1) While new NYSE rules require a firm to have enough outside directors, shareholder activism criticizes multiple directorships and the Sarbanes-Oxley Act places large burdens on boards. Due to these

regulatory and public pressures, the firms not only hire more retired CEO as directors, but they are pushed into having lower quality directors. (2) Accounting performance might lose the credibility as the index for the performance due to Enron scandals. (3) The career opportunities for the talented CEOs after retirement might have risen over time. In this case, we need to take into account other job positions after retirement to precisely measure the effect of pre-retirement performances.[5] (4) Firms increasingly put more weight on general skills rather than firm-specific skills when they select board members. One of BLC (1999)'s potential explanations for the strong relationship between the accounting returns and the number of outside directorships is that the accounting performance might reflect a talented CEO's ability under the condition that the CEO's skills are specific to the firm because the firm could share the difference between CEO's value to the firm and his next highest-value. In this sense, if the firm increasingly requires general skills of outside board members, the accounting performance might be less important in the selection of outside directors.

Third, the stock price performance (abnormal stock return) of his company while he was a CEO is negatively associated with the number of outside directorships a CEO holds two years after retirement in the 1998-2002 sample, not in the 1989-1993 sample. In a mean while, it positively affects whether an ex-CEO becomes a chairman or insider director on his own board after he retires, especially in the 1998-2002 sample. If the stock price performance increases by 25%, the probability that the CEO will serve as a chairman or inside director during 1998-2002 goes up by 51%, compared to 11.4% during 1989-1993. One possible reason is the high stock-based compensation during 1998-2002 sample period. Since CEO's of good performing firms earned a lot of money, the increased fears of liability as outside directors might make these wealthy CEOs less willing to hold outside directorships than in the past years. Also, this finding is consistent with Holmstrom and Kaplan (2003). They point out that "CEO pay to market-performance sensitivity" has risen more than tenfold from 1980-1999 due to the increase in equity-based compensation. Since the retention of CEOs on their own boards is an implict incentive to mitigate horizon problems, this trend (the increase in "pay to market performance" sensitivity) could show up here.

Finally, both samples share the common feature that if retired CEOs' original firms are regulated (utility, depository institution and insurance), the probability of their serving as outside directors decreases, though this negative effect has been declining over time. If retired CEOs worked in regulated industries, their probability of serving at least one outside directorship 2 years after retirement falls by 34.1% in the 1989-1993 sample, compared to 24% in the 1998-2002 sample. Moreover, retired CEOs from regulated sectors have significantly more directorships during the 1998-2002 time period

[5] We can easily observe that many CEOs have several job positions after retirement except outside directorships (community board, goverment organization, officer in private firms, consultant and so on). Also, Ferris, Jagannathan and Pritchard (2003) show that 56% of outside directors declined an offer to serve on boards, with a lack of time as their reason for refusal. However, there is no clue that a time trend in the career opportunities exists.

than those in the 1989-1993 sample. For instance, retired CEOs from regulated sectors hold 1.89 outside directorships during 1998-2002, compared to 0.73 during 1989-1993. BLC (1999) argue that the reason why retirees from regulated sectors tend to have less outside directorships is that regulated sectors are less visible or the retirees accumulate human capital which is less related to competitive markets. Following this logic, the deregulation of regulated sectors might explain the increasing number of directorships for CEOs from regulated industries.[6] Many studies compare the governance structure before and after the deregulation process. Crawford, Ezzell and Miles (1995) show a significant increase in pay-performance sensitivities from a sample of the regulated period to a sample of the deregulated period in U.S. bank industries. Palia (2000) studies the intial entry of CEOs into the market and finds that lowerly educated CEOs are slotted into utility (regulated) sectors, while airlines have highly qualified CEOs after deregulations. Cunat and Guadalupe (2004) find that the total pay of executives increases according to a degree of product market competiton by exploring the deregulation stories in bank and financial sectors. Definitely, we can hypothesize that we continue to experience the effect of deregulation because the market would currently be more likely to recognize retired CEOs from regulated industries as more talented candidates for board members than those CEOs who worked in regulated industries before deregulations.

