

CRIST|KOLDER ASSOCIATES
Volatility Report 2018

CRIST | KOLDER Volatility Report

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Methodology

The annual Crist|Kolder Volatility Report of America's Leading Companies examines the backgrounds and measures the turnover of C-Suite executives in a portfolio of 673 of America's leading companies from the Fortune 500 and the S&P 500 Indexes.

Crist|Kolder Associates examines each of the portfolio companies individually, noting personnel and organizational changes in the CEO, CFO, and COO roles. Each executive's background is explored, including the path taken to get to their current role: industry background, functional experience, and education. This includes demographic information such as age, gender, and race.

This is the fifteenth year of the Crist|Kolder Volatility Report, though information for the report goes back to 1995. This Summer 2018 release of the Crist|Kolder Volatility Report contains data through August 1, 2018.

Methodology Notes

- 2018 Fortune 500 and S&P 500 Companies (673 Total)
 - Companies Removed from 2017: 30
 - Companies Added: 30
 - Public Companies: 644
 - Private Companies: 29

Color Key

Blue = CEO

Green = CFO

Purple = COO

Graphs and data correspond with the color key above

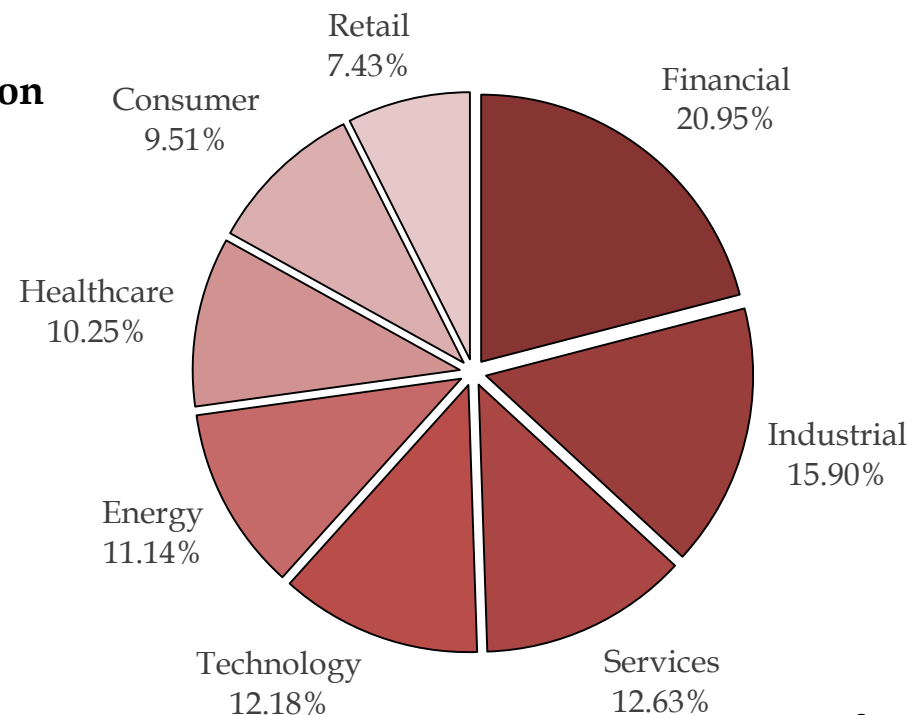
- Data tracked January 1, 1995 through August 1, 2018; update occurs every December

- Industries broken down by Fortune's classification system and then grouped into designated larger categories based on SIC codes and judgment of Crist | Kolder Associates

Resources:

- Bloomberg: www.bloomberg.com
- Businessweek: www.businessweek.com
- Capital IQ: www.capitaliq.com
- Fortune: www.fortune.com
- LinkedIn: www.linkedin.com
- SEC Company Filings: www.sec.gov
- Yahoo Finance: www.finance.yahoo.com
- Individual company websites

Company Industry Breakdown



Definitions

Turnover: The rate at which there is a new hire for a C-Suite position

Volatility: Turnover is noted when the executive starts in the new role (as opposed to the date of announcement)

Internal change: An executive is promoted to a role at the company where he/she is already employed

External change: An executive is recruited to a position at a company to which his/her previous position has no formal ties

Mergers: In a merger of equals, the combined company is considered a new entity. A change in leadership, therefore, is marked for all mergers. A change is internal if the executive was previously employed by either of the merging companies

Acquisitions: In the event an executive from the acquired company is appointed to a role in the acquiring company, it is an internal change

Partial year: Designation indicates data gathered up to August 1, 2018, not a projection

COO Role: If no individual operates under the title of COO at a given company, description of duties, executive hierarchy, and compensation are simultaneously analyzed to determine if someone with another title fulfills this role

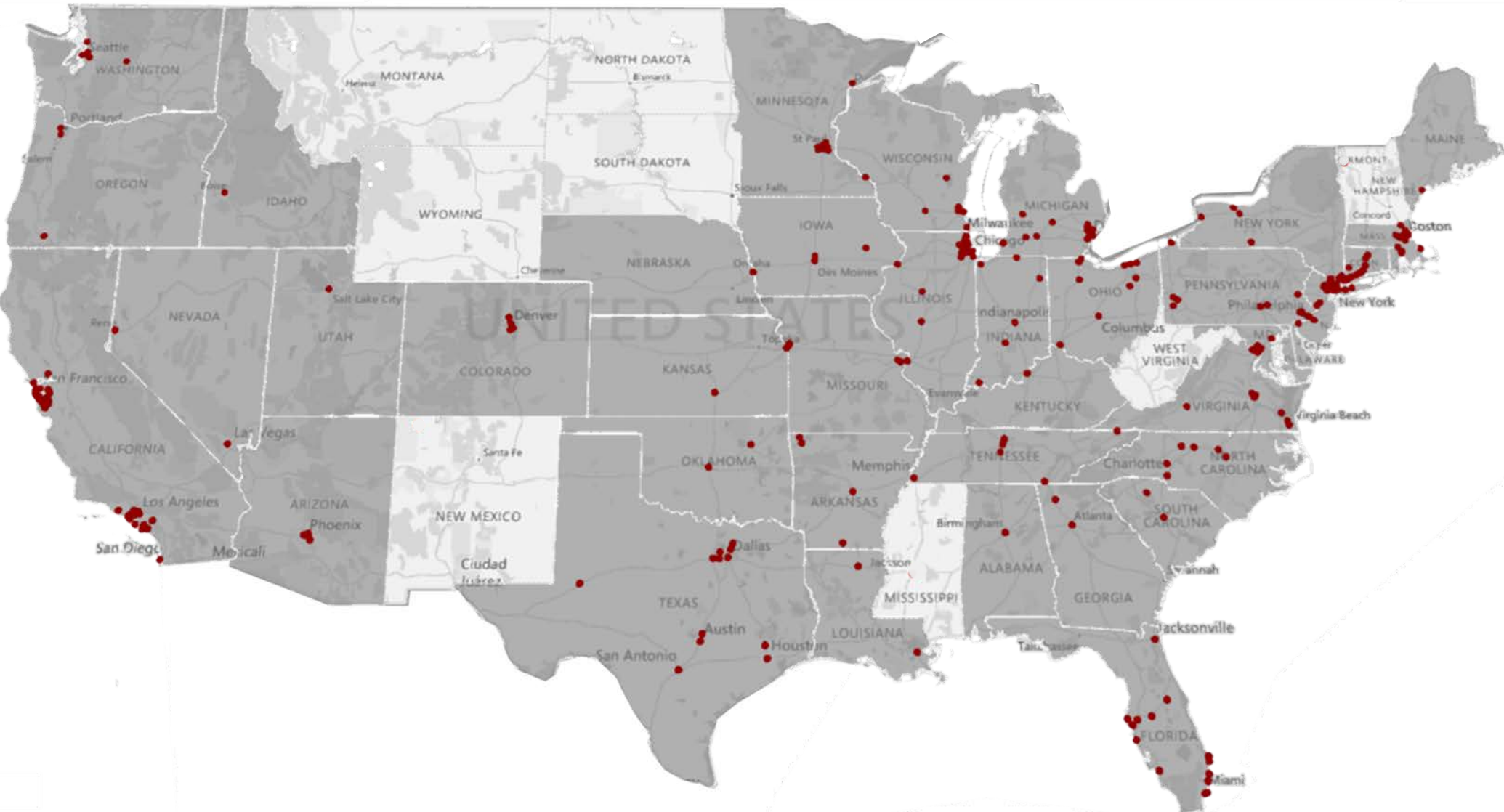
Report Highlights

- As the S&P 500 reaches historic price levels, C-Suite turnover is projected to reach an all-time high by year-end (Page 14)
- Companies are beginning to look at more outside talent when hiring a CEO (Page 15)
- The number of companies with a COO continues to decrease (Page 16)
- CEOs primarily transition from a President/COO chair or a Divisional President position (Page 19)
- C-Suite transitions from the CFO role to the CEO role have increased in 2018 (Page 21)
- Less than 20% of sitting CFOs have prior CFO experience at another company (Page 24)
- Technology sector CFOs usually have the least amount of company experience before taking their position (Page 28)
- The average age of hire for C-Suite positions has risen 15% since 2005 (Page 31)
- Less than 10% of CFOs are over 60 years of age (Page 35)
- The count of Female CFOs has reached an all-time high (Page 37)
- In both the CEO and CFO positions, diversity is at an all-time high (Page 40, 42)
- Within the United States, more CEOs attended schools in the Big Ten than in any other conference (Page 45)
- The Big Ten Conference has claimed the most sitting CFOs for more than five consecutive years (Page 47)
- 64% of CEOs have an advanced degree, while 50% of CFOs have an MBA (Pages 53, 54)
- The path to the C-Suite runs through eight leading MBA programs (Page 55)

Location

Company Headquarters by Location

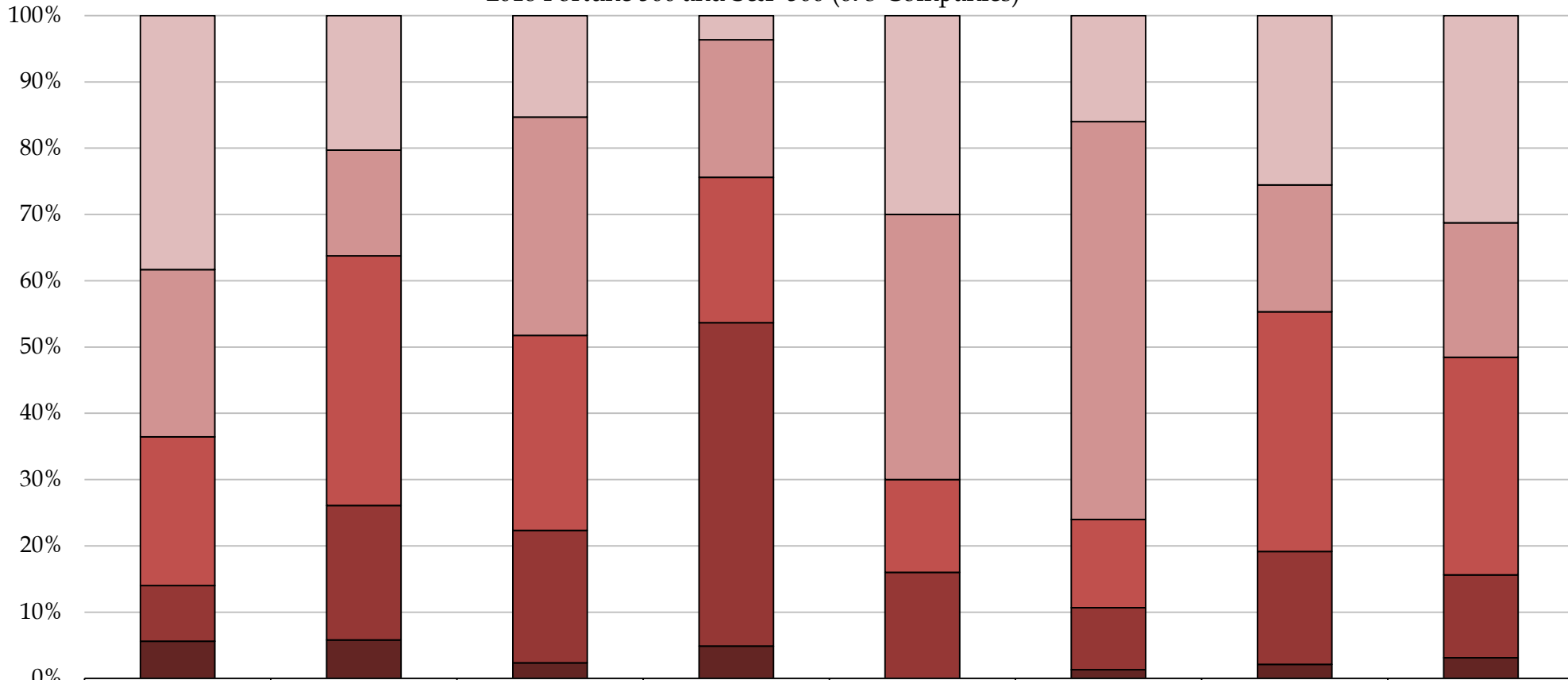
2018 Fortune 500 and S&P 500 (673 Companies)



*Non-shaded (white) states have no company headquarters located within that state

Industry Breakdown by Region

2018 Fortune 500 and S&P 500 (673 Companies)



	Industrial	Healthcare	Services	Technology	Retail	Energy	Financial	Consumer
Midwest	38.3%	20.3%	15.3%	3.7%	30.0%	16.0%	25.5%	31.3%
South	25.2%	15.9%	32.9%	20.7%	40.0%	60.0%	19.1%	20.3%
Northeast	22.4%	37.7%	29.4%	22.0%	14.0%	13.3%	36.2%	32.8%
West	8.4%	20.3%	20.0%	48.8%	16.0%	9.3%	17.0%	12.5%
Foreign	5.6%	5.8%	2.4%	4.9%	0.0%	1.3%	2.1%	3.1%

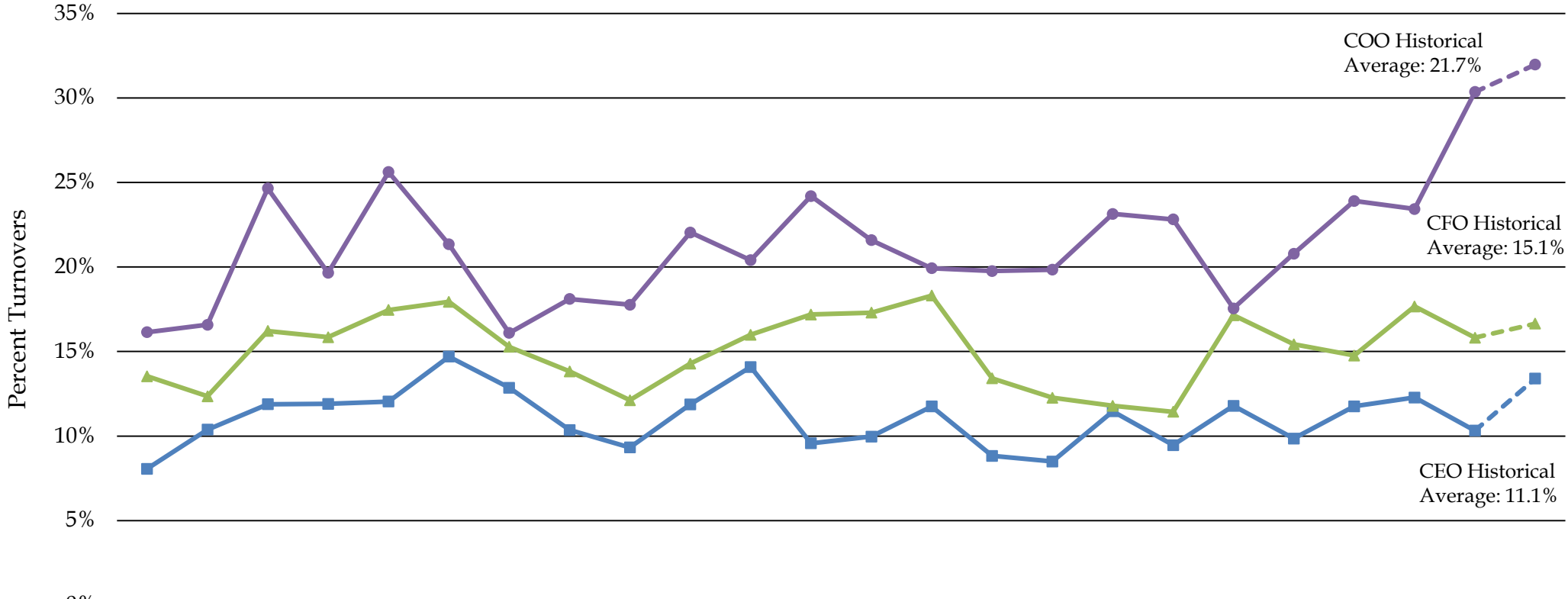
Regions: Northeast, Midwest, South, and West as determined by the United States Census Bureau

Executive Turnover

COO turnover continues to increase in 2018

CEO/CFO/COO Volatility (1995-2018)

2018 Fortune 500 and S&P 500 Companies (673 Companies; 679 Sitting CEOs; 670 Sitting CFOs; 215 Sitting COOs)

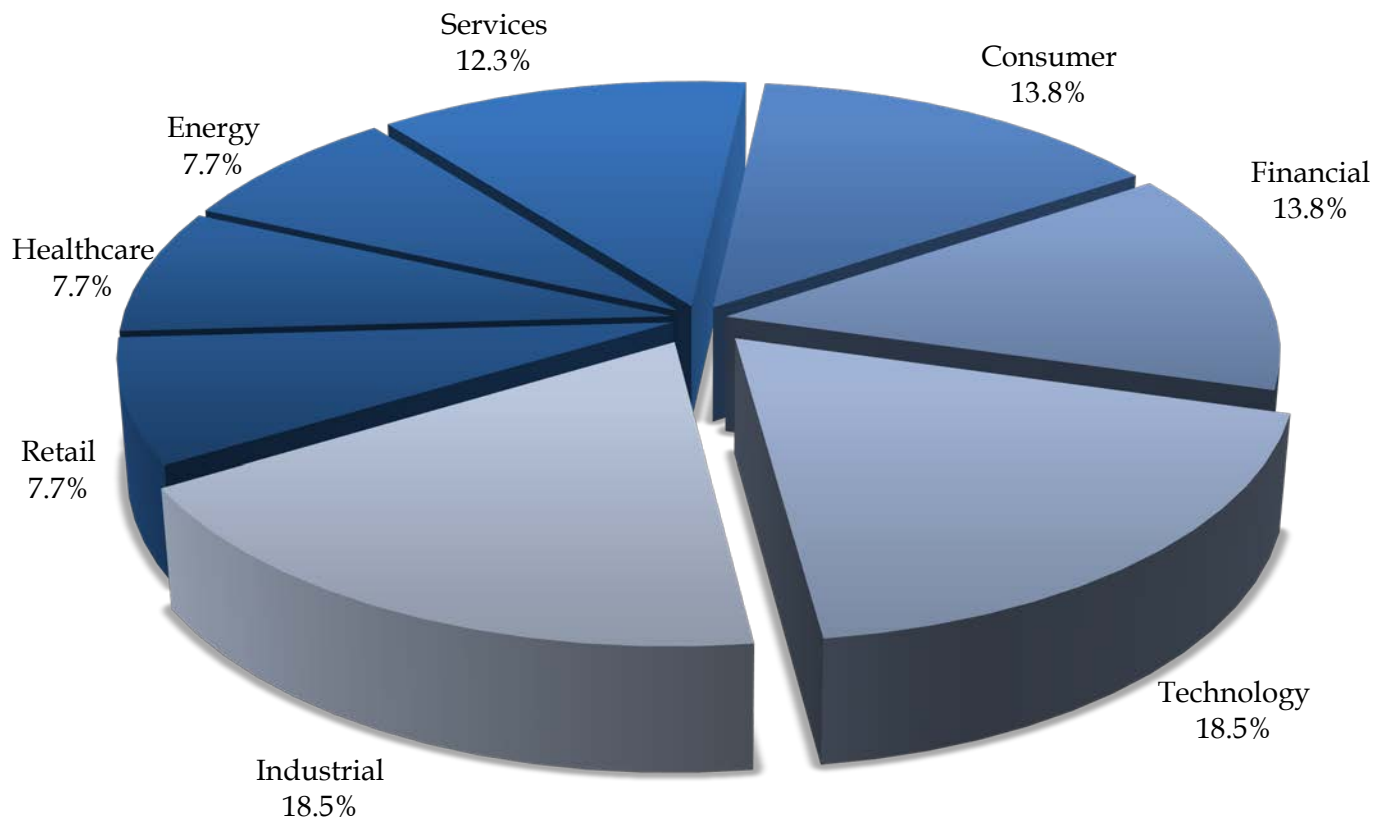


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
CEO	8.1%	10.4%	11.9%	11.9%	12.0%	14.7%	12.9%	10.4%	9.3%	11.9%	14.1%	9.6%	10.0%	11.8%	8.8%	8.5%	11.5%	9.5%	11.8%	9.9%	11.8%	12.3%	10.3%	13.4%
CFO	13.5%	12.4%	16.2%	15.8%	17.5%	17.9%	15.3%	13.8%	12.1%	14.3%	16.0%	17.2%	17.3%	18.3%	13.4%	12.3%	11.8%	11.4%	17.1%	15.4%	14.8%	17.7%	15.8%	16.6%
COO	16.1%	16.6%	24.7%	19.7%	25.6%	21.3%	16.1%	18.1%	17.8%	22.0%	20.4%	24.2%	21.6%	19.9%	19.8%	19.8%	23.1%	22.8%	17.6%	20.8%	23.9%	23.4%	30.4%	32.0%