2 Sample design and comparison

2.1 Sample selection

I identify retired CEOs by reviewing the S&P Compustat. I download a CEO list of approximately the 500 largest firms in the U.S in terms of sales, assets and market value on 1997 year base. Then I sort CEOs who left CEO positions during 1998-2002. Through this process we identify CEOs who potentially retired. I eliminate CEO departures that occur (1) around bankruptcies, going-private transactions, and other reasons where public information is not available, and (2) due to death. I thus identify 250 CEOs who left the office during 1998-2002. For a comparision, I briefly describe the sample selection in BLC (1999) (hereafter, "the old data set or "the 1989-1993 sample"). They identify retired CEOs by reviewing the Forbes annual executive compensation surveys, which contain approximately 800 CEOs with the 500 largest U.S companies. Through this process, they identify 315 CEOs who potentially retired. They also eliminate CEO departure following criteria (1) and (2) above. Finally, they have 277 CEOs who left office during 1989-1993.

[6]The regulated sectors, especially the utilities, financial, and insurance sectors, have experienced a deregulation process which was designed toward more competitive markets. In the utility sector, the Energy Policy Act of 1992 was passed on October 1992 to delegate the power to increase competition in the transmission and generation of electricity. Two major FERC rulings took place in 1993 and 1996. In financial sectors, the 1994 Riegle-Neal Interstate Banking and Branching Efficiency Act allows all commercial banks to operate branches across states, and the Gramm-Leach-Bliley Act (GLBA, 1999) eliminates barriers among banking, insurance, and securities underwriting.

Table 1 Sample distribution by industry

(1) Industry is classified by Standard Industrial Classification (SIC) codes. Those are obtained from Compustat data base

(2) Number of observation, N, represents the number of retired CEO who came from each industry

(3) The 1989-1993 sample and 1998-2002 sample include some other industries which are not shown in this table. Those industries have small proportions in full sample

(4) % is the percentage in full sample

(5) The distribution of BLC (1999)'s data set (1989-1993 sample) is in parenthesis. For instance, 20 retired CEOs came from chemical industry in the 1989-1993 sample, compared to 21 retired CEOs in the 1998-2002 sample.

Industry	*SIC*	*N*	*%*
Food	*20*	*8(11)*	*3.2(4.0)*
Chemical	*28*	*21(20)*	*8.4(7.3)*
Machinery & Equipment	*35*	*19(13)*	*7.6(4.7)*
Electric, other electric equipment	*36*	*6(7)*	*2.4(2.5)*
Transportation Equipment	*37*	*11(11)*	*4.4(4.0)*
Instrument, Device	*38*	*14(8)*	*5.6(2.9)*
Utility	*49*	*10(37)*	*4.0(13.4)*
Retails Store(General Merchandise Store)	*53*	*7(8)*	*2.8(2.9)*
Retail store	*59*	*8(2)*	*3.2(0.7)*
Depository Institution	*60*	*21(61)*	*8.4(22.1)*
Insurance	*63*	*15(19)*	*6.0(6.9)*
Service	*73*	*18(1)*	*7.2(0.36)*
Total		*250(277)*	

Table 1 shows the distribution of my data set (hereafter, "the current data set" or "the 1998-2002 sample") by industry, as classified by Standard Industrial Classification (*SIC*) codes from the Compustat data base. The number of observations, *N*, represents the number of firms at which CEOs worked before retirement in each industry.[7]

[7]There are some differences between the 1989-1993 sample and 1998-2002 sample. (1) BLC (1999) obtains SIC codes from the Center for Research in Security Prices (CRSP) tapes. Since there are differences between SIC codes on Compustat and CRSP, I re-classify BLC (1999)'s data set based on SIC codes of Compustat for the consistency between two samples. (2) The distribution of the 1989-1993 sample and 1998-2002 sample are different. For instance, 20 retired CEOs came from chemical industry in the 1989-1993 sample, compared to 21 retired CEOs in the 1998-2002 sample. The 1998-2002 sample contains many more service industries (*SIC code 73*) and many fewer utilities (*SIC code 49*), depository institutions (*SIC code 60*) than BLC (1999)'s data (the 1989-1993 sample).

Table 2 CEO and Firm characteristics

(1) Pre-retirement performance, %, represents 4 year average value before retirement or averaged value over tenure as a CEO, whichever is less

(2) Abnormal stock return is the compound average annual return minus the CRSP value weighted index

*(3) I provide results for difference in mean test (2- tailed test) between one sub-sample and complements: *, **and *** show that the mean level of one sub-sample is higher than that of complements at 1%,5% and 10% significant levels*

(4) The distribution of the 1989-1993 sample is in parenthesis. For instance, the mean value of retirement age for CEOs in the 1989-1993 sample is 61.2, compared to 61 in the 1998-2002 sample.

	Full sample	*Retirement Age ≥ 60*	*64 ≤ Retirement Age ≤ 66*
Number of observation	*250(277)*	*165(198)*	*63(88)*
CEO's characteristics			
Retirement Age	*61(61.2)*	*63.97(64.1)*	*64.51(64.4)*
Tenure as CEO	*11.3(9.6)*	*12.12(10.7)*	*13.02(10.6)*
Firms' characteristics			
Total Asset ($ billion in 1997)	*15.38(13.4)*	*18.35(13.7)*	*18.03(13.3)*
Pre-retirement performance			
Return on asset (ROA)	*5.31(3.3)*	*5.52(3.7**)*	*5.41(4.5***)*
Abnormal stock return	*-2.6(-8.1)*	*-1.84**(-4.0***)*	*-1.82(-1.2***)*

2.2 Performance and other data

I collect the accounting information from the S&P Compustat and stock returns from the Center for Research in Security Prices (CRSP). I define pre-retirement performance as the CEO's total tenure or his last four years in office, whichever is less. BLC (1999) acquire accounting and stock information by similar methods. The primary reason to stress the most recent four-year performance period is to compare my outcome to that of BLC (1999). I use return on asset (ROA), and abnormal stock returns as measures of performance. The abnormal stock return is the compound average annual stock return minus the CRSP value-weighted index.

Table 2 provides descriptive statistics of CEO and characteristics for the firm at which the CEO worked before retirement. Following BLC (1999), I divide the 1998-2002 sample into two sub-samples. The first sub-sample ($Age \geqq 60$) includes CEOs who retired at the age of 60 and older. The second sub-sample ($64 \leqq Age \leqq 66$) covers CEOs who left their position between aged 64 and 66. Both sub-samples are classified as normal retirement age. A difference-in-mean test shows that only in the 1989-1993 sample, is ROA significantly higher for the normal retirement age group. In the 1989-1993 sample and the 1998-2002 sample, the normal retirement age group performs better in terms of abnormal stock return.

Table 3 Mean number of directorships, Mean financial performance, stock price performance and asset by tenure as a CEO

(1) Number of observation, N, represents the number of retired CEOs who have less than 5 tenure years, 10 tenure years and 20 tenure years as a CEO

(2) % is percentage in full sample

(3) Inside +2 years > 0 stands for the number of retired CEOs who have a chairman or inside director position 2 years after retirement in each category.

(4) Outside + 2 years > 0 stands for the number of retired CEOs who have at least 1 outside directorships 2 years after retirement in each group

(5) Inside +2 years and Outside + 2 years are the mean number of chairman/ inside directorship and outside directorships retired CEOs have 2 years after retirement in each group

(6) All financial and market performance are the average over last four years in office or the CEO's tenure, whichever is less

(7) ROA is return on asset. Abnormal stock return (ABRET) is the compound average annual return minus the CRSP value weighted index

*(8) I provide results for difference in mean test (2-tailed test) within each sample: *, **and *** show that the mean level of one group is higher than that of complements at 1%,5% and 10% significant level. For instance, the mean number of outside directorships retired CEOs having tenure of less than 10 years hold 2 years after retirement in the 1998-2002 sample, 2.29, is higher than that of complements in the 1998-2002 sample, 1.94, at 10% significant level*

(9) The distribution of the 1989-1993 sample is in parenthesis. For instance, the mean number of outside directorships retired CEOs having tenure of less than 10 years hold 2 years after retirement in the 1989-1993 sample is 1.44, compared to 2.29 in the 1998-2002 sample

	Tenure<5	otherwise	Tenure<10	otherwise	Tenure<20	otherwise
N	32(82)	214(195)	119(174)	127(103)	216(246)	30(31)
%	13.01(29.6)	86.99(70.4)	48.37(62.82)	51.63(37.18)	87.8(88.81)	12.2(11.19)
Inside +2 years > 0	15(34)	95(103)	45(76)	65(61)	88(116)	22(21)
Outside + 2 years > 0	24(45)	171(116)	101(111)	94(50)	177(146)	18(15)
Inside +2 years	.47(.41)	.44(.53**)	.38(.44)	.51**(.59***)	.41(.47)	.73***(.68**)
Outside + 2 years	1.72(1.07)	2.17*(1.4*)	2.29*(1.44**)	1.94(1.08)	2.17**(1.33**)	1.63(1.06)
ROA	5.25(2.1)	5.39(3.78**)	5.11(3.1)	5.63(3.59)	5.09(3.18)	7.42**(4.1)
ABRET	-3.6(-13.1)	-2.57(-5.97**)	-3.53(-8.4)	-1.92*(-.7.5)	-2.98(-8.37)	-0.71*(-5.94)
Asset	7.84(12.82)	16.75(13.7)	18.17(14.93)	13.18(10.93)	16.45(14.5**)	9.41(5.07)