*Projection of 2018 year end
 Partial year:
 CEO: 9.6%
 CFO: 10.9%
 COO: 21.9%

The Industrial and Technology sectors account for the most CEO turnover*

CEO Volatility by Industry
2018 Fortune 500 and S&P 500 (673 Companies)



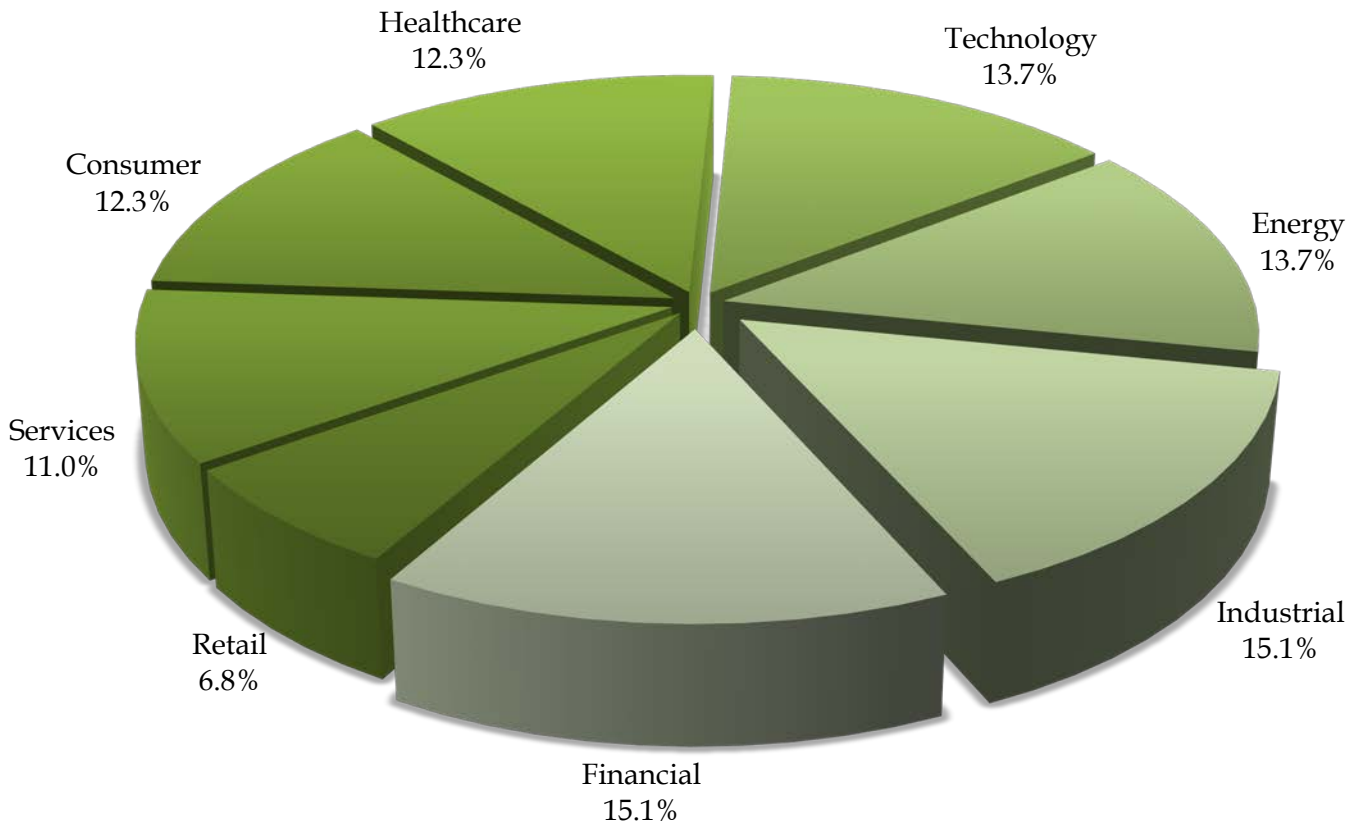
Notable CEO changes in 2018

- Cardinal Health, Inc.
- Chevron Corp.
- Verizon Communications, Inc.
- Lowe's Companies, Inc.
- Intel Corp.
- Sysco Corp.
- 3M Company
- American Express Company

*Year to date

The Retail sector has the lowest CFO turnover*

CFO Volatility by Industry
2018 Fortune 500 and S&P 500 (673 Companies)



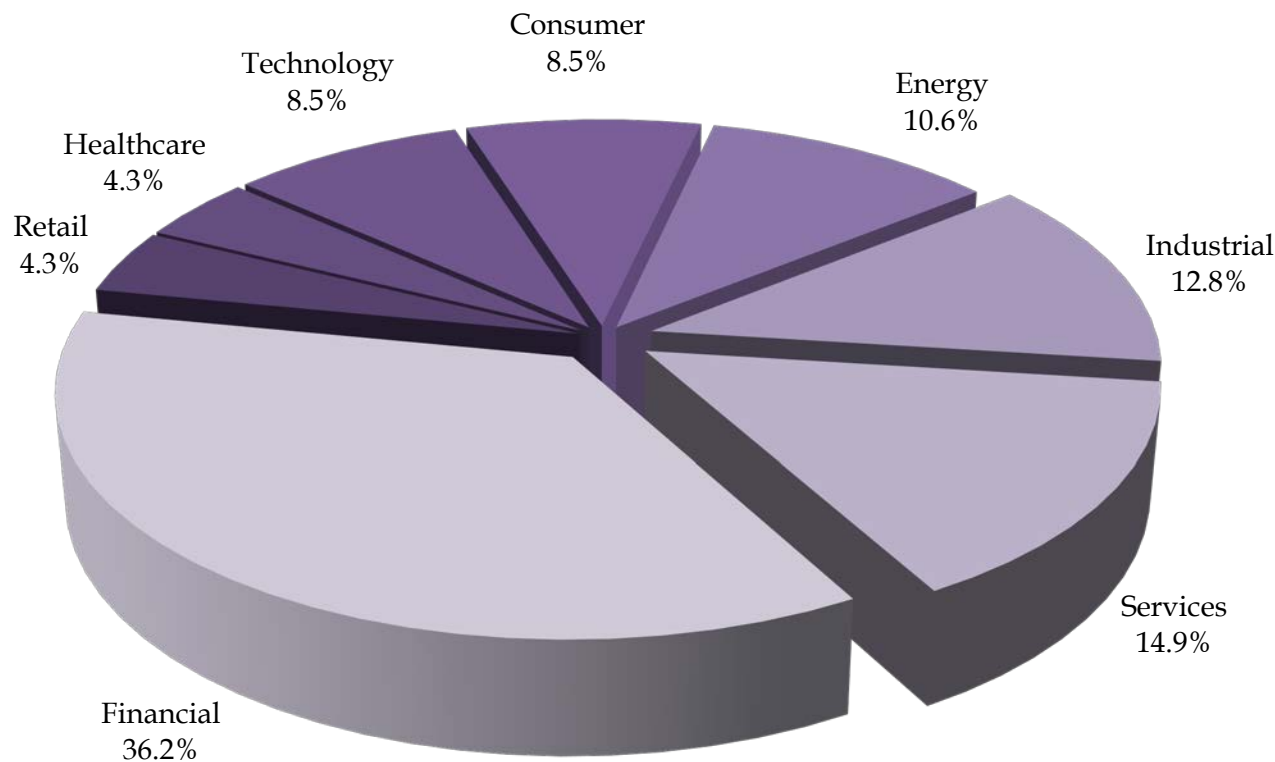
Notable CFO Changes in 2018

- CVS Health Corp.
- Adobe Systems, Inc.
- General Motors Company
- Walgreens Boots Alliance, Inc.
- Valero Energy Corp.
- International Business Machines Corp.
- MetLife, Inc.
- HP, Inc.

*Year to date

The Financial sector constitutes over a third of COO turnover*

COO Volatility by Industry
2018 Fortune 500 and S&P 500 (673 Companies)



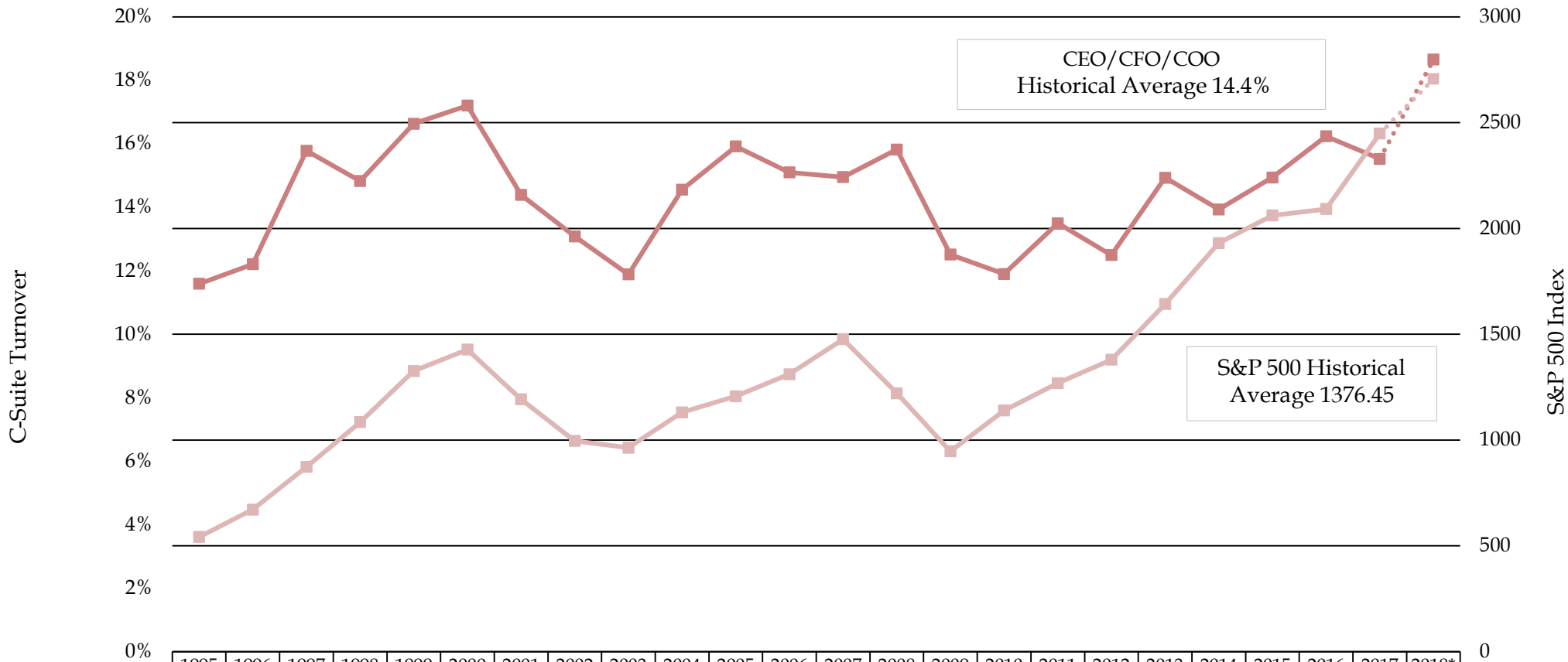
Notable COO Changes in 2018

- JPMorgan Chase & Company
- Express Scripts Holding Company
- Valero Energy Corp.
- United Parcel Service, Inc.
- Pfizer, Inc.
- HP, Inc.
- Northrop Grumman Corp.
- Philip Morris International, Inc.

*Year to date

C-Suite turnover is projected to reach an all-time high

Overall Volatility and S&P 500 Index** (1995-2018)
2018 Fortune 500 and S&P 500 (673 Companies)

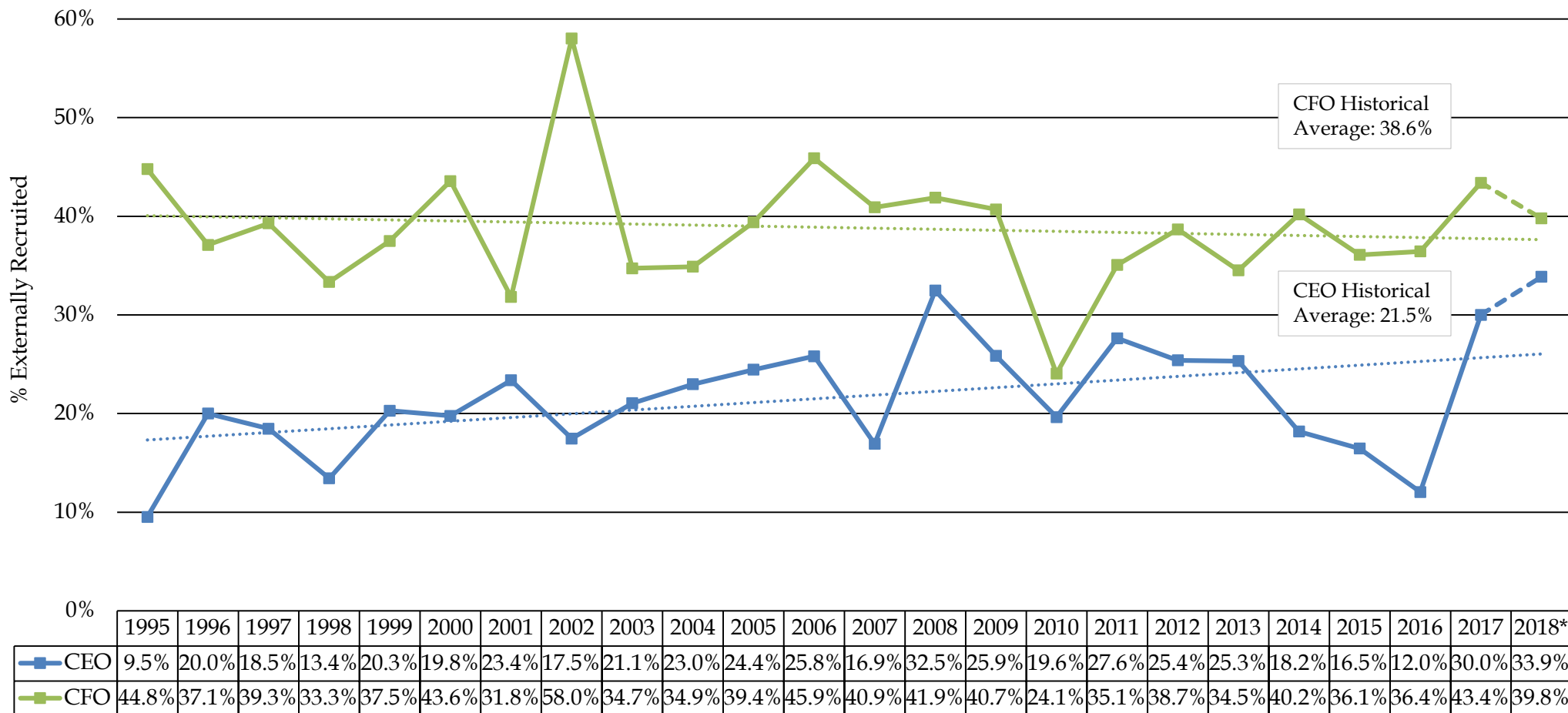


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
CEO/CFO/COO	11.6%	12.2%	15.8%	14.8%	16.6%	17.2%	14.4%	13.1%	11.9%	14.6%	15.9%	15.1%	14.9%	15.8%	12.5%	11.9%	13.5%	12.5%	14.9%	13.9%	14.9%	16.2%	15.5%	18.7%
S&P 500 Index	542	671	873	1084	1326	1427	1192	996	964	1131	1207	1311	1477	1221	947	1139	1269	1380	1643	1931	2061	2092	2448	2706

**Projection of 2018 year end
Partial year C-Suite Turnover: 11.6%
**Average Daily Close*

The rate of external hiring for CEO succession is projected to reach an all-time high

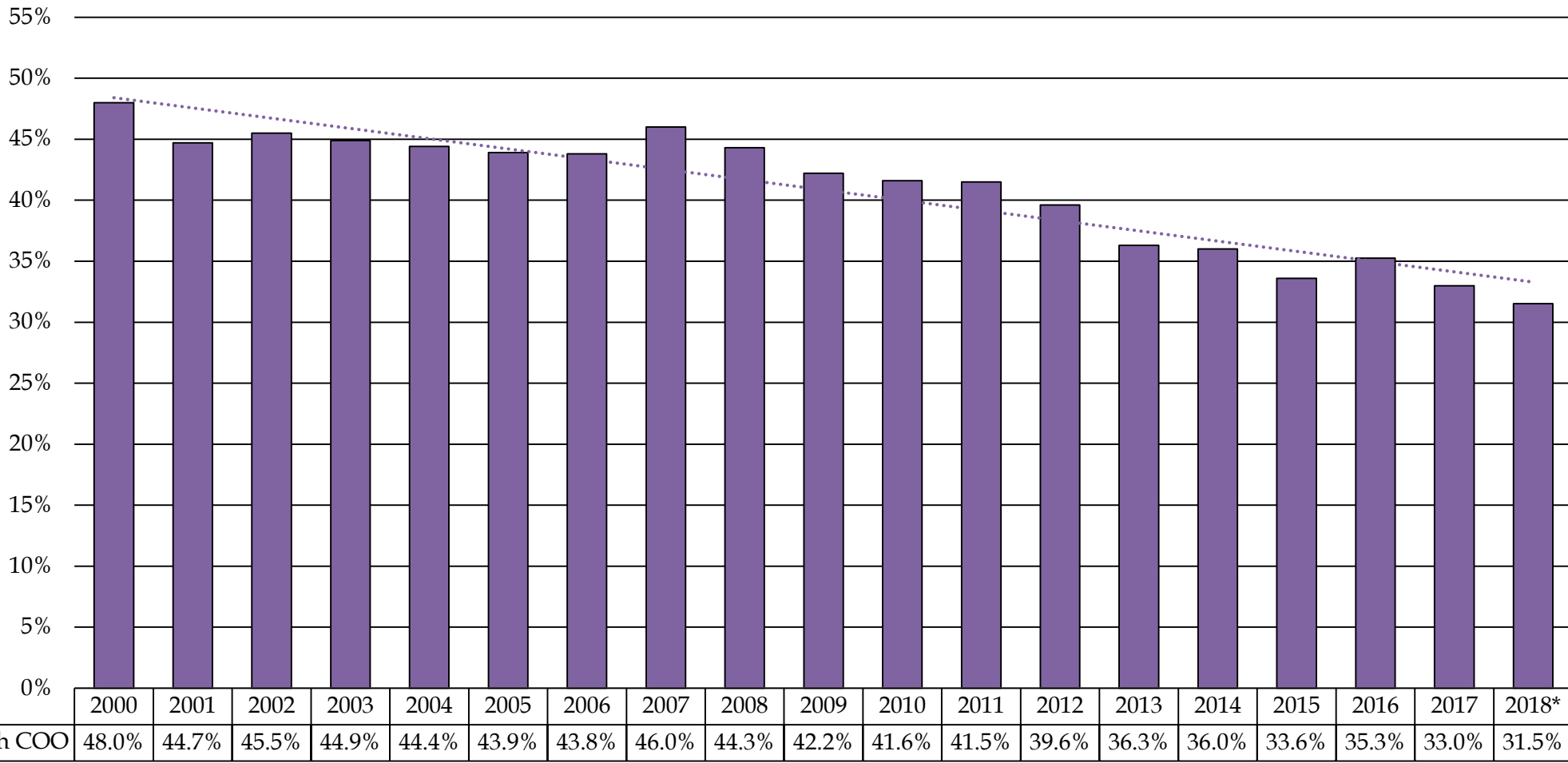
Percentage of CEOs/CFOs Recruited from Outside the Company (1995-2018)
 2018 Fortune 500 and S&P 500 Companies (673 Companies; 679 Sitting CEOs; 670 Sitting CFOs)



**Projection of 2018 year end
 Partial year:
 CEO: 24.1%
 CFO: 28.8%*

The number of companies with a COO has decreased by almost 15% in the last ten years

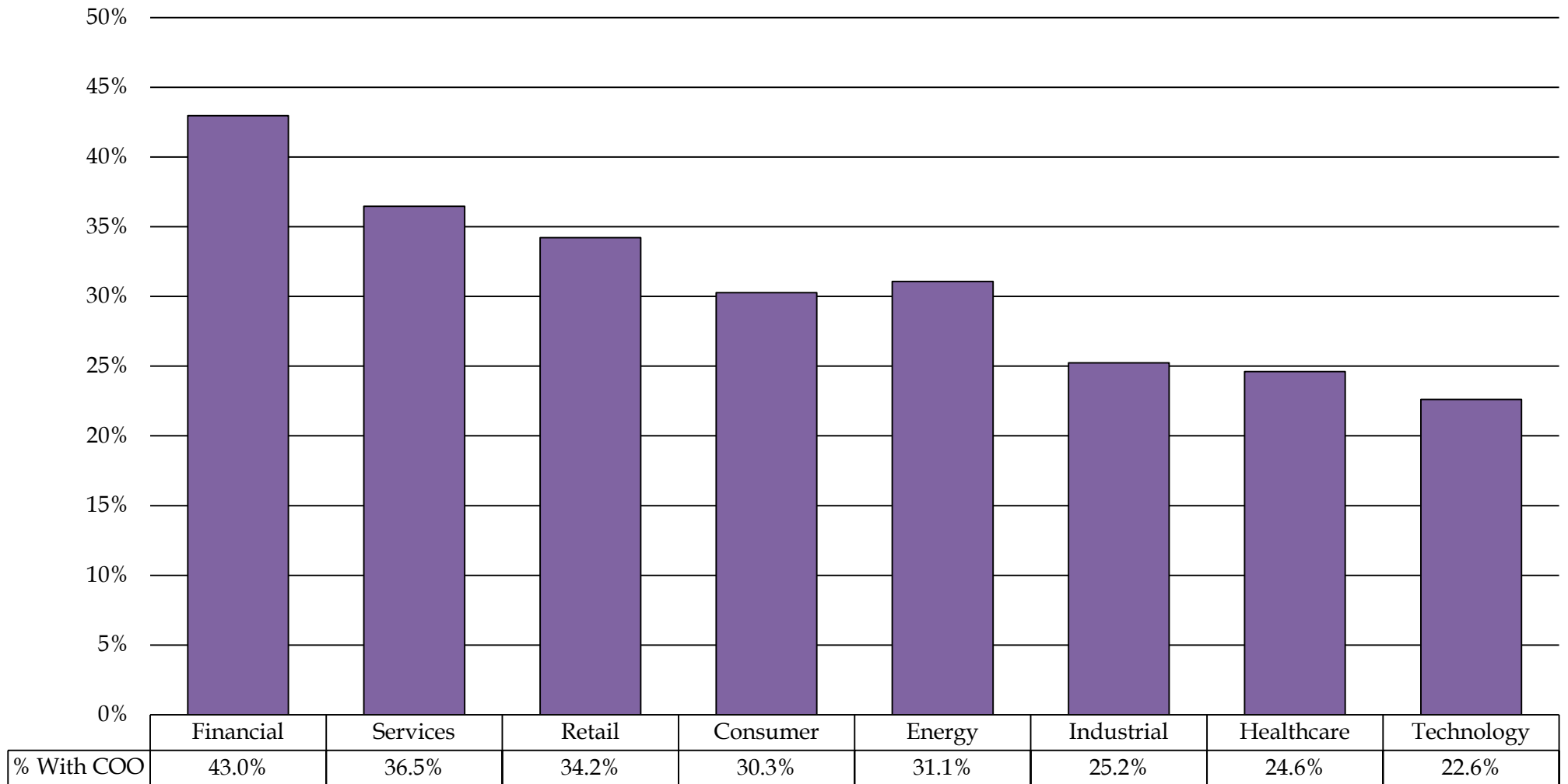
Percentage of Companies with a COO (2000-2018*)
2018 Fortune 500 and S&P 500 (673 Companies; 215 Sitting COOs)



**Partial Year*

The COO role is least common within the Technology sector

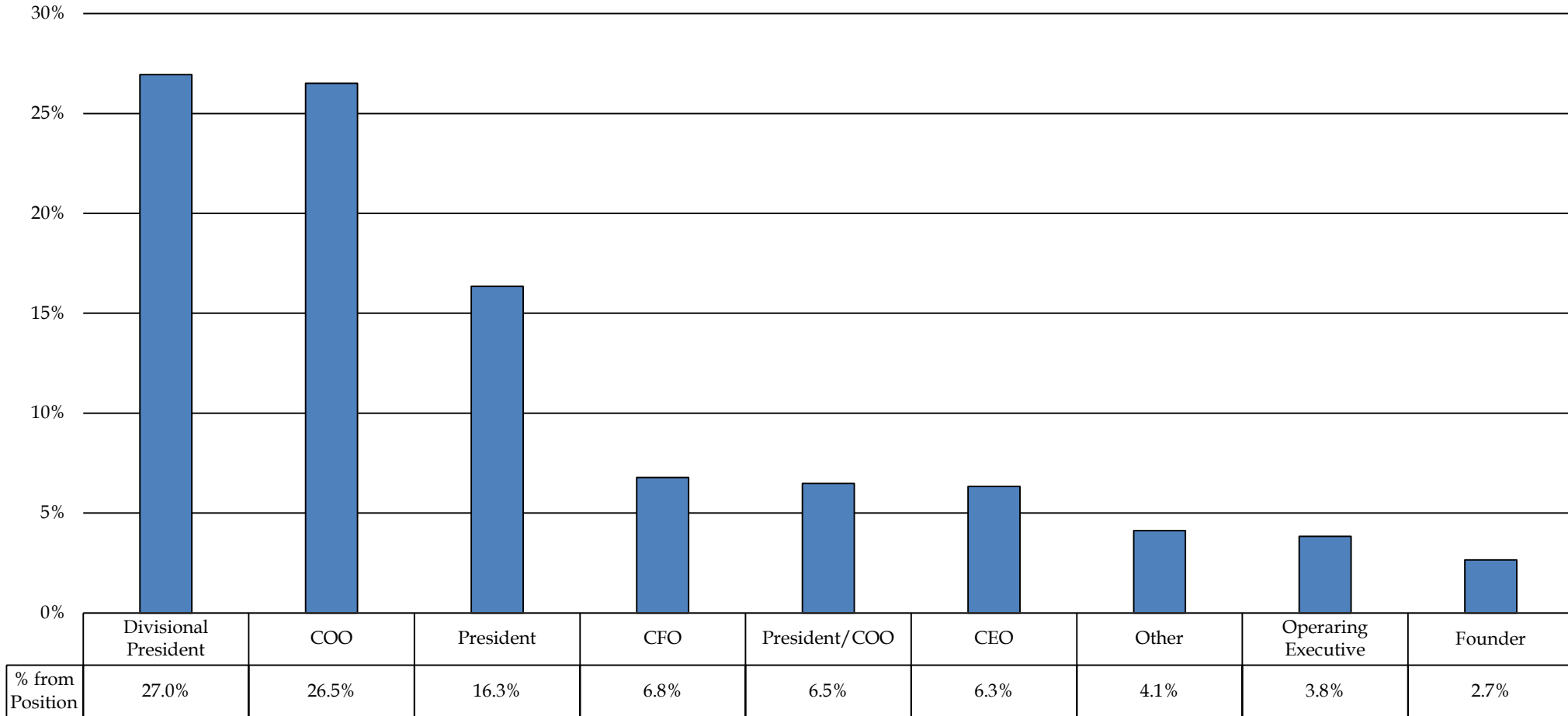
Percentage of Companies with a COO by Industry
 2018 Fortune 500 and S&P 500 Companies (673 Companies; 215 Sitting COOs)



C-Suite Career Paths

Over 75% of Sitting CEOs were elevated from general management roles

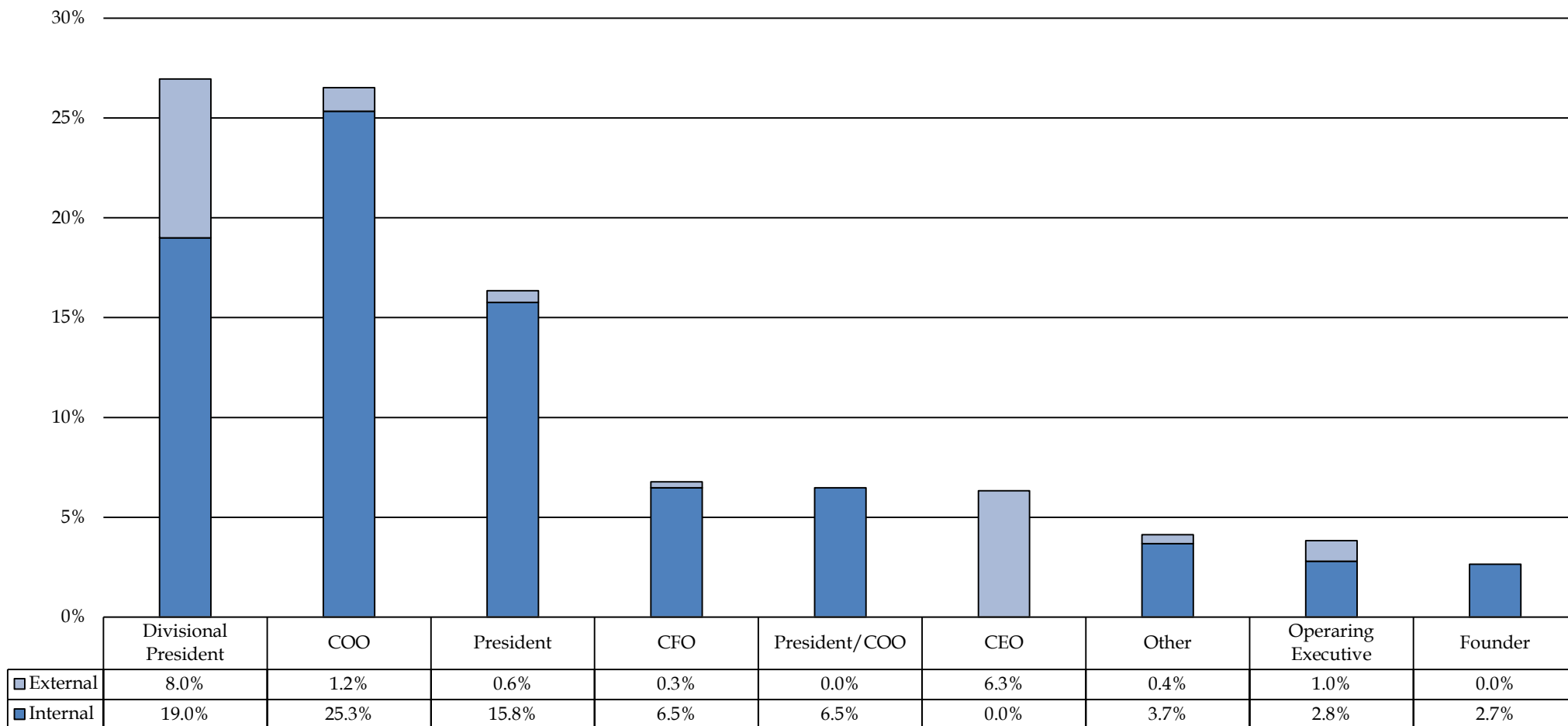
Immediate Previous Position of Sitting CEOs (Internal or External)
2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs)



- Internal Divisional President includes CEO of subsidiary company
- *President/COO*: Executive held both President and COO roles at the same time
- *Operations Executive*: VP/SVP/EVP of Operations
- *Other*: i.e. chairman, marketing, risk, consulting, commerce, investment officer, partner, managing director, general counsel

The most common path to the CEO position is an internal promotion from the COO role

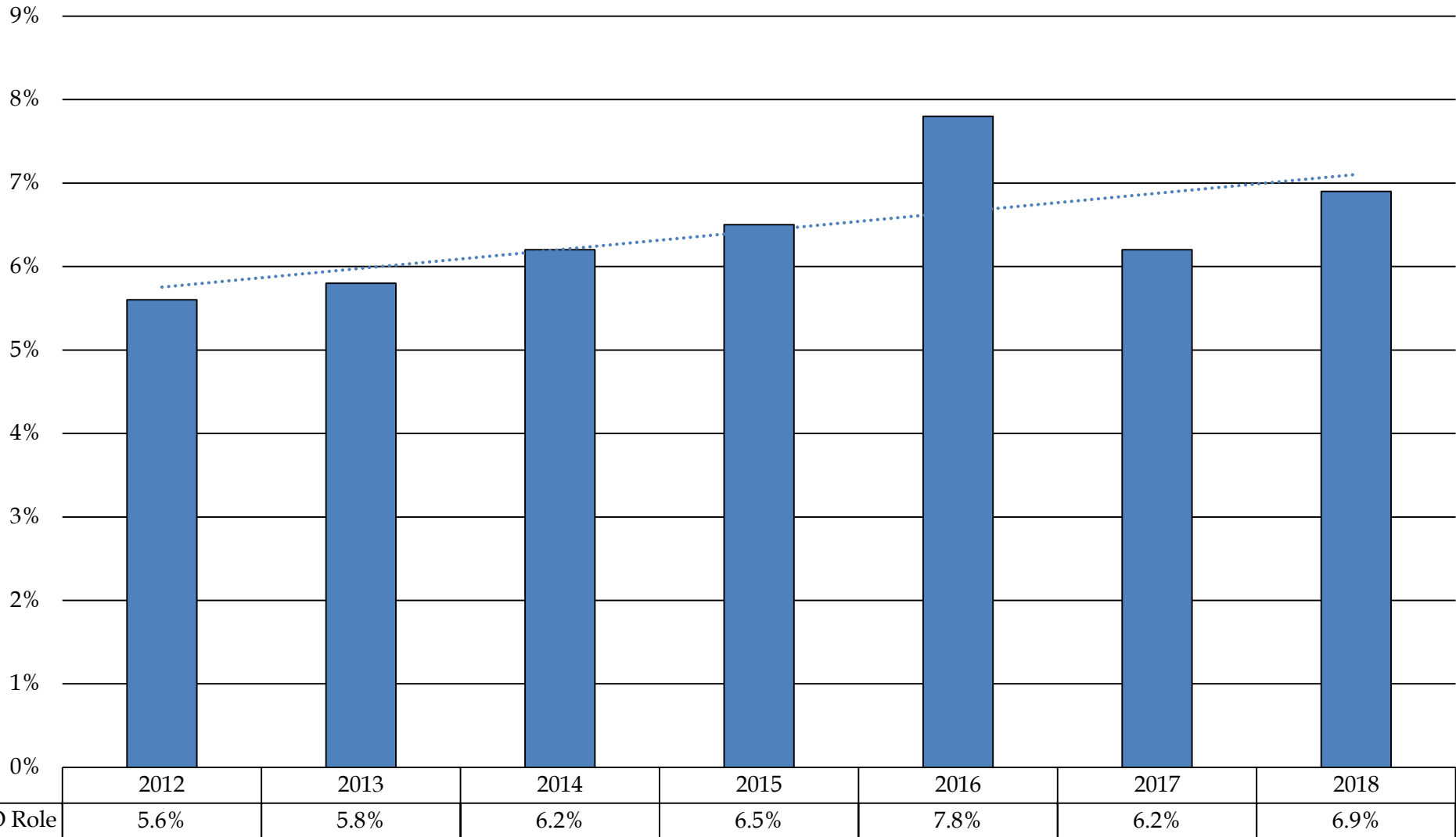
Immediate Previous Position of Sitting CEOs (Internal vs. External)
2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs)



- Internal Divisional President includes CEO of subsidiary company
- *President/COO*: Executive held both President and COO roles at the same time
- *Operations Executive*: VP/SVP/EVP of Operations
- *Other*: i.e. chairman, marketing, risk, consulting, commerce, investment officer, partner, managing director, general counsel

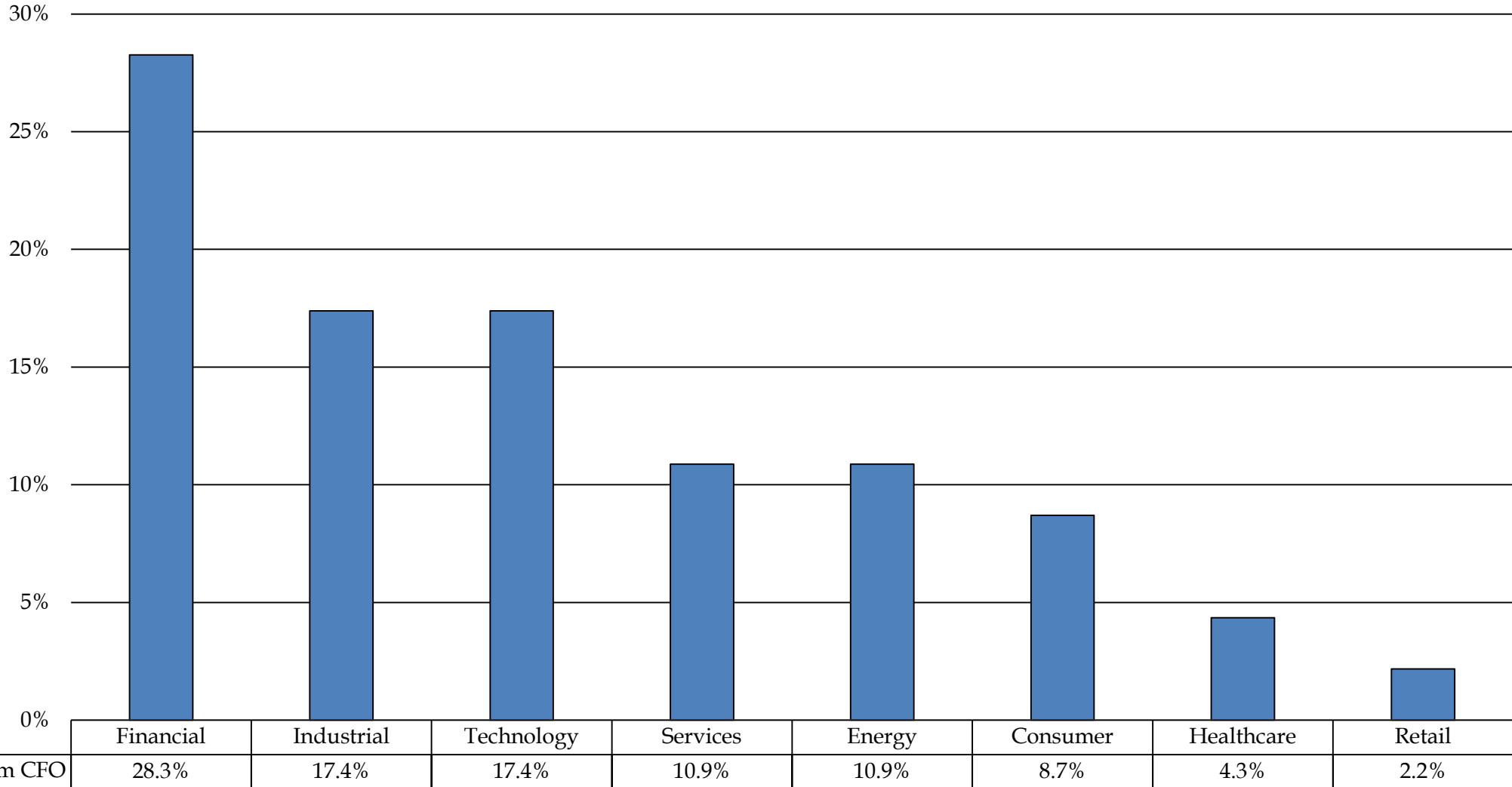
C-Suite transitions from the CFO role to the CEO role have increased in 2018

Percentage of Sitting CEOs coming directly from a CFO Chair (Internal or External)
2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs)



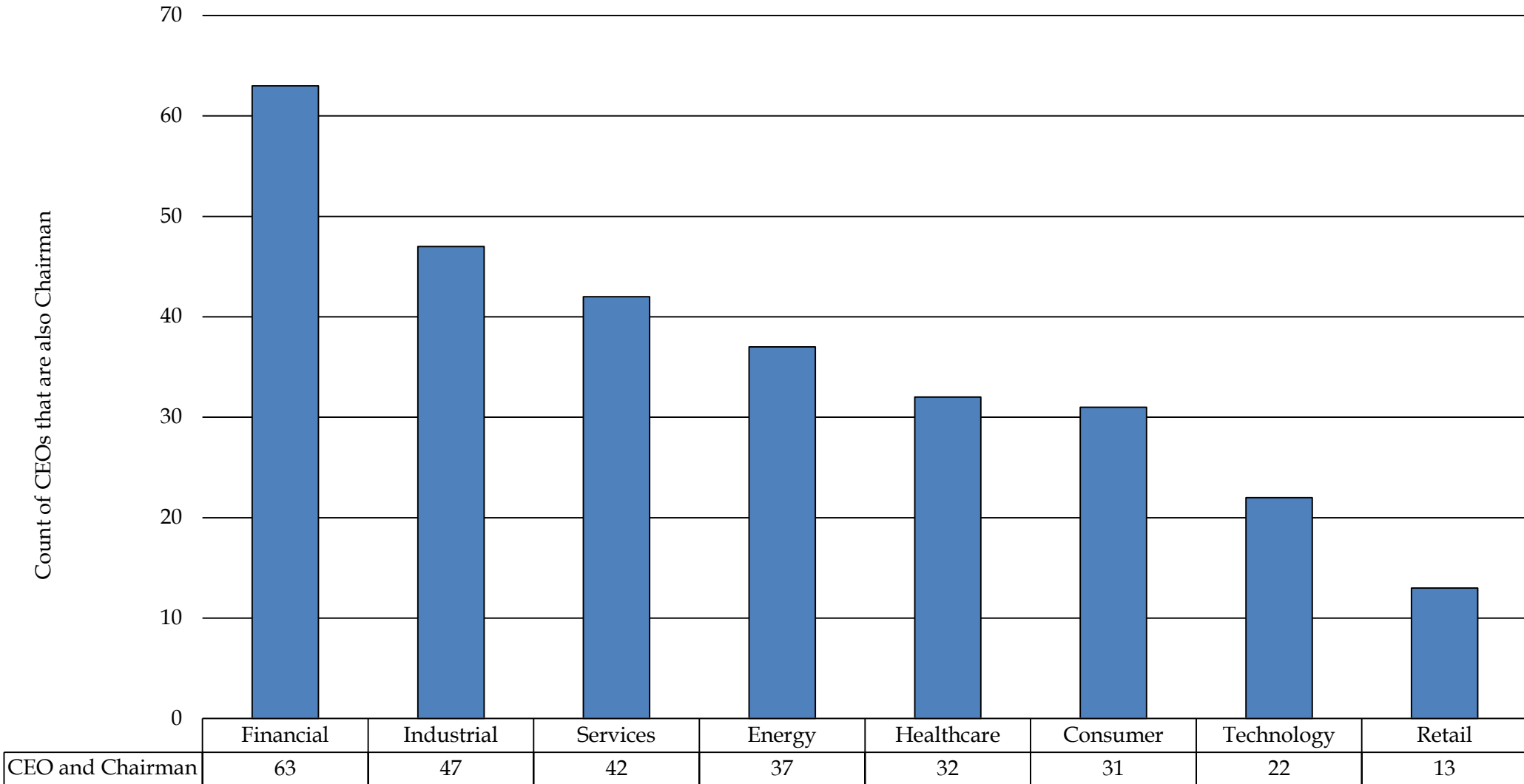
CFO movement to the CEO position is most prominent in the Financial sector