The descriptive statistics by tenure as a CEO are reported in *Table 3*. While 82 CEOs (29.6% in the full sample) have tenure of less than 5 years during 1989-1993, only 32 CEOs (13.01%) stay in office less than 5 years in the 1998-2002 sample. The old data set contains 103 CEOs (37.18%) who work at least 10 years, compared to 127 CEOs (51.63%) in the current data set.[8] In other words, more than half of retired CEOs have at least 10 years tenure[9] in the 1998-2002 sample.[10] While CEOs having tenure of more

[8] One might conjecture that the takeover boom of the 1980s could explain the shorter tenure of retired CEOs during 1989-1993. Holmstrom and Kaplan (2001), however, show that the takeover activity in the late 1990s is very high.

[9] Huson and Starks (2001) present evidence on CEO turnover decisions from 1971 to 1994 and show that the incidence of forced turnover is the highest durning 1989-1994. However, there is no data as to whether this increased turnover continued or not. In addition, the distribution of retired CEOs' age is very similar between the two time frames, so it is hard to say that the shorter tenure during 1989-1993 could be due to frequent forced turnovers.

[10] This finding is not consistent with the prediction of Hermalin (2005). He predicts that CEOs' tenure

than 10 or 20 years are more likely to hold chairman/inside directorship 2 years after retirement, they have significantly less outside directorships than complements in both samples.[11]

Table 4-A Post-retirement directorship

(1) The first sub-sample includes CEOs who retired at 60 years old and older
(2) The second sub-sample covers CEOs who left an office between aged 64 and 66
(3) Inside +2 year>0 represents the number of retired CEOs who have a chairman o inside director position 2 years after retirement in the full sample and both sub-samples
(4) Outside +2 year>0 represents the number of retired CEOs who have at least 1 outside directorship 2 years after retirement in the full sample and both sub-samples
(5) Outside +2 year is the number of outside directorships. For instance, the number of retired CEOs having 2 outside directorships in the 1998-2002 sample is 50, compared to 48 in the 1989-1993 sample
(6) Total +2 year>0 represents the number of retired CEOs who have at least 1 directorship 2 years after retirement in full sample and both sub-samples
(7) Total +2 year is the number of total directorships
(8) % is the percentage in the full sample and both sub-samples
(9) The distribution of the 1989-1993 sample is in parenthesis. For instance, the number of retired CEOs who have at least 1 outside directorship 2 years after retirement in the 1989-1993 sample is 161, compared to 195 in the 1998-2002 sample

	Full sample		*Age ≥ 60*		*64 ≤ Age ≤ 66*	
	N	*%*	*N*	*%*	*N*	*%*
Inside +2 year>0	*113(137)*	*45.2(49.5)*	*78(113)*	*52.3(57.1)*	*31(61)*	*49.21(69.3)*
Outside +2 year>0	*195(161)*	*78(58.1)*	*128(124)*	*77.58(62.6)*	*50(60)*	*79.37(68.2)*
Outside +2 year						
0	*55(116)*	*22(41.88)*	*37(74)*	*22.42(37.37)*	*13(28)*	*20.63(31.82)*
1	*50(58)*	*20(20.94)*	*32(45)*	*19.39(22.73)*	*9(18)*	*14.29(20.45)*
2	*50(48)*	*20(17.33)*	*29(36)*	*17.58(18.18)*	*13(15)*	*20.63(17.05)*
3	*42(28)*	*16.8(10.11)*	*28(19)*	*16.97(9.6)*	*10(11)*	*15.87(12.5)*
4 or more	*53(27)*	*21.2(9.75)*	*39(24)*	*23.64(12.12)*	*18(16)*	*28.57(18.18)*
Total +2 year>0	*236(208)*	*94.4(75.1)*	*156(162)*	*94.55(81.8)*	*58(77)*	*92.06(87.5)*
Total +2 year						
0	*14(69)*	*5.6(24.9)*	*9(36)*	*5.45(18.2)*	*5(11)*	*7.94(12.5)*
1	*64(76)*	*25.6(27.4)*	*40(56)*	*24.24(28.3)*	*9(21)*	*14.29(23.86)*
2	*57(48)*	*22.8(17.3)*	*38(39)*	*23.03(19.7)*	*14(19)*	*22.22(21.59)*
3	*52(41)*	*20.8(14.8)*	*32(32)*	*19.39(16.2)*	*14(12)*	*22.22(13.64)*
4 or more	*63(43)*	*25.2(15.5)*	*46(35)*	*27.89(17.7)*	*21(25)*	*33.34(28.41)*
Total	*250(277)*		*165(198)*		*63(88)*	

would be shorter due to the current trend in corporate governance, a greater board diligence.