Percentage of Sitting CEOs coming from a CFO Chair by Industry (Internal or External)
 2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs; 46 CEOs Represented)



CEOs in the Financial sector hold the most Chairman titles

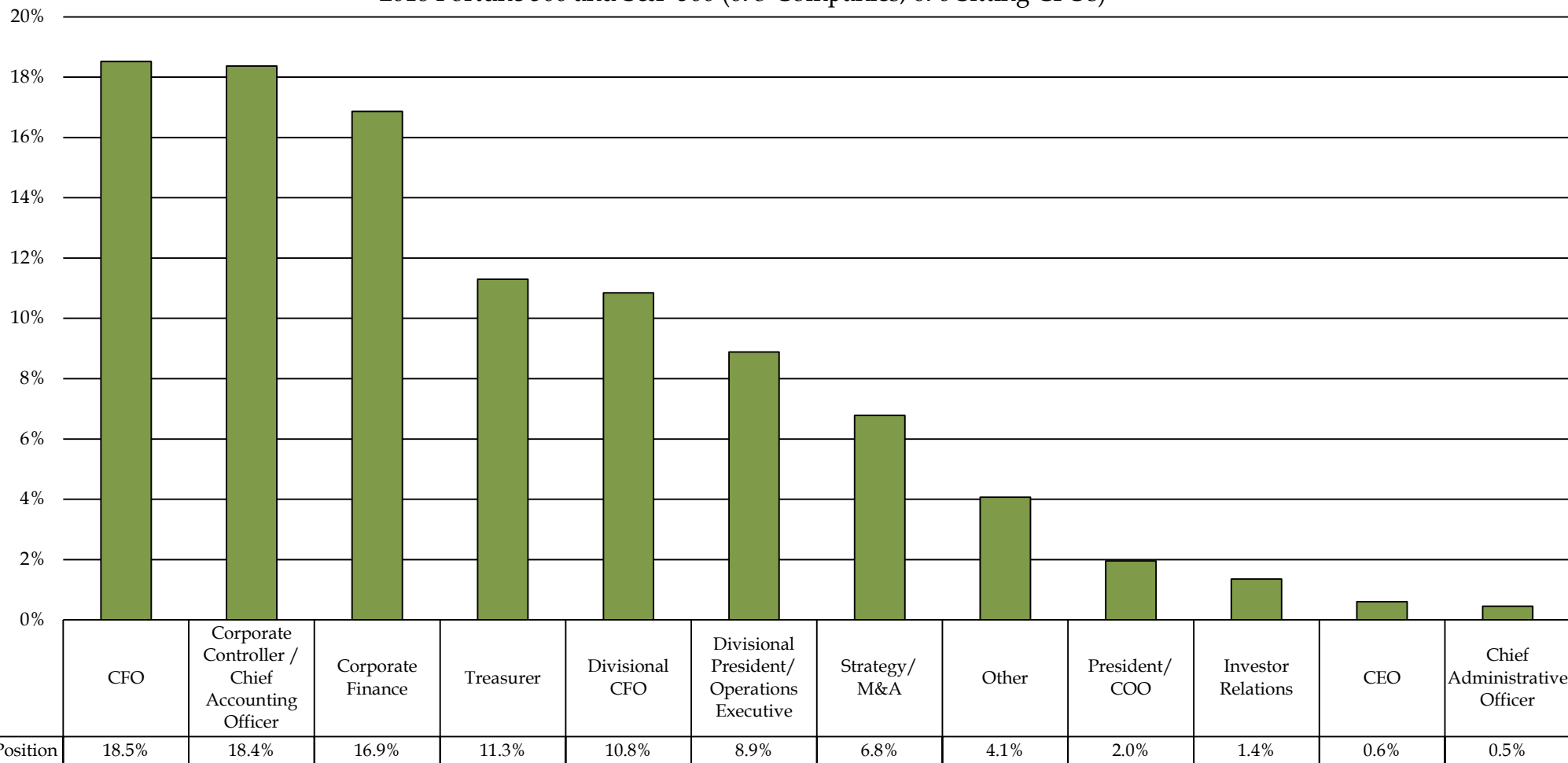
Sitting CEOs that are also Chairman*
 2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs; 287 Sitting CEOs that are also Chairman)



* Sitting Chairman of their current company

Less than 20% of sitting CFOs have prior CFO experience at another company

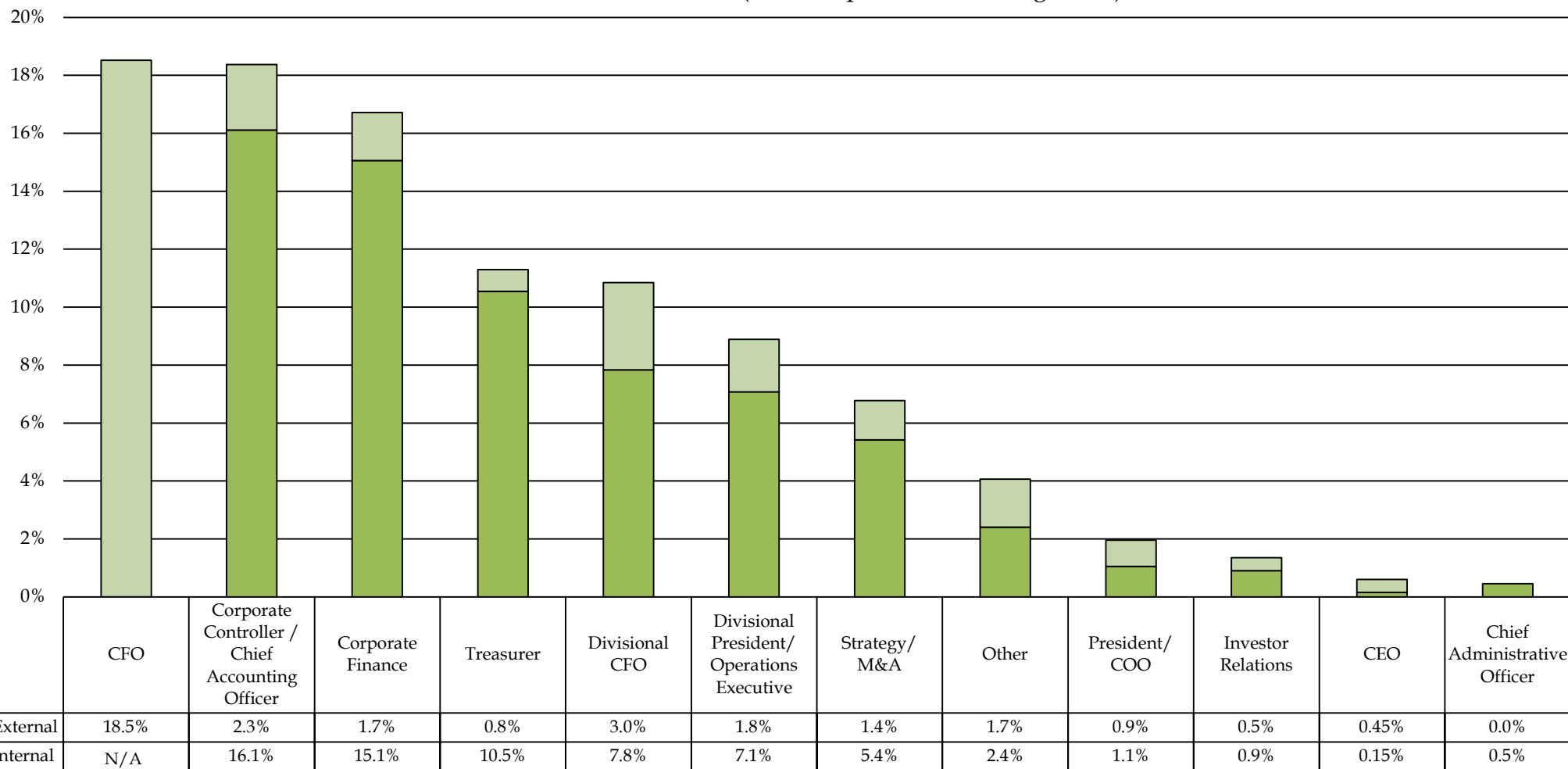
Percentage of Sitting CFOs by Immediate Previous Position (Internal or External)
2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs)



- Internal Divisional Finance Officer includes CFOs of subsidiary companies
- External CFO recruitment means previous CFO of another company
- Operations Executive: President, VP/SVP/EVP Operations
- Corporate Finance Executive: VP, SVP, EVP of Finance
- Strategy/M&A: Investment Banking, Development, Planning or Strategy
- Other: tax, law, IT, risk, consulting, etc.

Internally promoted CFOs most often transition from the Corporate Controller or Chief Accounting Officer role

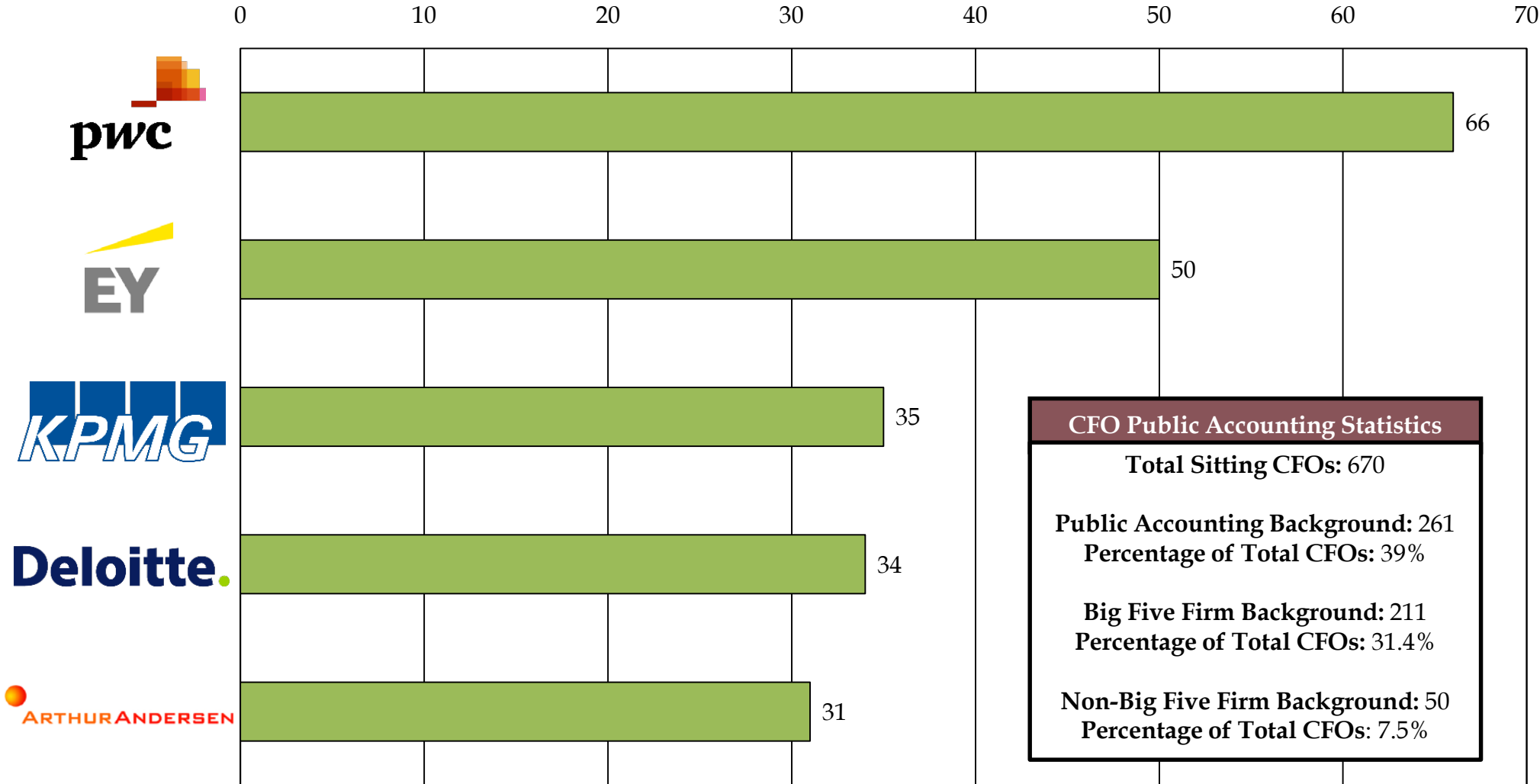
Percentage of Sitting CFOs by Immediate Previous Position (Internal or External)
2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs)



- Internal Divisional Finance Officer includes CFOs of subsidiary companies
- External CFO recruitment means previous CFO of another company
- Operations Executive: President, VP/SVP/EVP Operations
- Corporate Finance Executive: VP, SVP, EVP of Finance
- Strategy/M&A: Investment Banking, Development, Planning or Strategy
- Other: tax, law, IT, risk, consulting, etc.

Only 39% of CFOs have public accounting experience

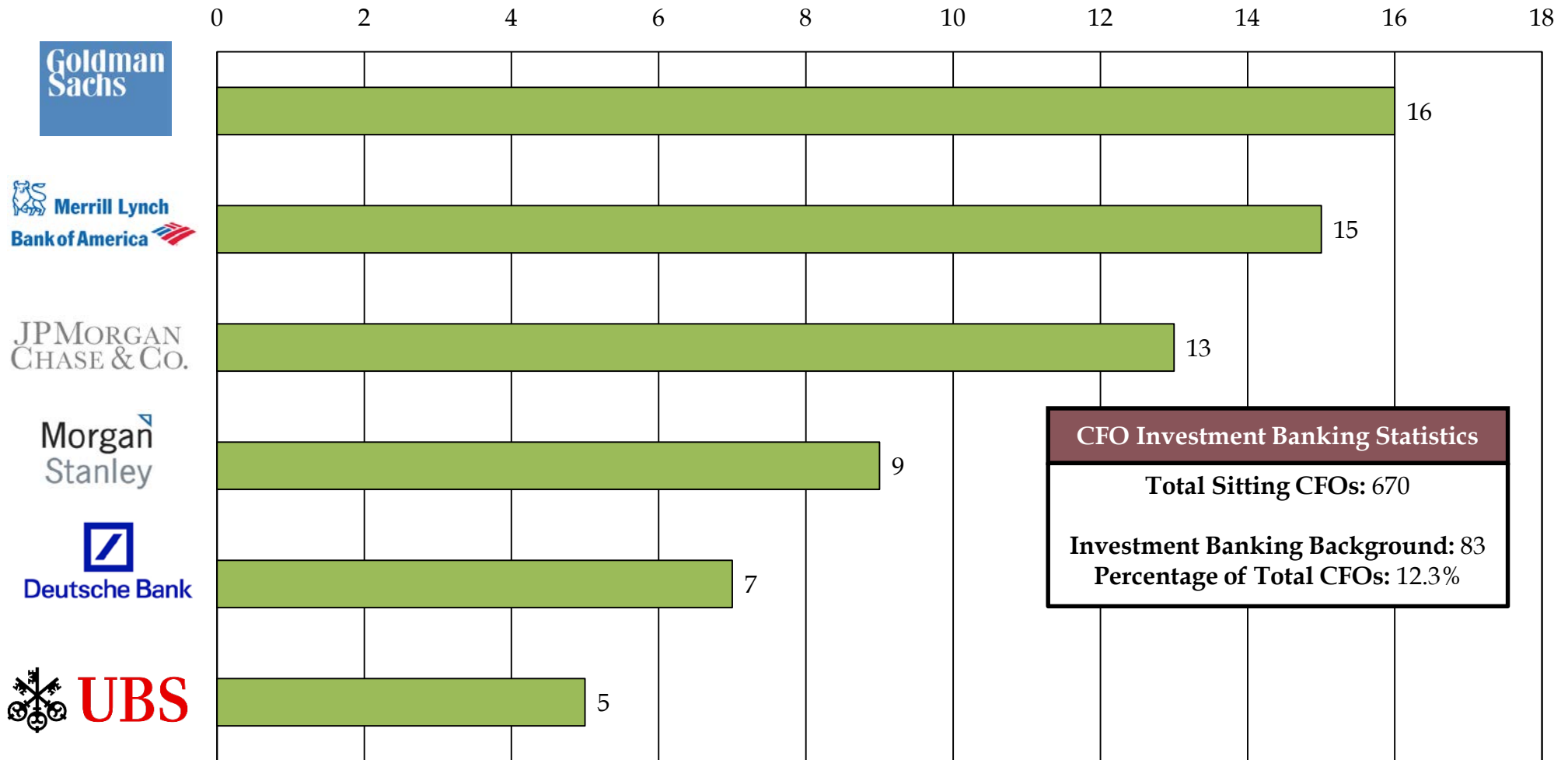
2018 CFOs with Public Accounting Backgrounds
 2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs; 261 CFOs Represented*)



*Multiple CFOs have worked for more than one Big Five public accounting firm

12% of CFOs have investment banking experience

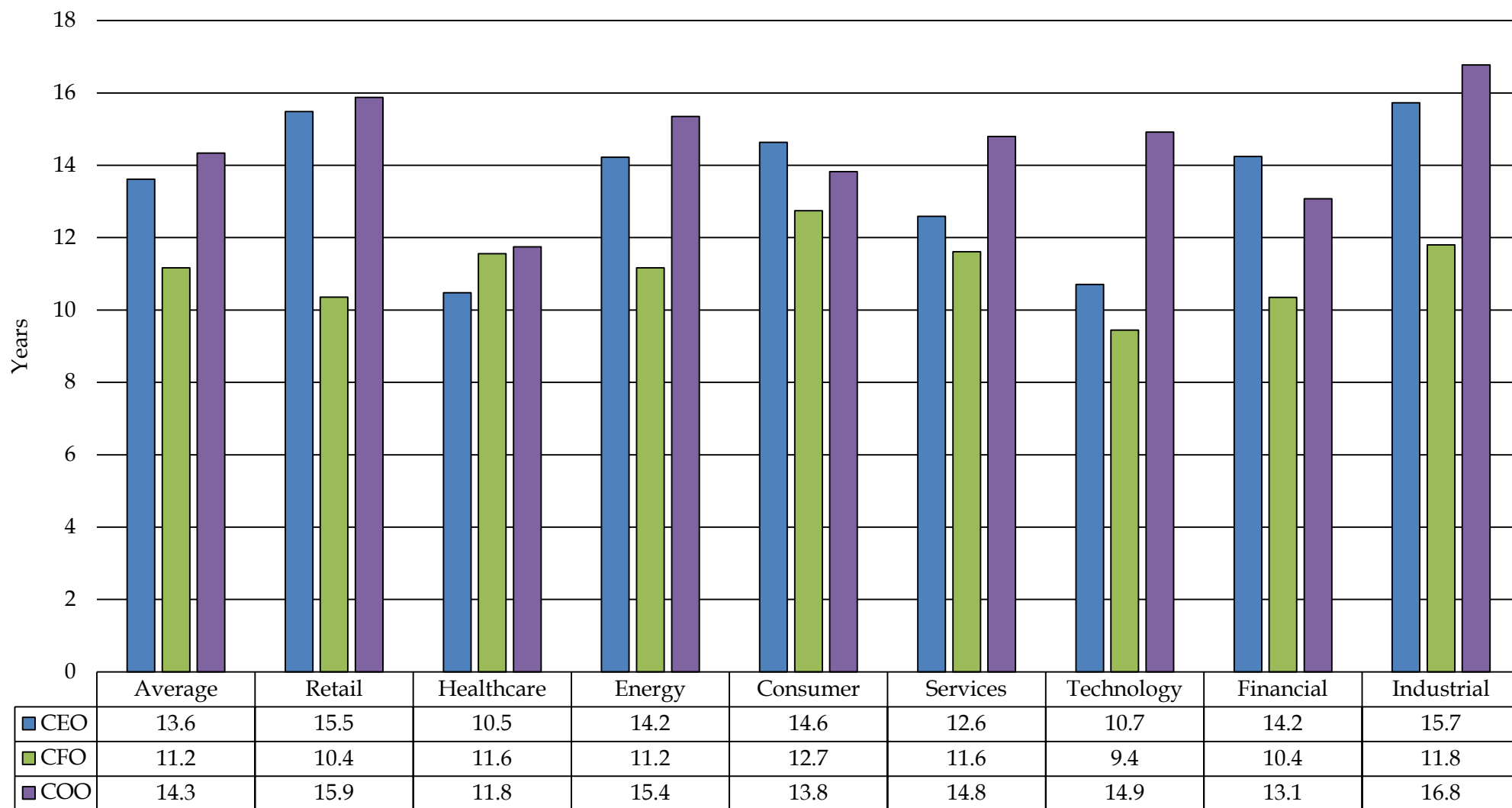
2018 CFOs with Investment Banking Backgrounds
 2018 Fortune 500 and S&P 500 (673 Companies; 84 CFOs Represented*)



*Multiple CFOs have worked for more than one investment bank

Technology sector CFOs have the least amount of company experience before taking their position

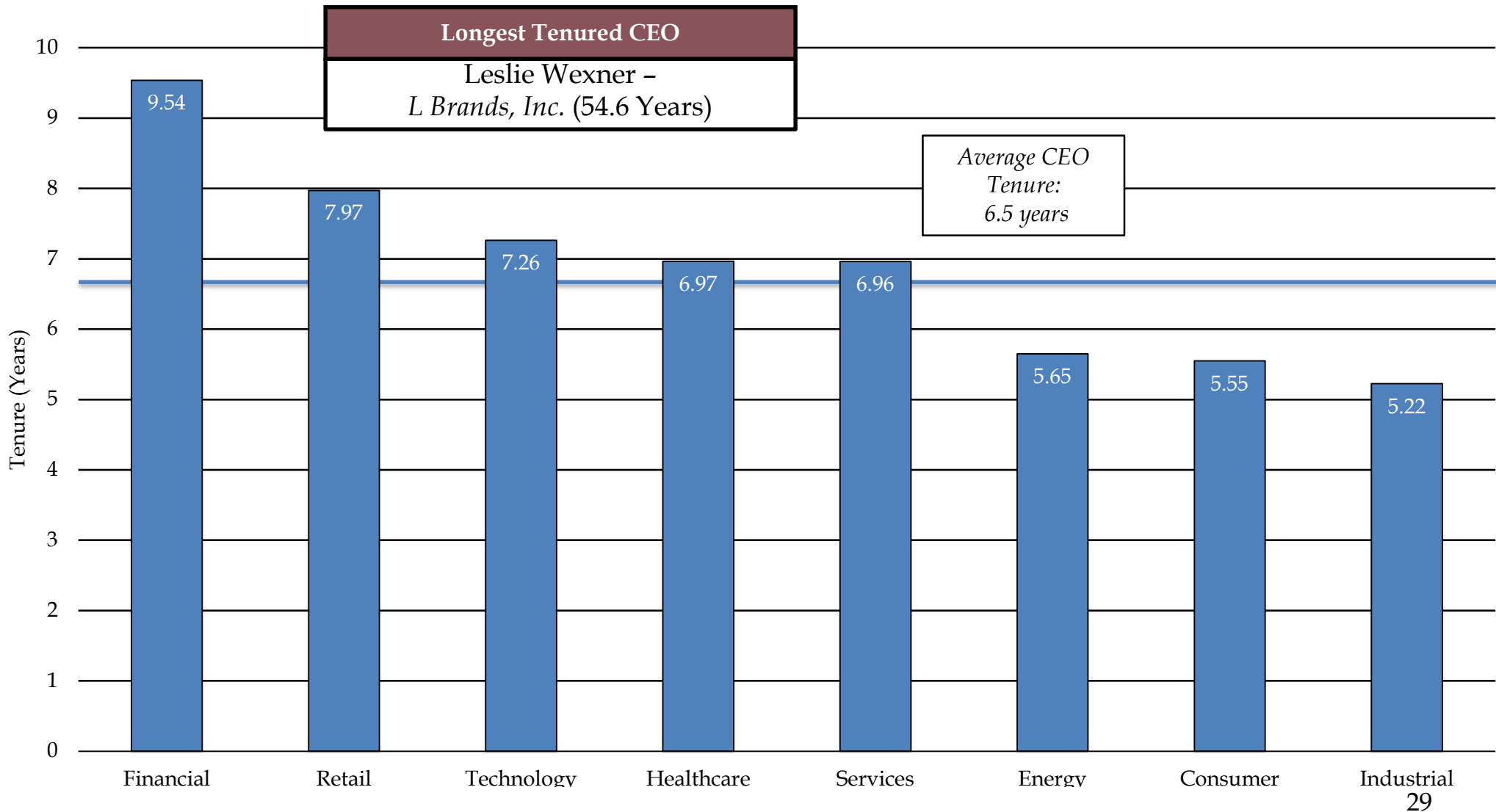
Average Years of Experience with Company **before assuming Roles** of CEO/CFO/COO at that Company*
2018 Fortune 500 and S&P 500 (673 Companies; 558 Internal CEO Hires; 450 Internal CFO Hires; 192 Internal COO Hires)



*From start date with company to date of C-Suite appointment

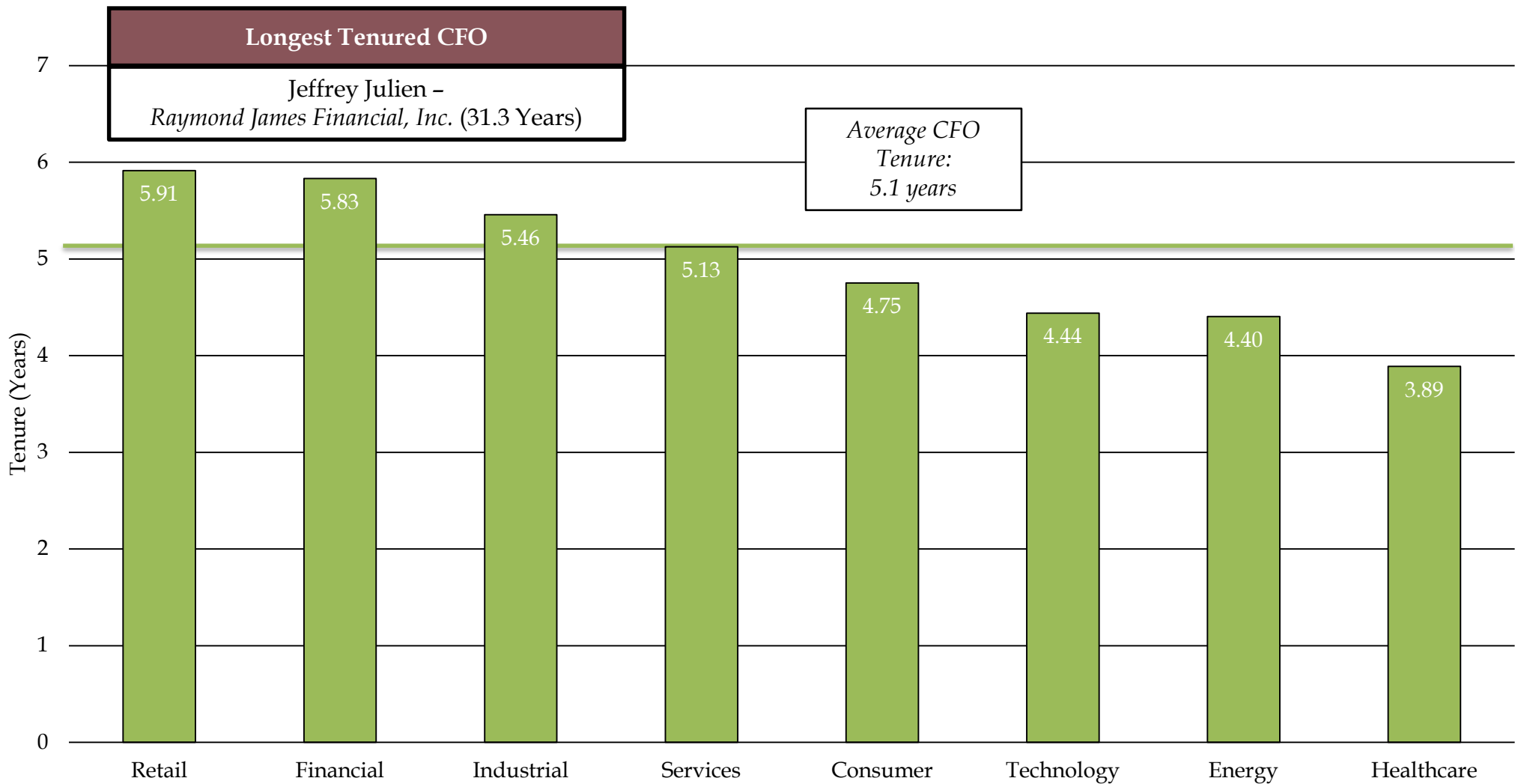
Financial sector CEOs have the longest tenure

Average Tenure of CEO by Industry
 2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs)



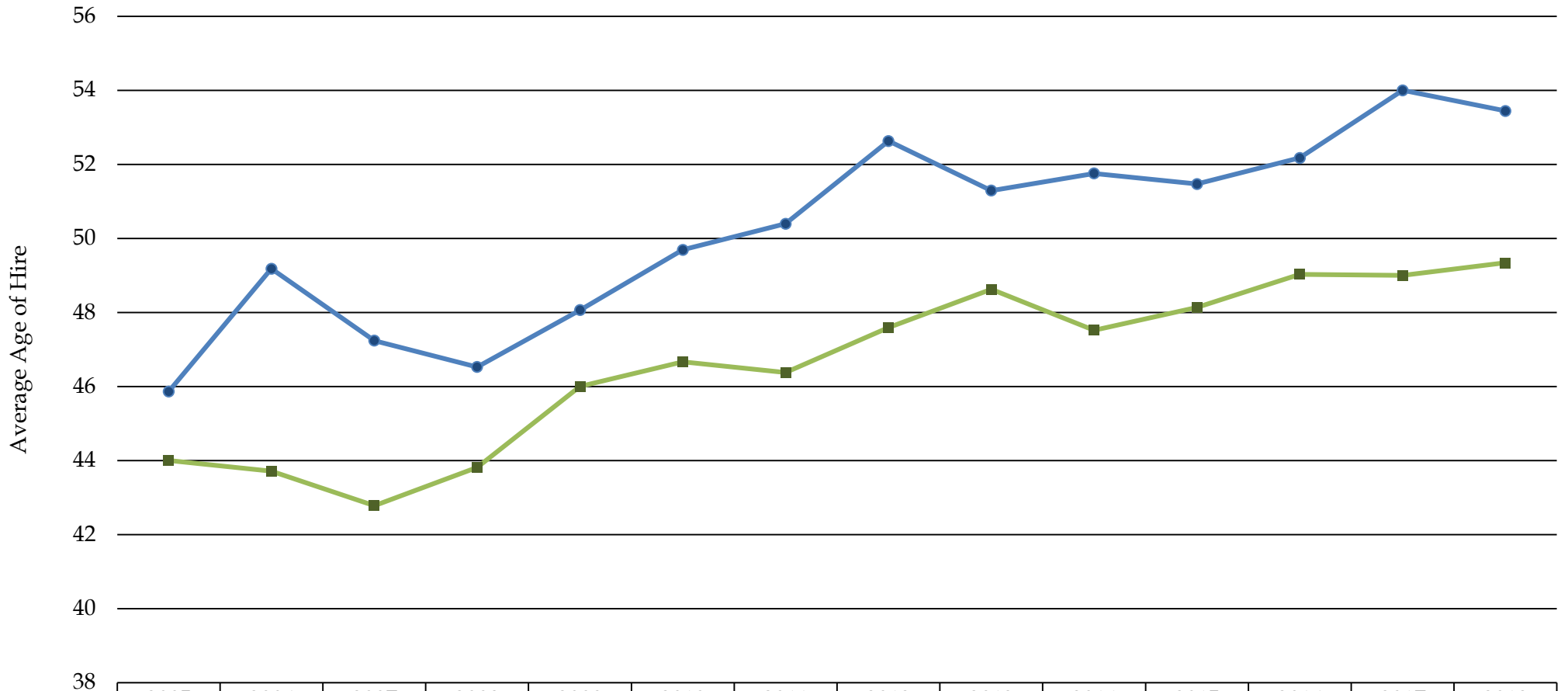
The average tenure of a CFO is over 5 years

Average Tenure of CFO by Industry
 2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs)



The C-Suite is getting older

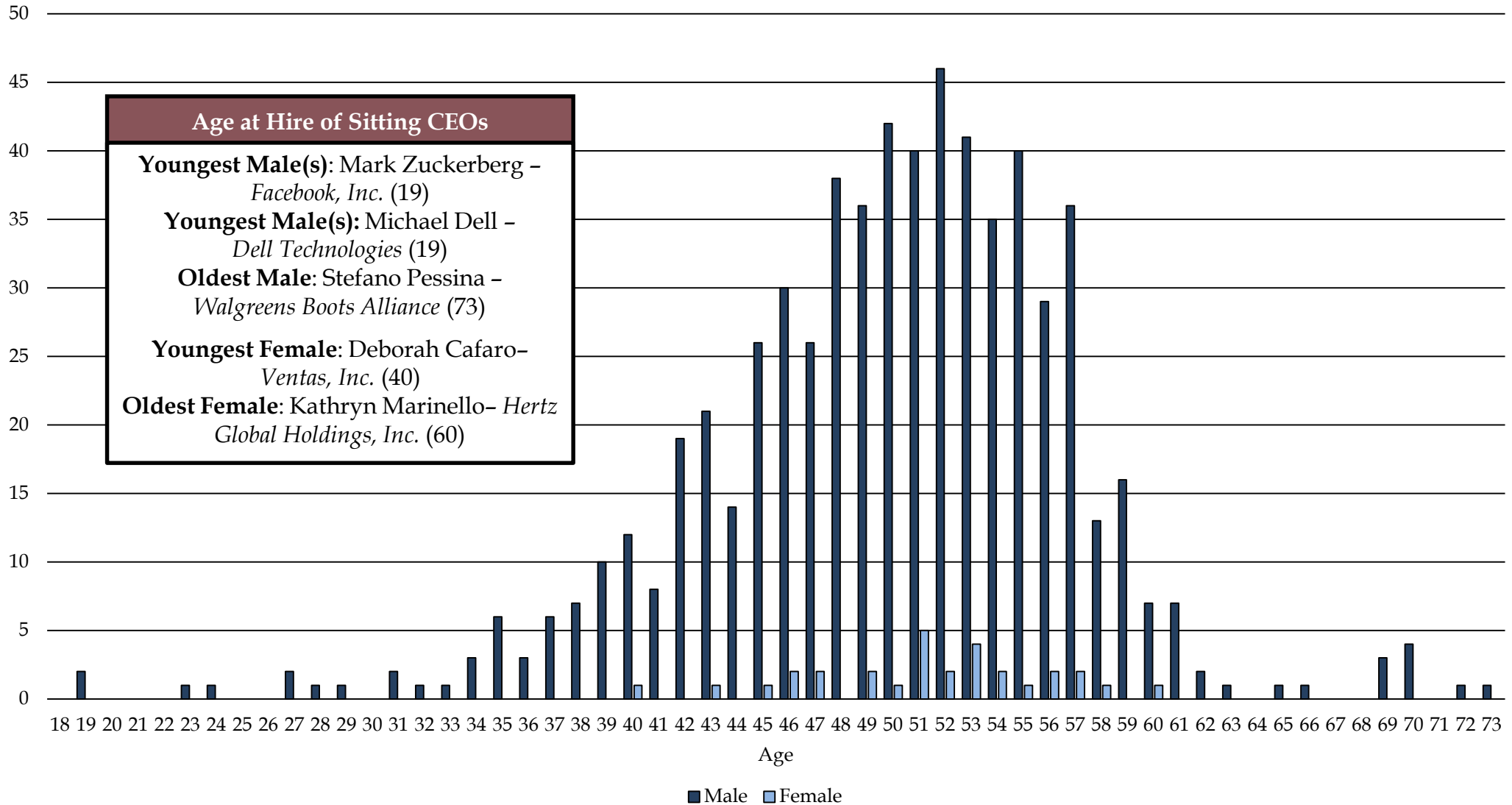
Age of Hire for CEOs and CFOs
 2018 Fortune 500 and S&P 500 (673 Companies; 674 Known CEO Ages at Hire; 660 Known CFO Ages at Hire)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CEO	45.9	49.2	47.2	46.5	48.1	49.7	50.4	52.6	51.3	51.8	51.5	52.2	54.0	53.4
CFO	44.0	43.7	42.8	43.8	46.0	46.7	46.4	47.6	48.6	47.5	48.1	49.0	49.0	49.3

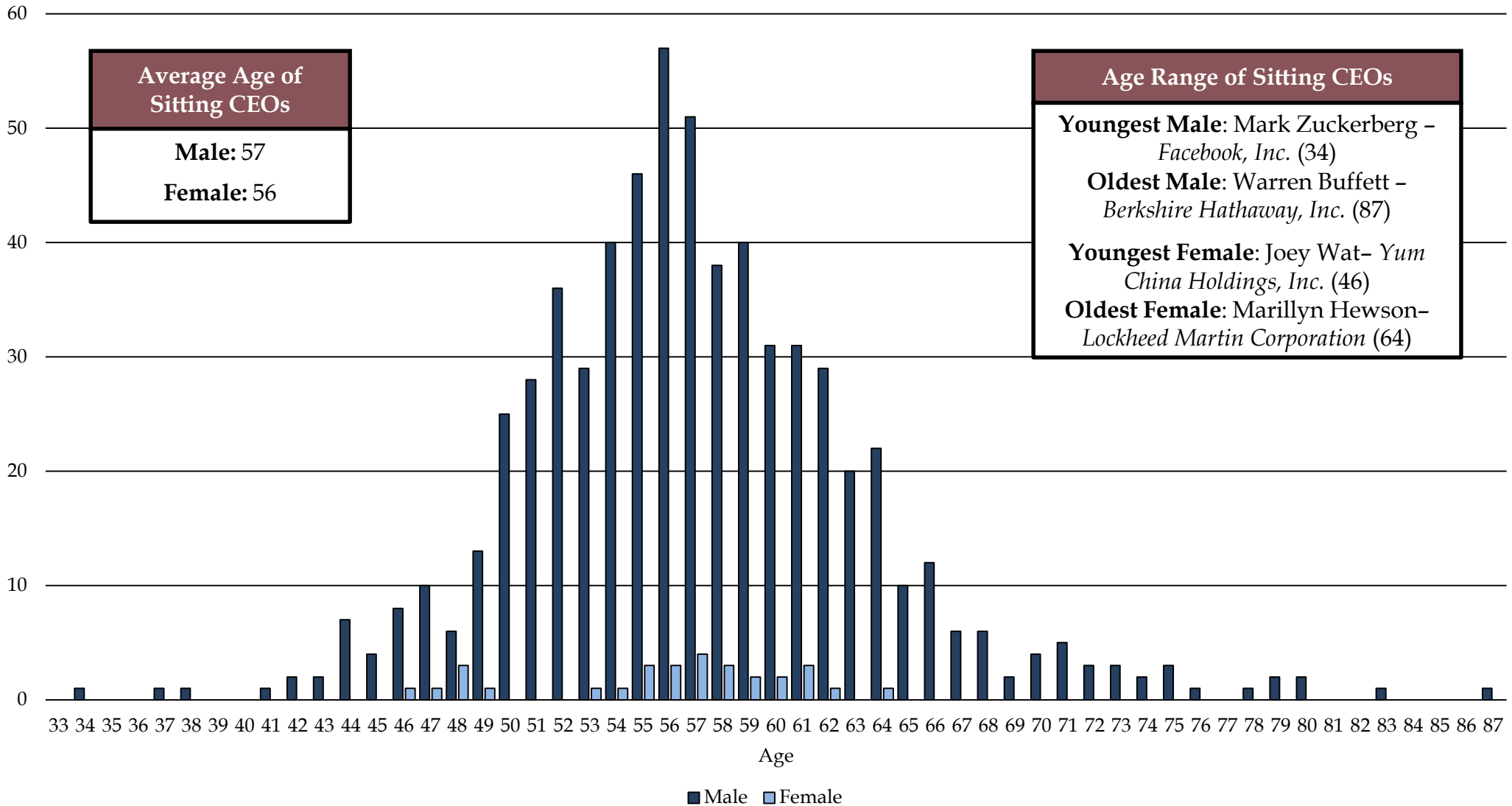
Nearly 25% of CEOs were appointed to their position before 45

Age of Hire for Sitting CEOs
 2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs; 674 Known CEO Ages at Hire)



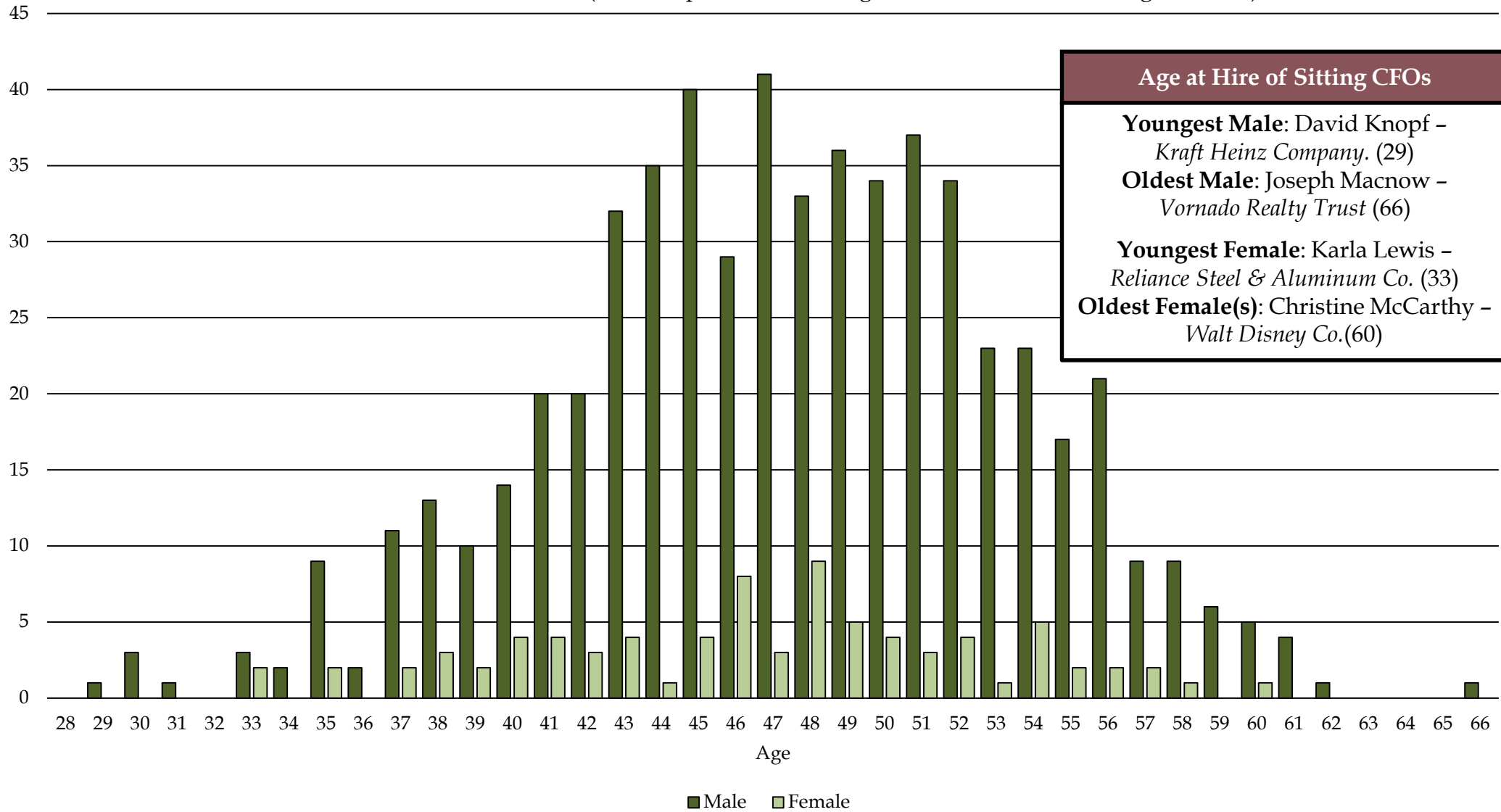
Nearly 75% of Female CEOs are 55 and older