[11] While BLC (1999) gather information from the Compact Disclosure (D/SEC) CD-Rom per year from 1990-1996 and Standard and Poor's register of directors and executive directors to identify the number of post-retirement director positions held by retired CEOs, I use the Securities and Exchange Commission (SEC) filings and Forbes website. To determine positions, I search each firm's proxy statement (filing form: DEF 14A). Based on the proxy statement, I calculate board positions held in *+2 years*, where *+2 years* represents the second year after CEOs retire.

Table 4-B Mean difference between the 1989-1993 sample and the 1998-2002 sample

*(1) I provide results for difference in mean test (2- tailed test) between the 1989-1993 sample and the 1998-2002 samples: *, **and *** show that the mean level of the 1998-2002 sample is higher than that of the 1989-1993 sample at 1%, 5% and 10% significant levels. For instance, the average number of outside directorships retired CEOs have in the 1998-2002 sample (Outside +2 years, 2.08) is higher than that of the 1989-1993 sample (Outside +2 years, 1.3) at 1% significant level*

Sample period	*1989-1993*	*1998-2002*
Number of observation	*277*	*250*
Outside +2 years	*1.30*	*2.08***
Inside +2 years	*0.49*	*0.45*
Total +2 years	*1.8*	*2.52***
Return on asset	*3.29*	*5.32***
Abnormal stock return	*-8.1*	*-2.5***
Tenure as CEOs	*9.59*	*11.3***

2.3 Directorship data

Table 4-A shows that the percentage of CEOs who serve at least one board directorship 2 years after retirement in the full sample has increased from 75.1% in 1989-1993 to 94.4% in 1998-2002 (See *Total +2 years > 0* in *Table 4-A*). Also, the percentage of CEOs who serve at least one outside directorship in the full sample has increased from 58.1% to 78% (See *Outside + 2 years > 0* in *Table 4-A*). As *Table 4-B* shows, the average number of directorships held by retired CEOs has increased significantly (*Total + 2 years*, *from 1.8 to 2.52 directorships*), which is mostly driven by the increase in the number of outside directorships (*Outside + 2 years, from 1.3 to 2.08*).

Table 5 Probability of serving as outside directors 2 years after retirement (Ordered logit)

(1) The dependent variable: the number of outside directorships 2years after retirement
(2) The classes are 0,1,2,3,4+ outside directorships
(3) Control variables are the natural log of 1997 years asset (LnAsset), and a regulation dummy (Regulated dummy) which takes the value 1 if the firm is a utility, bank or insurance company
(4) The outcome of the 1989-1993 sample is in parenthesis. For instance, the coefficient of regulated dummy in the 1989-1993 sample is -1.46 on the first regression, compared to -1.27 in the 1998-2002 sample
*(5) ***, **and * represent 1%, 5% and 10% significant levels*

	1	*2*	*3*
Return on asset	*-.74 (5.26**)*		*.36 (5.58**)*
Abnormal stock return		*-3.04** (0.28)*	*-3.1** (-0.16)*
LnAsset	*.59*** (.62***)*	*.61*** (.57***)*	*.61*** (.62***)*
Regulated dummy	*-1.27*** (-1.46***)*	*-1.25*** (-1.58***)*	*-1.24*** (-1.5***)*

3 The selection of outside directors

BLC (1999) show that accounting performance (ROA) has an economically significant effect on the number of outside board seats in 1989-1993.[12] My result contradicts this finding for 1998-2002. *Table 5* provides the estimate of ordered logit models. The dependent variable takes on the value 0,1,2,3,4 which means the number of outside directorships held by CEOs two years after retirement. If an executive has more than 4 directorships, the value 4 is assigned. The explanatory variables are the performance over the four years before retirement, the natural logarithm of total assets, and a regulation dummy which equals 1 if the firm is a utility, depository institution or insurance company.[13] The outcome of the 1989-1993 sample is in parenthesis. In this setup, there is no difference between BLC (1999) and my regression, except for the time period. The