Age Distribution of Sitting CEOs
2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs; 674 Known CEO Ages)



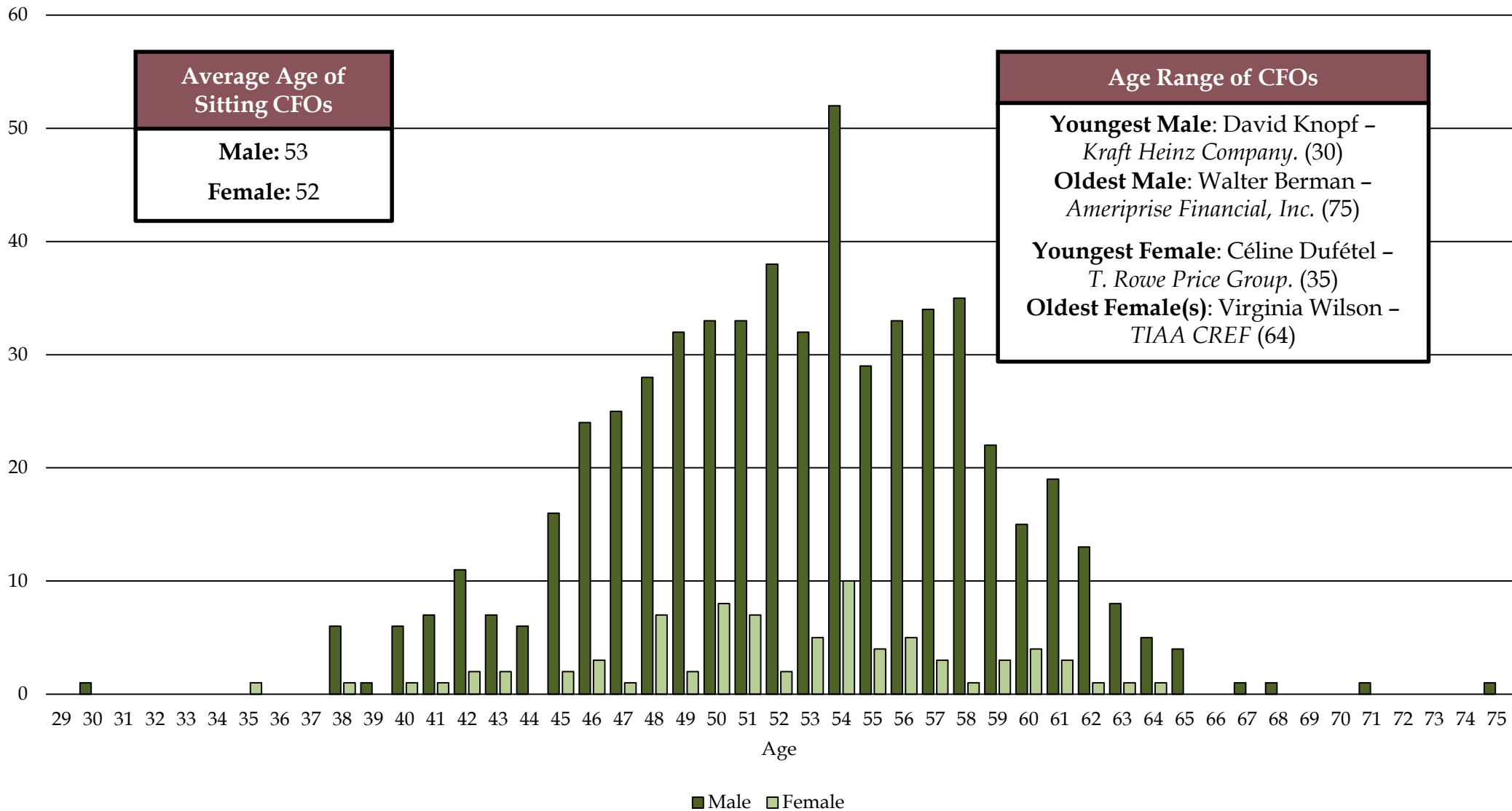
Over 60% of newly appointed CFOs were younger than 50

Age of Hire of Sitting CFOs
 2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs; 660 Known CFO Ages at Hire)



Less than 10% of CFOs are over 60 years of age

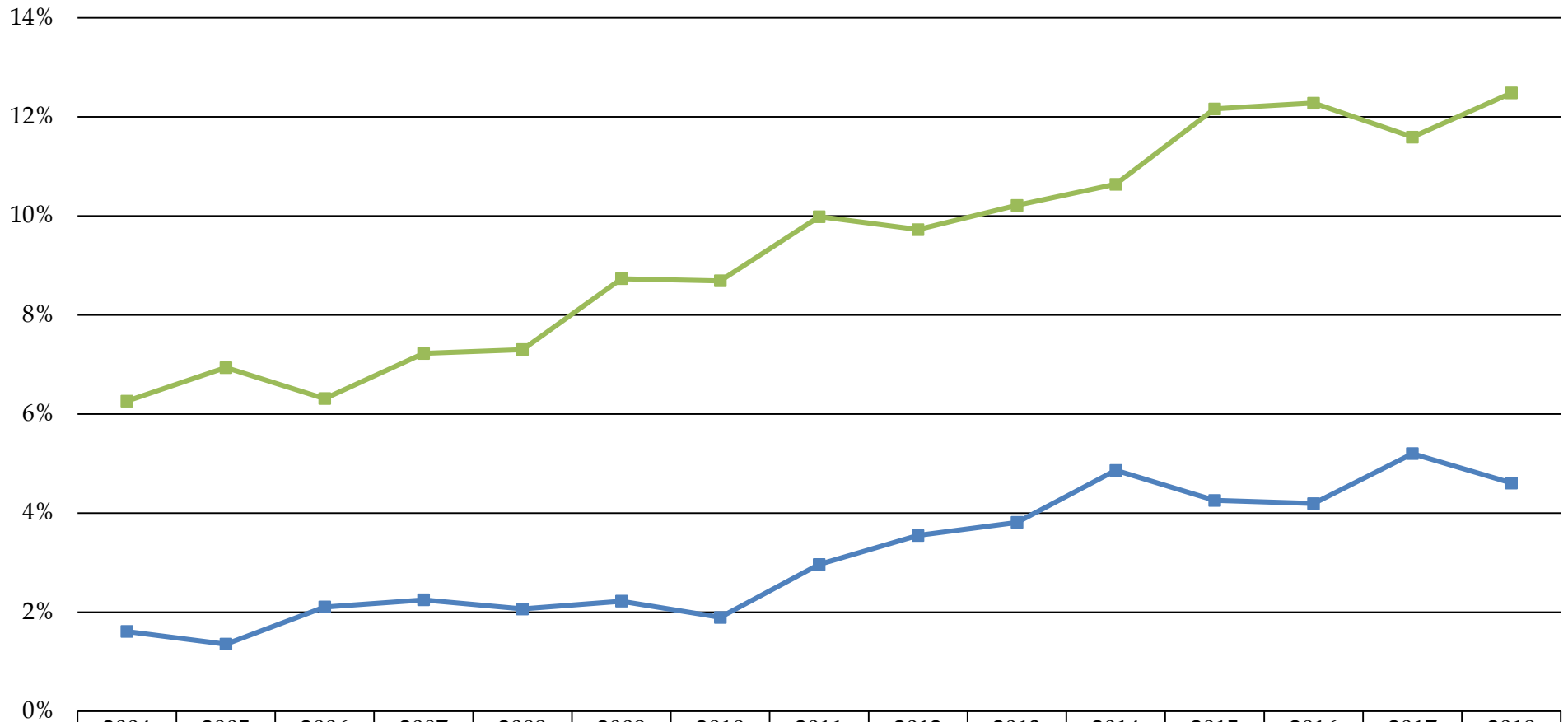
Age Distribution of Sitting CFOs
2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs; 660 Known CFO Ages)



Diversity Landscape

The number of Female CFOs has reached an all-time high

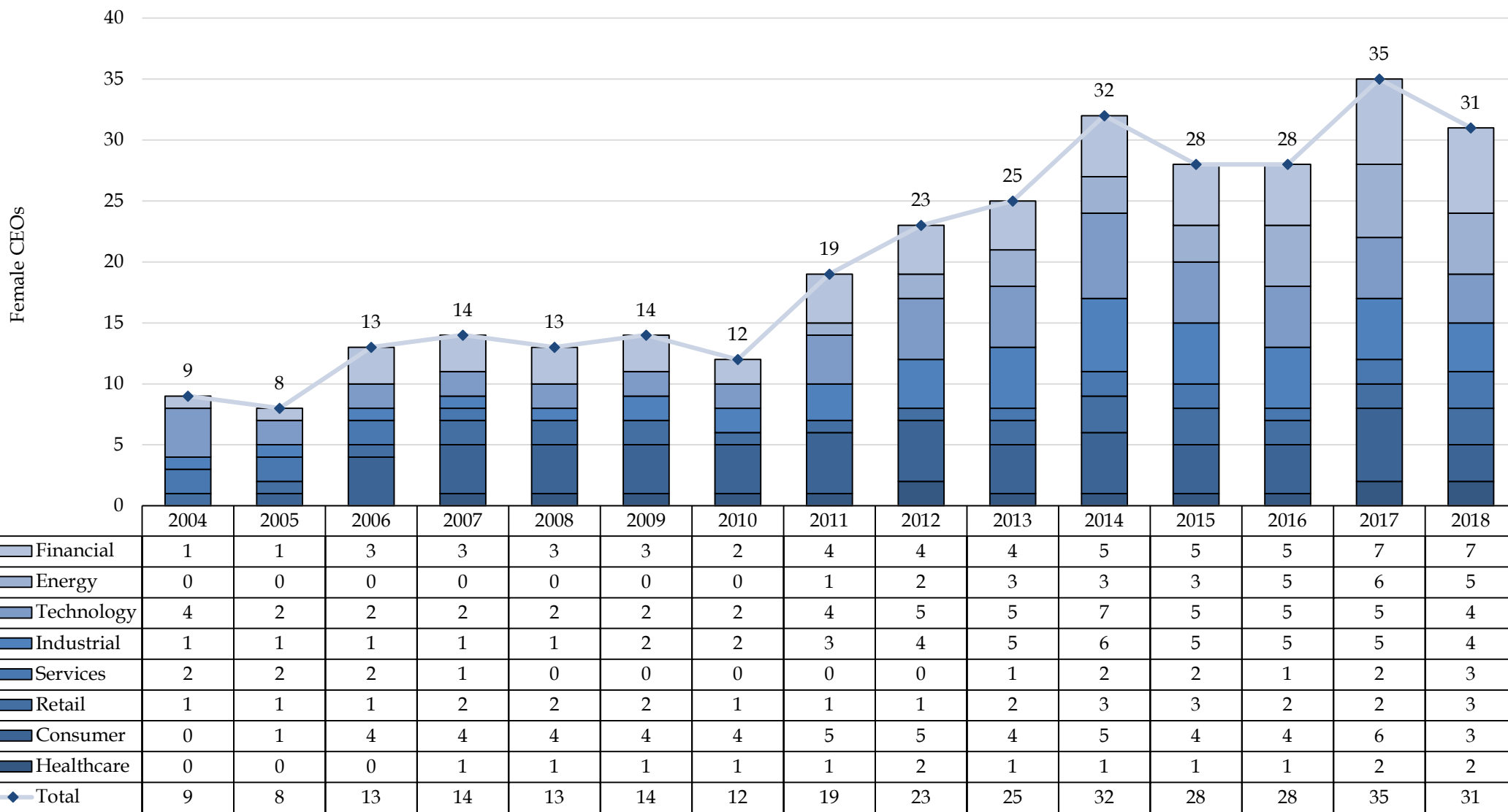
Percentages of Companies with Female CEOs or CFOs (2004-2018)
 2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs; 670 Sitting CFOs)



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CEO	1.6%	1.4%	2.1%	2.2%	2.1%	2.2%	1.9%	3.0%	3.5%	3.8%	4.9%	4.3%	4.2%	5.2%	4.6%
CFO	6.3%	6.9%	6.3%	7.2%	7.3%	8.7%	8.7%	10.0%	9.7%	10.2%	10.6%	12.2%	12.3%	11.6%	12.5%

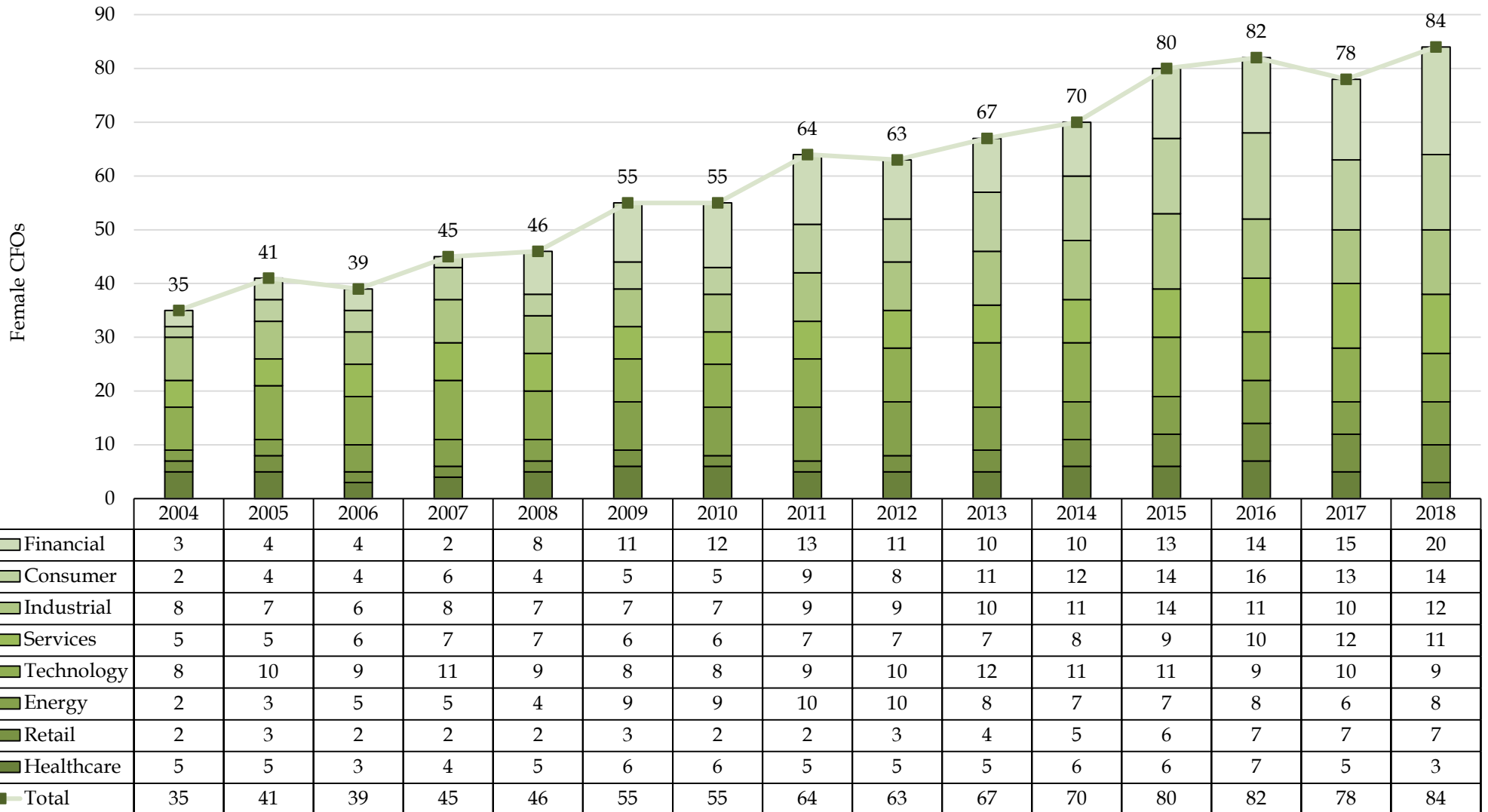
The population of Female CEOs has more than doubled in the last ten years

Number of Companies with Female CEOs by Industry (2004-2018)
2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs)



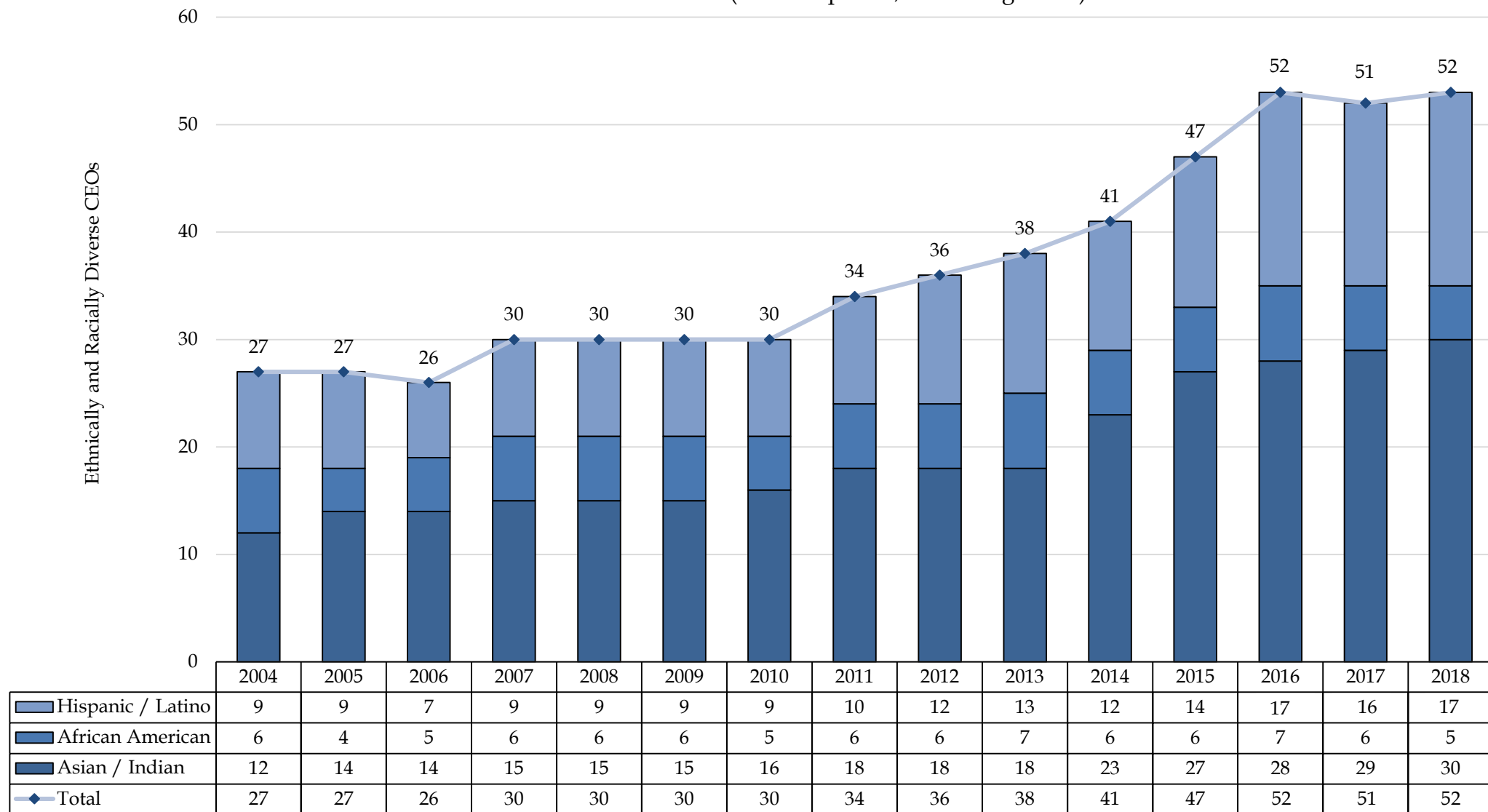
The Financial sector has the most Female CFOs

Number of Companies with Female CFOs by Industry (2004-2018)
2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs)