[12] BLC (1999)'s potential explanation for the strong relationship between the accounting returns and the number of outside directorships is the following: "there are at least two reasons why a superior CEO's ability might be reflected in superior accounting returns. First, if the CEO's skills are specific to the firm, the firm might share in the difference between CEO's value to the firm and his second highest-valued use. Second, accounting numbers do not reflect all a firm's compensation cost....Therefore, if firms want CEOs with known high ability as outside directors, the likelihood of being asked to serve on another firm's board is more likely to be correlated with ROA over the final four years than with abnormal stock returns." (BLC (1999), page 371)

[13] As I mentioned before, while I obtain SIC codes in 1998-2002 samples from Compustat, BLC (1999) use in 1989-1993 samples from CRSP. To make the category of regulated sectors consistent between the two data sets I classify utility, depository institution, and insurance firms on both samples as regulated firms and this classification is based on SIC code of Compustat. SIC codes are 49 (utility), 60 (depository institution), and 63 (insurance). Brickley, Linck and Coles (1999) classify utility (SIC code 49 on CRSP), bank (SIC code 6023, 6025 on CRSP), and insurance (SIC code 63 on CRSP) as regulated sectors in their paper.

estimated coefficients on *Return on asset*[14] and *Industry adjusted ROA* are insignificant and *Abnormal stock return* is significantly negative in the 1998-2002 sample. This implies that accounting performance[15] does not have an effect on the number of outside board seats, and stock price performance (*abnormal stock return*) has a negative effect. Firm size (*LnAsset*) and the regulation dummy (*Regulated dummy*) have similar effects in both samples. The number of outside directorships is highly correlated with the size of the firm at which the CEO had worked before retirement. The number of outside directorships decreases when the CEO's original firm is regulated. BLC (1999) conjecture that regulated firms are less visible than unregulated firms, or that the CEO in the typical regulated company has human capital less related to competitive markets.[16]

Next, I compare the size of the effect. A 5.6% increase in return on assets (the standard deviation), taking all other variables at their means, produces a 7% increase in the probability of holding at least one outside directorship after retirement in the 1989-1993 sample. There does not exist however, a significant correlation between the two variables in the 1998-2002 sample. If the log of assets increases by 1.28 (its standard deviation), the probability that a CEO will serve one or more outside directorships during 1989-1993 increases by 18.82%, compared to 11.6% during 1989-1993. However, if the log of assets goes up by the same amount, the probability that a CEO will serve three or more outside directorships during 1989-1993 rises by 10.75%, compared to 17.28% during 1998-2002. Finally, consider the regulation dummy. Working in regulated industries decreases their probability of serving at least one outside directorship by 34% in the 1989-1993 sample, compared to 24% in the 1998-2002 sample.

[14] *Table 5* presents that the estimated coefficient on *Return on asset* in the 1989-1993 sample is significantly positive. I run the regression excluding the retired CEOs who hold 4 or more outside directorships in the 1989-1993 sample. It shows that the coefficient on *Return on asset* is not significant, which implies that the effect of pre-retirement accounting performance is mostly driven by retired CEOs who hold 4 or more outside directorships. The number of retired CEOs who hold 4 or more is 27 out of 277 retired CEOs in the 1989-1993 sample.

[15] I also utilize Return on Equity (ROE) as an explanatory variable. ROE does not have any explanatory power for the number of outside directorships, either.

[16] I run the same regression by utilizing the normal retirement age sample and find the qualitatively similar results.

Table 6 Mean difference between regulated industries and non-regulated ones

(1) Number of observation represents the number of retired CEOs from non-regulated and regulated sectors

(2) Outside +2 years represents the mean level of outside directorships retired CEOs have 2 years after retirement in each group

(3) Mean value for 1989-1993 sample is in parenthesis. For instance, the mean level of outside directorships retired CEOs from regulated sectors have 2 years after retirement in the 1989-1993 sample is 0.73, compared to 1.89 in the 1998-2002 sample

(4) I provide results for difference in mean test (2-tailed test) between non-regulated and regulated sectors in the 1989-1993 sample and the 1998-2002 sample. For instance, the mean level of outside directorships retired CEOs from non-regulated sectors have 2 years after retirement in the 1989-1993 sample, 1.73, is higher than that of retired CEOs from regulated sectors, 0.73, at 1% significant level

(5) The result for Wilcoxon rank-sum test (p-value) is in the last column of table: the value in parenthesis is the p-value for the 1989-1993 sample

	Non-regulated firms	*Regulated firms*	*p-value*
Number of observation	*204(160)*	*46(117)*	
Outside +2 years	*2.12(1.73***)*	*1.89(0.73)*	*0.324(0.00)*
Performance measure			
Return on asset	*6***(4.6***)*	*2(1.4)*	*0.00(0.00)*
Abnormal stock return	*-.2.8(-6*)*	*-16(-11)*	*0.4435(0.59)*