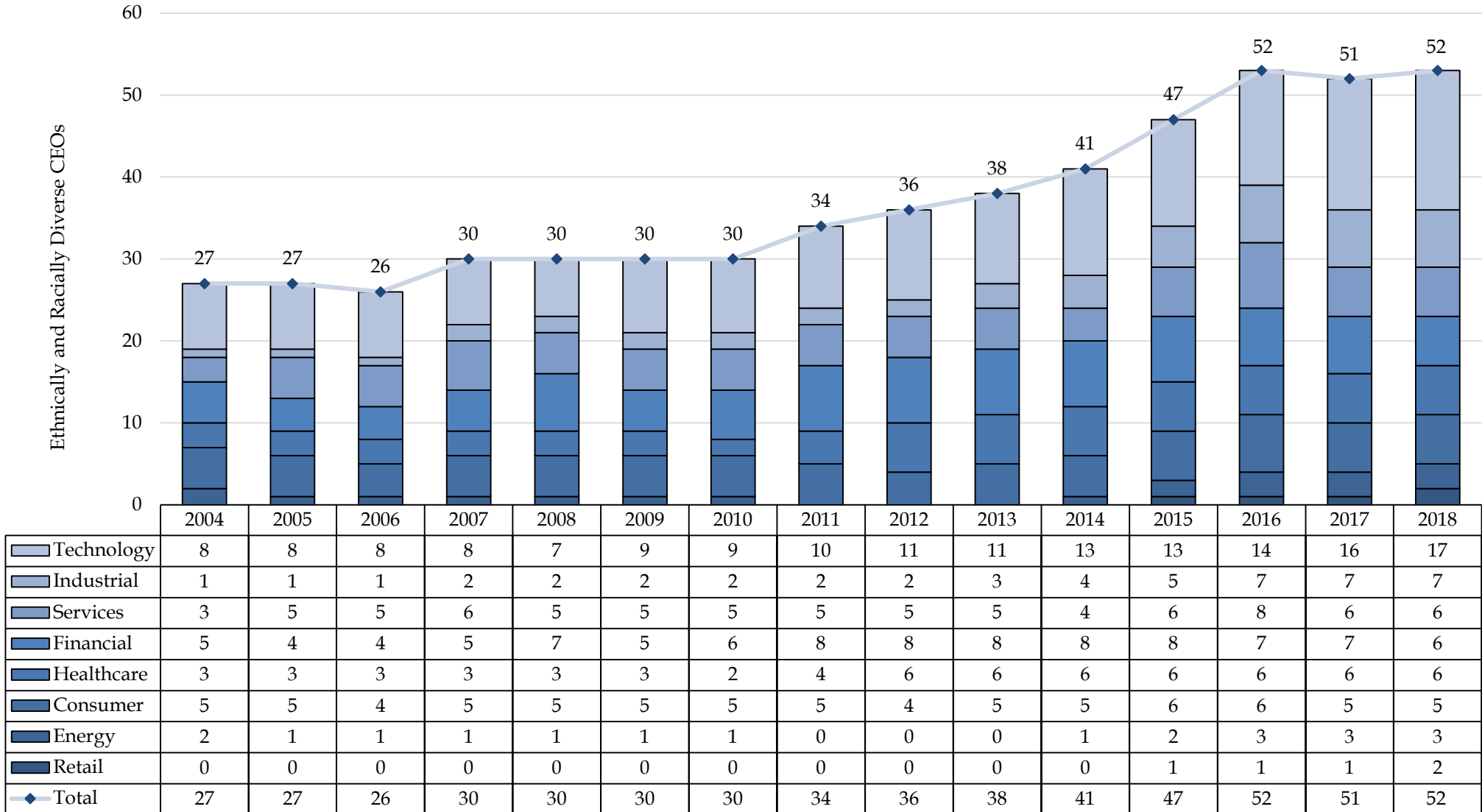
Diversity in the CEO role is at an all-time high

Number of Companies with Ethnically and Racially Diverse CEOs (2004-2018)
2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs)



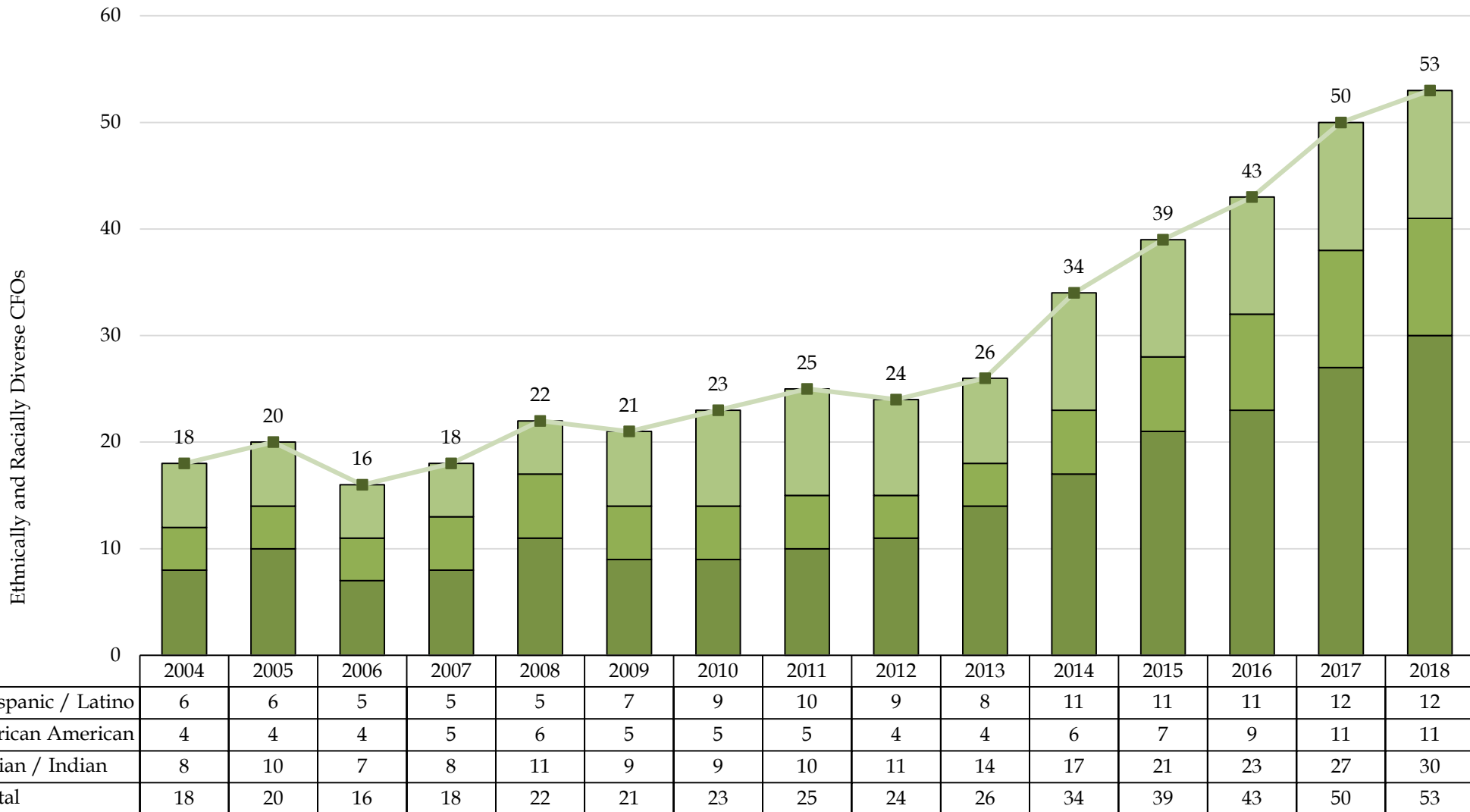
For over 10 years, the Technology sector has led in diversity at the CEO position

Number of Companies with Ethnically and Racially Diverse CEOs by Industry (2004-2018)
2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs)



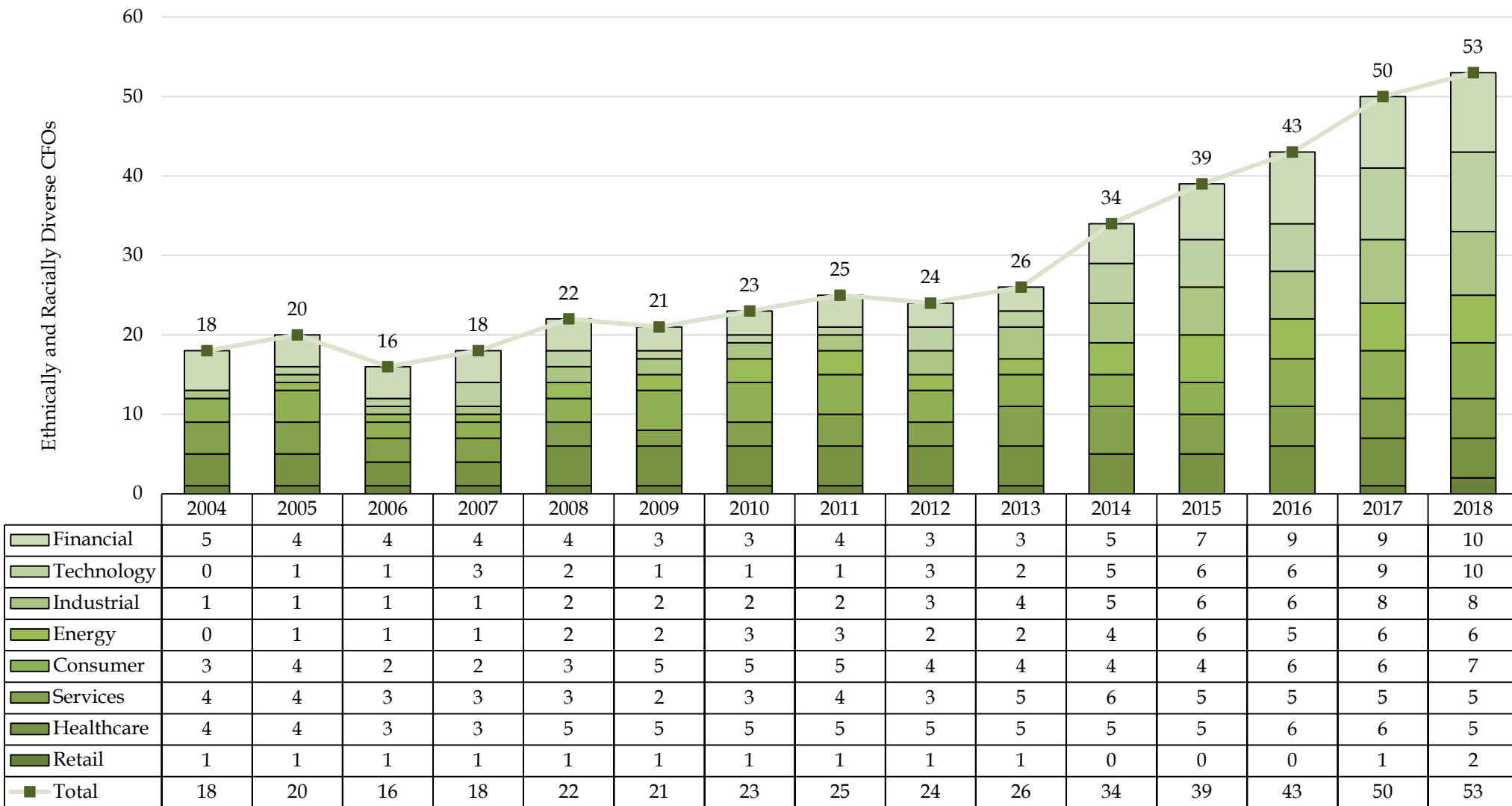
Diversity in the CFO role is at an all-time high

Number of Companies with Ethnically and Racially Diverse CFOs (2004-2018)
2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs)



The Financial and Technology sectors are diversity leaders at the CFO position

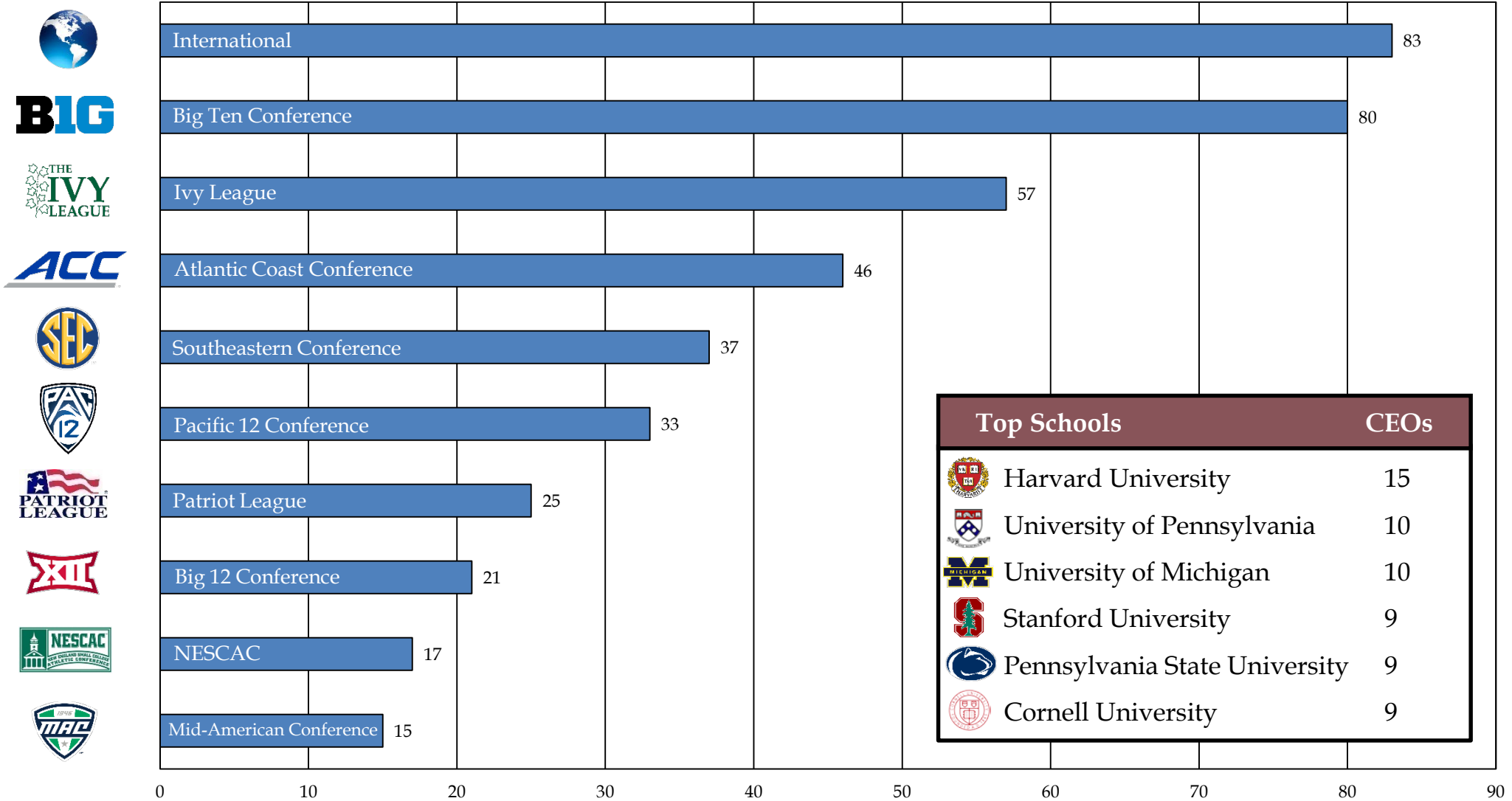
Number of Companies with Ethnically and Racially Diverse CFOs by Industry (2004-2018)
2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs)



Education Background

More CEOs come from the Big Ten Conference than any other U.S. conference

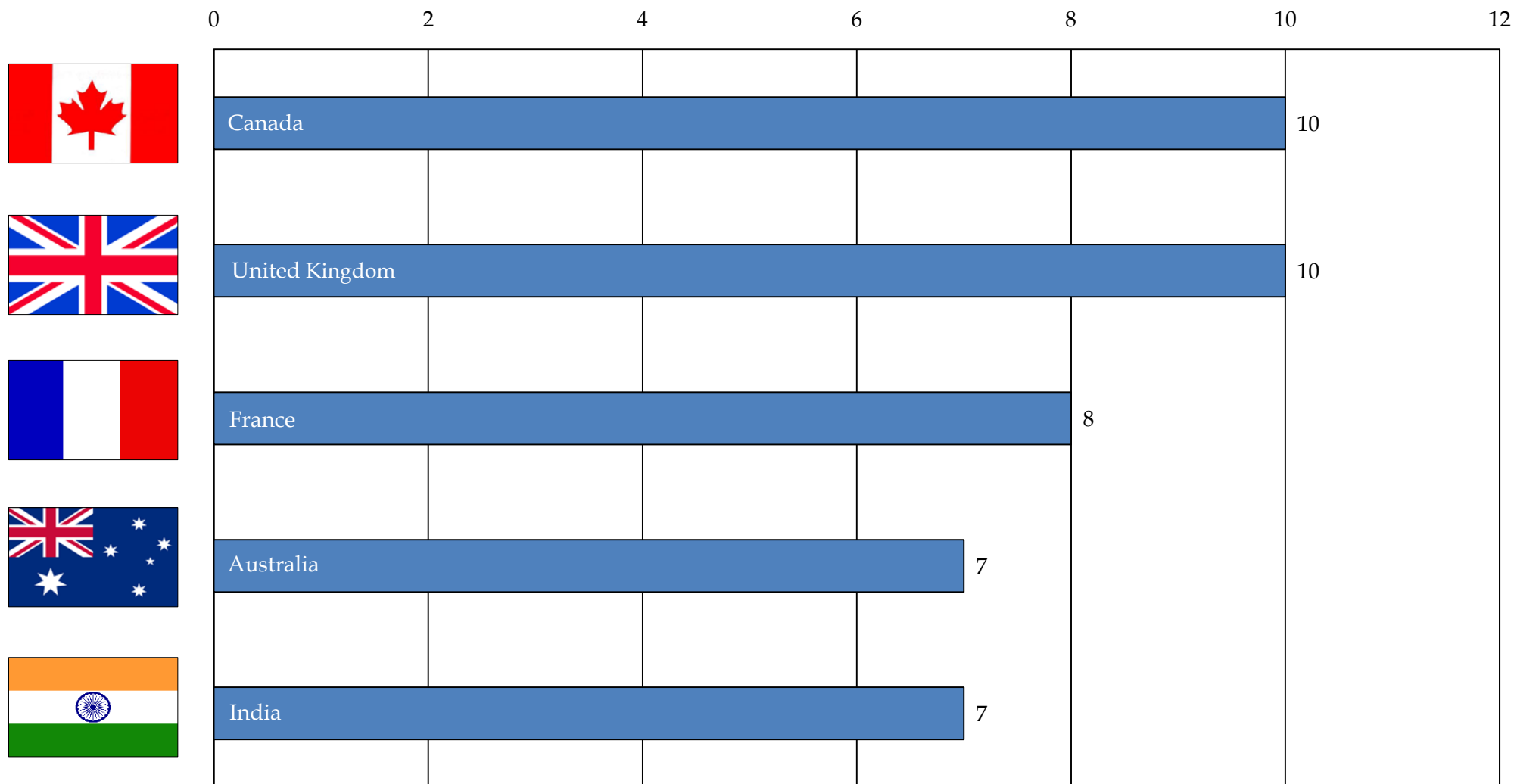
Sitting CEO Undergraduate University Conference Affiliation
 2018 Fortune 500 and S&P 500 Companies (679 Sitting CEOs; 651 Known Education Backgrounds)



Top Schools	CEOs
Harvard University	15
University of Pennsylvania	10
University of Michigan	10
Stanford University	9
Pennsylvania State University	9
Cornell University	9

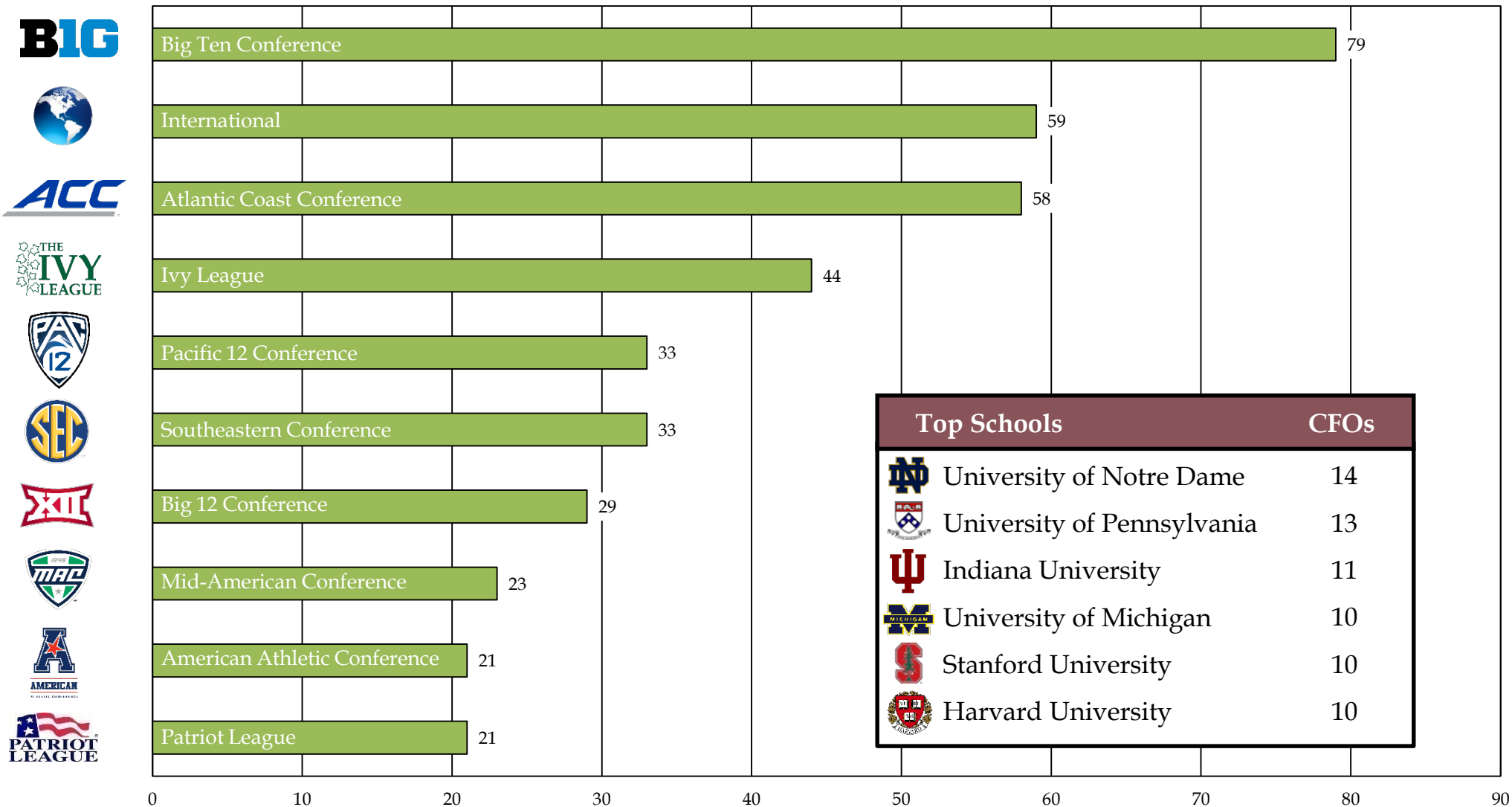
Canada and the United Kingdom are home to the most sitting CEOs of all foreign countries in this study