3.1 The deregulation effect

Table 6 provides evidence on the mean difference in total number of outside directorships retired CEOs hold 2 years after retirement, pre-retire performance, assets and CEO tenure between regulated and non-regulated sectors in both the 1989-1993 sample and the 1998-2002 sample. The difference-in-mean test and the Wilcoxon rank-sum test suggest that the mean difference in the number of outside directorships between regulated and non-regulated sectors is significant only in the 1989-1993 sample, but the mean difference in *Return on asset* between regulated sectors and non-regulated sectors is significant in both samples.[17][18]

Here, we can find another noticeable change between the two time periods. The number of outside directorships of CEOs who worked in regulated industries has increased significantly (See *Total Outside +2 years* in *Table 7*).[19]

[17] The mean difference in ROA between regulated sectors and non-regulated sectors is mostly driven by the difference between depository institution and complements. The reason why depository institutions have lower ROA is that bank loans are classified as an asset, so that depository institutions tend to have a larger firm size (total value of assets) than non-depository institutions.

[18] A significant mean difference does not exist in the total number of outside directorships between *depository institution (insurance) and non-depository institution (non insurance)* in the 1998-2002 sample. During 1989-1993, CEOs who retired from *depository institution and insurance industry* have significantly lower outside directorships than those of complements, which is not consistent with the 1998-2002 sample

[19] As mentioned before, the average number of outside directorships retired CEOs hold has increased significantly over time. This significant increase is mainly driven by regulated sectors.

Table 7-A Mean difference in regulated industries between two time periods (1989-1993 and 1998-2002)

(1) Number of observations represents the number of retired CEOs who came from regulated sectors
(2) Outside +2 years represents the mean level of outside directorships retired CEOs from regulated sectors have 2 years after retirement in 1989-1993 sample and 1998-2002 sample
*(3) I provide results for difference in mean test (2 tailed test) between the 1998-2002 sample and the 1989-1993 sample: *** represents 1% significant level*
(4) The result for Wilcoxon rank-sum test (p-value) is in the table

				p-value
	Year	1989-1993	1998-2002	
Utility	Number of observations	37	10	
	Outside +2 years	0.89	2.2***	0.0046
depository institution	Number of observations	61	21	
	Outside +2 years	0.66	1.71***	0.067
Insurance	Number of observations	19	15	
	Outside +2 years	0.63	1.93***	0.011
Total	Number of observation	117	46	
	Outside +2 years	0.73	1.89***	0.00

Table 7-B Mean difference in financial sector between two time periods

Financial sectors(60,61,62,63)			p-value
Year	1989-1993	1998-2002	
Number of observation	88	39	
Outside +2 years	0.8	1.82***	0.00

Retired CEOs from regulated sectors hold 1.89 outside directorships in the 1998-2002 sample, compared to 0.73 in the 1989-1993 sample. It can easily be seen that an increase in the number of outside directorships is evenly due to an increase in "*Utility" (Outside +2 years, from 0.89 to 2.2)*, "*depository institution" (Outside +2 years, from 0.66 to 1.71)* and "*insurance industry" (Outside +2 years, from 0.63 to 1.93).*

4 The Selection of Directors: Retirees from the Same Firm

In this section, I explore factors which affect the probability of retired CEOs serving on their own boards 2 years after leaving office. *Table 8* presents the mean pre-retirement performance and firm size at which CEO worked before retirement by whether a CEO has a chairman/inside directorship or not. The pre-retirement performance measured by abnormal stock return is significantly better for CEOs who hold a chairman/inside directorship during both time periods. The Wilcoxon rank-sum test, however, suggests that pre-retirement return on asset averaged over CEOs who have a chairman or insider directorship is significantly higher than pre-retirement return on asset of complement

only during 1989-1993.

Table 9 Mean financial performance, stock price performance and assets by whether a CEO serves as a chairman or inside director 2 years after leaving office or not

(1) Inside +2 takes value 1 if retired CEOs serve a chairman or inside director on their own boards 2 years after retirement. Otherwise, 0
*(2) I provide results for difference-in-mean test (2tailed test) within each sample: *, **and *** show that the mean level of one group is higher than that of complements at 1%,5% and 10% significant levels in the full sample and both sub-samples.*
(3) I also provide p-value for Wilcoxon rank-sum test (p-value)
(4) All values are mean values
(5) The distribution of the 1989-1993 sample is in parenthesis

	Full sample	
Inside + 2years	*0*	*1*
Number of observation	*137 (140)*	*113 (137)*
Return on asset	*5.25 (2.3)*	*5.4 (4.3***)*
Abnormal stock return	*-4.8 (-13.5)*	*0.05*** (-2.6***)*
Tenure as CEO	*9.71 (8.26)*	*13.27*** (10.95***)*
	p-value	
Return on asset	*0.23 (0.00)*	
Abnormal stock return	*0.00 (0.00)*	
Assets	*0.00*	

Table 9 shows the main outcome of the logit estimation. Abnormal stock return explains the probability of a CEO's serving as chairman or insider director on his own board very well, which is similar to BLC (1999).[20] However, the size of the effect is much larger during 1998-2002. The length of the tenure as a CEO has a significantly positive effect during both time periods. BLC (1999) argue that this outcome is consistent with the theory that the longer tenure is related with better performance and more CEO power. The difference in the size of the effect between two samples is interesting. If the stock price performance rises by 25% (its standard deviation), taking all other variables at their means, the probability that a CEO will serve as a chairman or inside director during 1989-1993 increases by 11.4%, compared to 51% during 1998-2002. This finding is consistent with Holmstrom and Kaplan (2003). They point out that "CEO pay to market-performance sensitivity" has increased by more than ten fold from 1980-1999 due to the increase in equity-based compensations. Since the retention of a CEO on his own board is an implicit incentive, this trend could show up here.

[20] BLC (1999) explain why market performance during the final years is highly correlated with the probability of taking a charimanship or inside directorship for the following: "the CEO's firm will want to provide incentives to the CEO in his last years, even though his ability is well known. One possible incentive mechanism is an implict contract to retain the CEO on the board if stock-market performance is good in the final years. Since stock returns capture the long-run implications of a CEO's decisions, we would expect firms to weight stock returns more heavily than unexpected accounting performance in the CEO's final years." (BLC (1999), page 371)

Table 10 Probability of CEOs' serving as chairmen or inside directors on their own boards 2 years after retirement (Logit model)

(1) The dependent variable: if retired CEOs serve as chairmen or inside directors on their own board 2 years after retirement value 1 is assigned and vice versa
(2) The financial and stock price performance are the average over last four years in office or the CEO's tenure, whichever is less
(3) Abnormal stock return is the compound average annual return minus the CRSP value weighted index
(4) Control variables are the natural log of 1997 years asset (LnAsset), tenure as CEO (Tenure as CEO), regulation dummy (Reg) which takes the value 1 if the firm is a utility, depository institution or insurance company
(5) Tenure (≥20years) takes the value 1 if CEO tenure is longer than 19 years. Otherwise 0
(6) Tenure (≥10 years) takes the value 1 if CEO tenure is longer than 9 years. Otherwise 0
(7) The outcome for the 1989-1993 sample is in parenthesis.
*(8) ***, ** and * represent 1%, 5% and 10% significant levels*

Logit (2years after retirement)	1	2	3	4
Abnormal stock return	8.25*** (1.87***)	9.66*** (1.55**)	9.49*** (1.6***)	9.45*** (1.66***)
Return on asset		-6.24* (3.23)	-5.17 (3.53)	-4.6 (3.28)
LnAsset	-.43*** (-.15)	-.47*** (-0.13)	-.48*** (-.12)	-.49*** (-.13)
Tenure as CEO	.06*** (.04**)	.07*** (0.04**)		
Tenure (≥20years)			1.22*** (.76*)	
Tenure (≥10 years)				.37 (.64**)
Reg	.56 (-.23)	.33 (-0.15)	.49 (-.16)	.48 (-.22)
Constant	2.83*** (1.12)	3.47*** (.79)	4.08*** (.99)	4.08*** (1.00)

5 Conclusion

In this paper, I study what has happened to the choice of retired CEOs as board members over time. For that purpose, I analyze directorships held in the two years after retirement by 277 CEOs who left offices during 1989-1993 and 250 CEOs during 1998-2002. First, retired CEOs became more common on boards. Second, the pre-retirement accounting performance is highly correlated with the number of outside directorships in the 1989-1993 sample. In contrast, this relationship vanishes in the 1998-2002 sample. Third, while a stock price performance (abnormal stock return) is negatively associated with the number of outside directorships in the 1998-2002 sample, not in the 1989-1993 sample, it explains the probability of CEOs serving as chairmen or insider directors on their own boards in both time periods, but the effect became much larger. Finally, the negative effect of working in regulated industries decreases during 1998-2002.

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