Top Five International Degree Producing Countries for Sitting CEOs
2018 Fortune 500 and S&P 500 Companies (679 Sitting CEOs; 651 Known Education Backgrounds)



The Big Ten Conference has claimed the most CFOs for six consecutive years

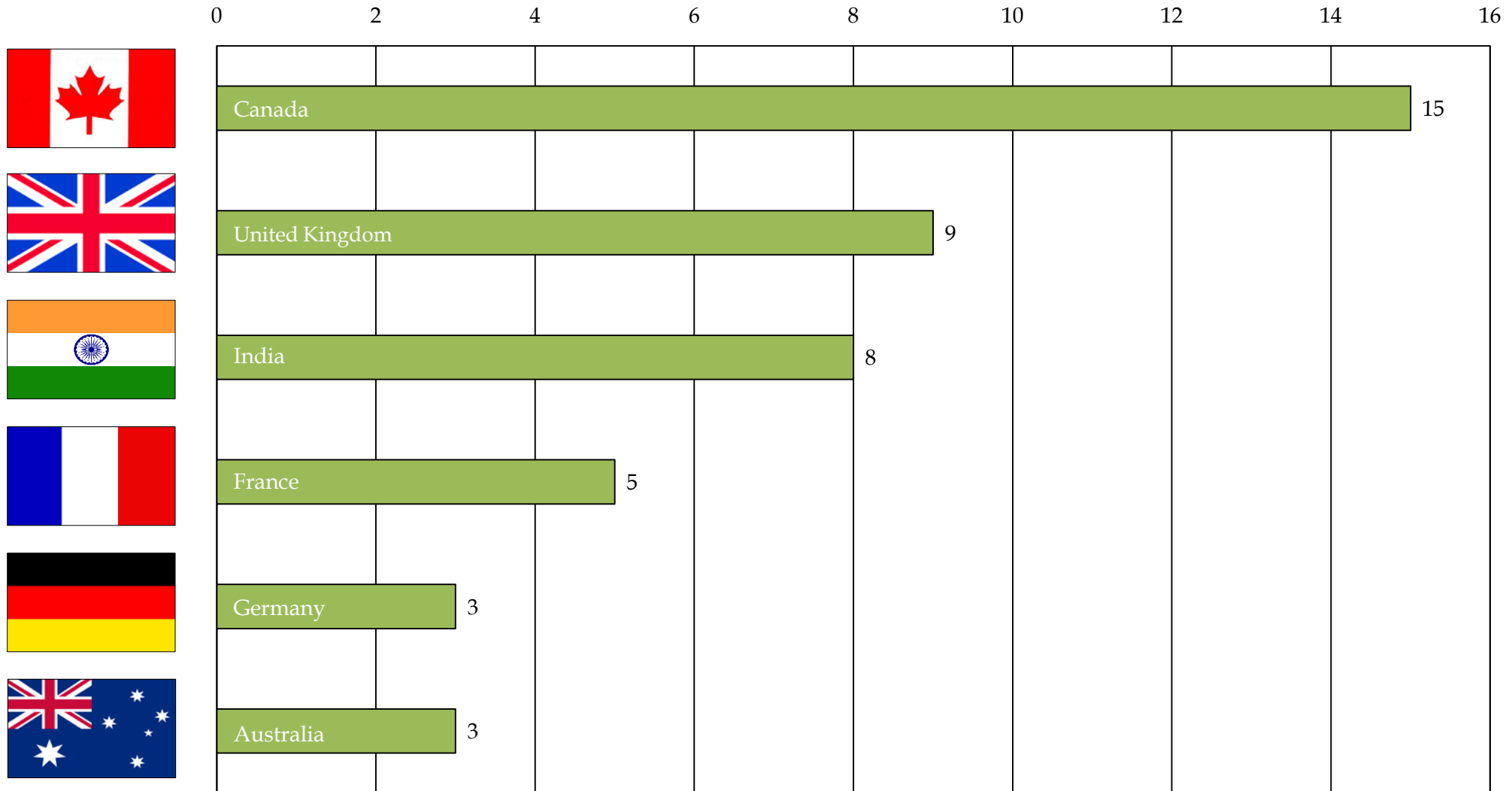
Sitting CFO Undergraduate University Conference Affiliation
 2018 Fortune 500 and S&P 500 Companies (670 Sitting CFOs; 637 Known Education Backgrounds)



Top Schools		CFOs
	University of Notre Dame	14
	University of Pennsylvania	13
	Indiana University	11
	University of Michigan	10
	Stanford University	10
	Harvard University	10

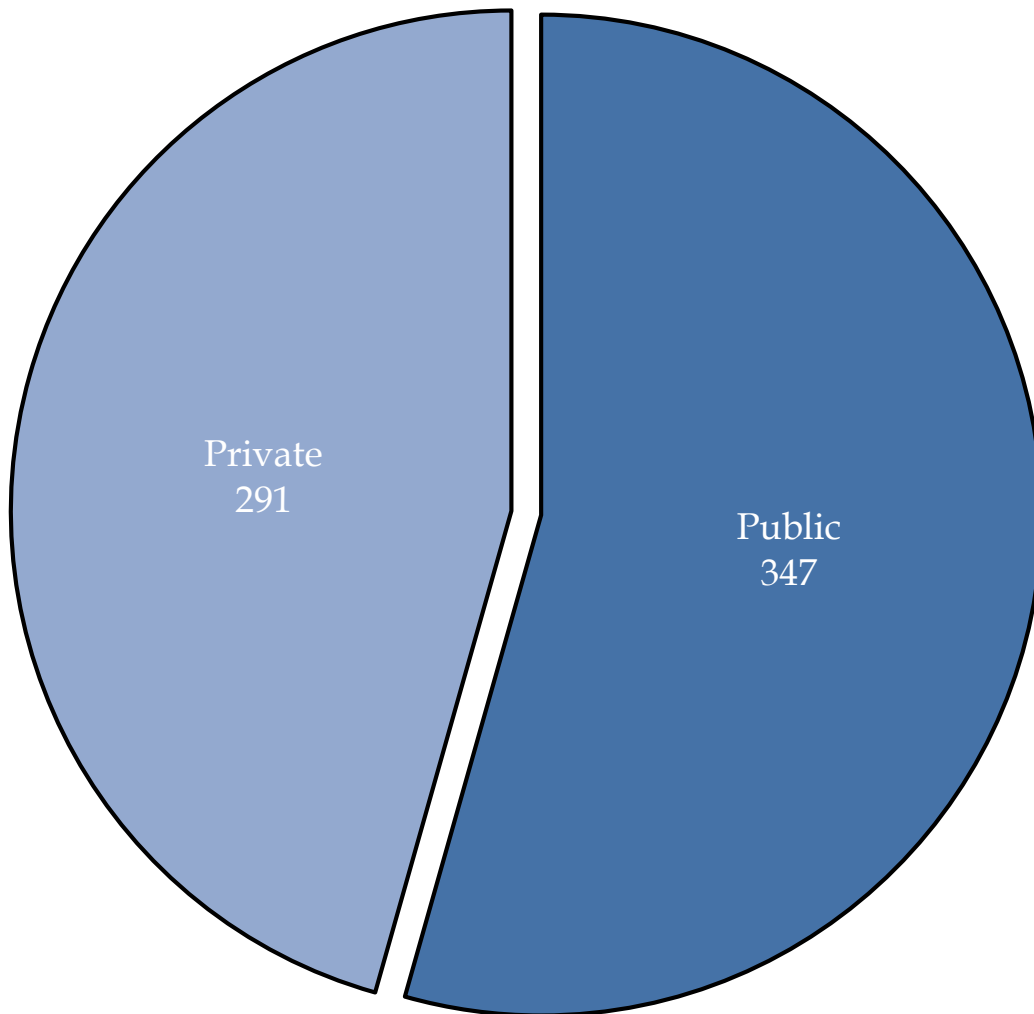
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Top Five International Degree Producing Countries for Sitting CFOs
 2018 Fortune 500 and S&P 500 Companies (670 Sitting CFOs; 637 Known Education Backgrounds)








Public universities currently produce the most sitting CEOs

Sitting CEO Undergraduate University
 2018 Fortune 500 and S&P 500 Companies (679 Sitting CEOs; 651 Known Education Backgrounds)

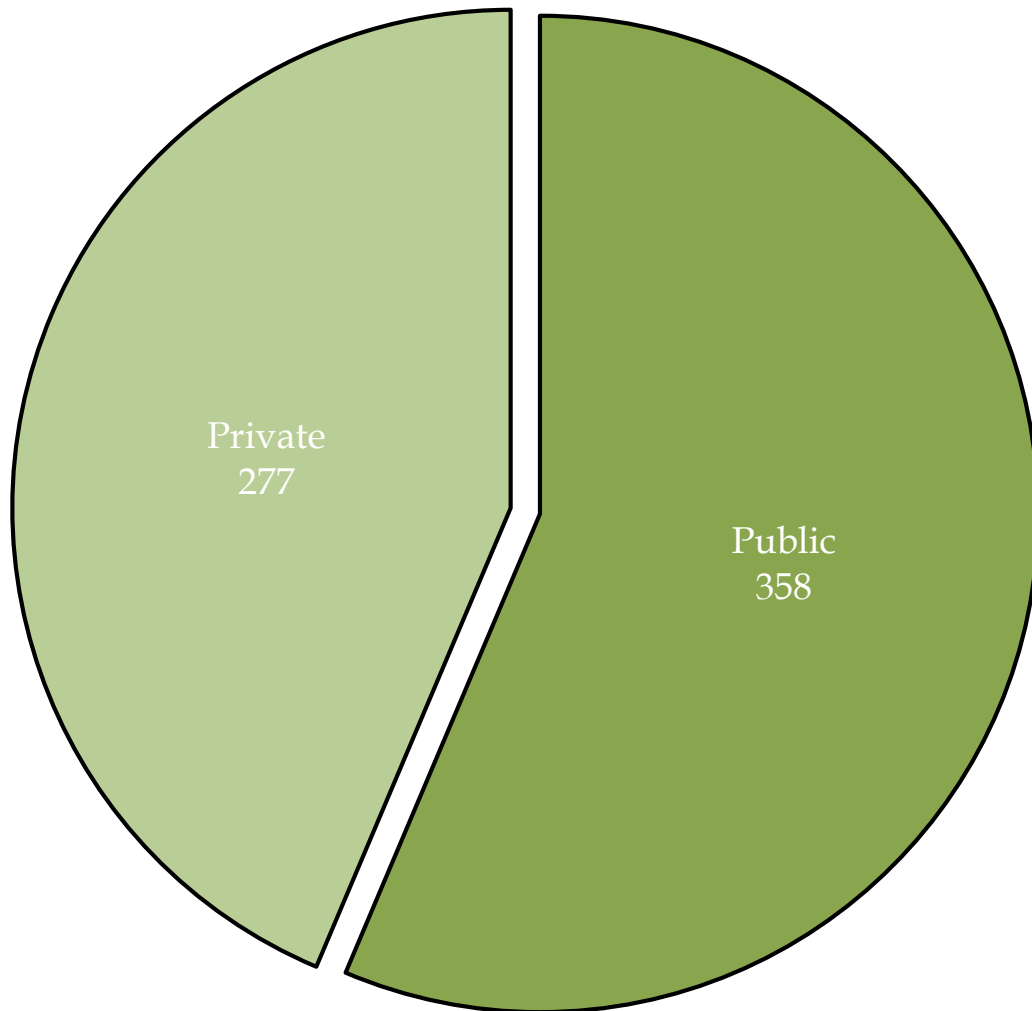


Top Public Schools	CEOs
 University of Michigan	10
 Pennsylvania State University	9
 University of Virginia	8
 Michigan State University	8
 University of Wisconsin	8






Top Private Schools	CEOs
 Harvard University	15
 University of Pennsylvania	10
 Stanford University	9
 Cornell University	9
 Princeton University	8

Public universities currently produce the most sitting CFOs

Sitting CFO Undergraduate University
 2018 Fortune 500 and S&P 500 Companies (670 Sitting CFOs; 637 Known Education Backgrounds)

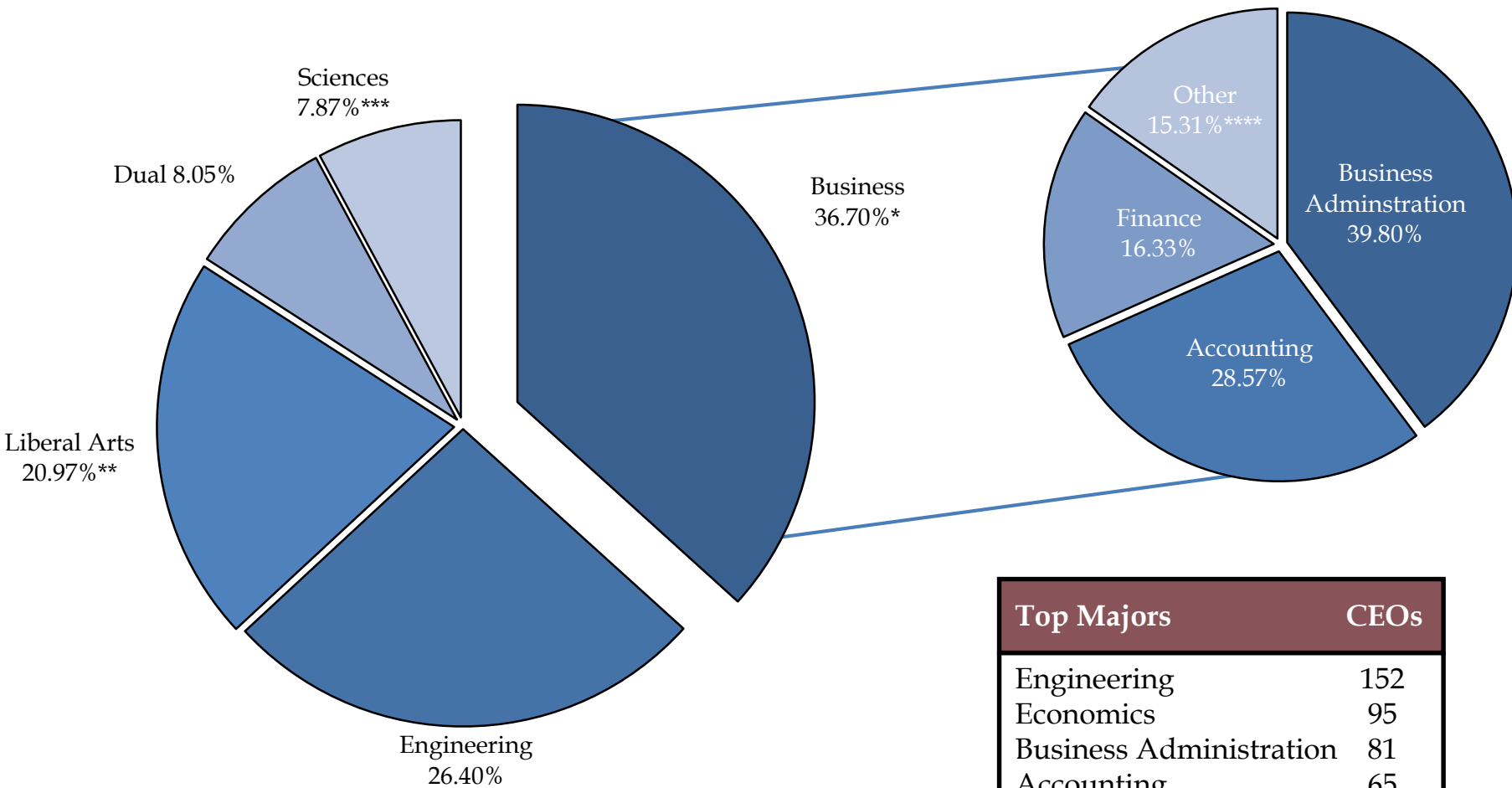


Top Public Schools		CFOs
	Indiana University	13
	University of Michigan	11
	University of Texas - Austin	10
	Pennsylvania State University	9
	University of Virginia	8

Top Private Schools		CFOs
	University of Notre Dame	15
	University of Pennsylvania	14
	Stanford University	10
	Harvard University	9
	Boston College	6

Over 60% of CEOs have an undergraduate degree in Business or Engineering

Percentage of CEOs from each Educational Background
 2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs; 651 Known Education Backgrounds)

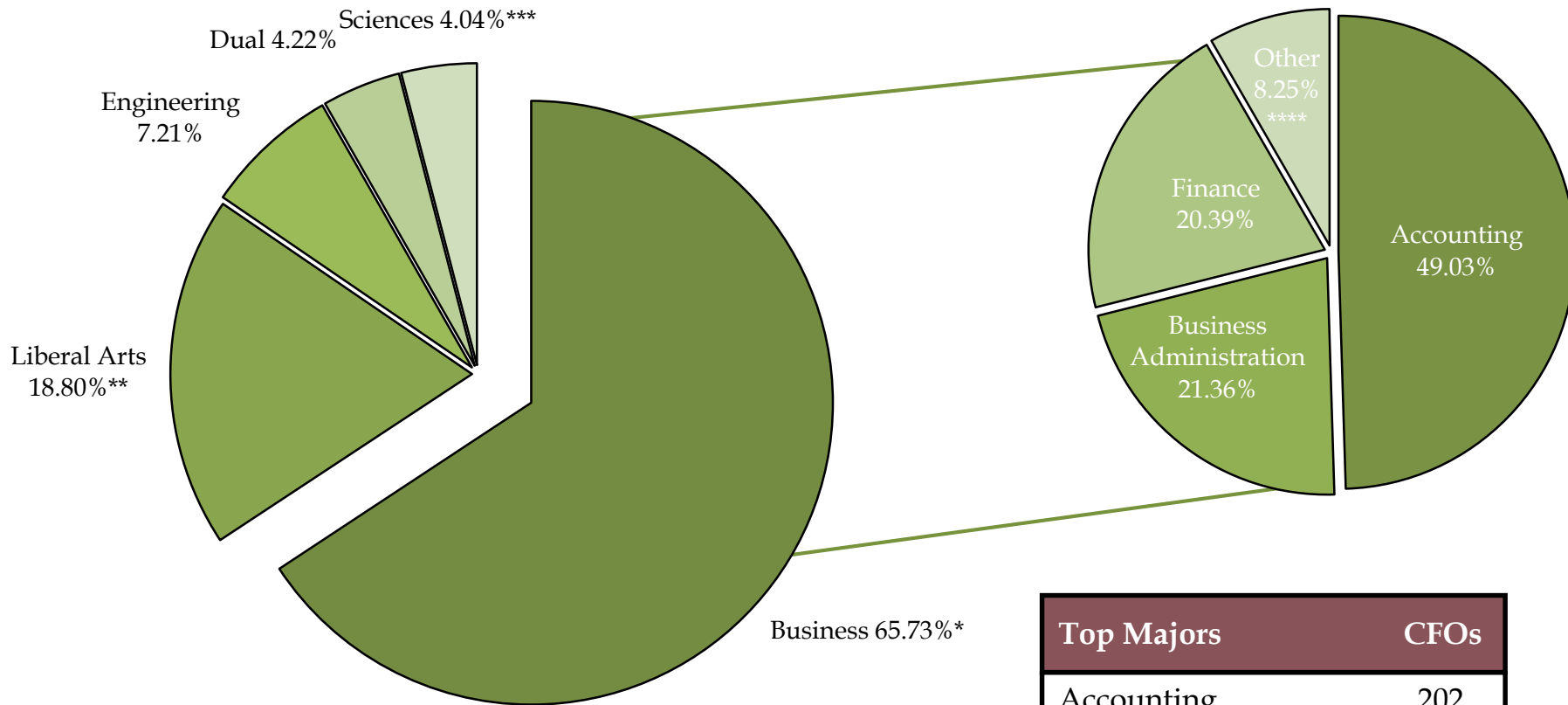


Top Majors	CEOs
Engineering	152
Economics	95
Business Administration	81
Accounting	65
Finance	33

*Accounting, Business Administration/Management, Finance, Other
 **Economics is included in Liberal Arts
 ***Mathematics is included in Sciences
 ****Marketing, International Business, Commerce, Logistics

65% of CFOs have an undergraduate degree in Business

Percentage of CFOs from each Educational Background
 2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs; 637 Known Education Backgrounds)



Top Majors	CFOs
Accounting	202
Economics	101
Business Administration	88
Finance	84
Engineering	40

*Accounting, Business Administration/Management, Finance, Other

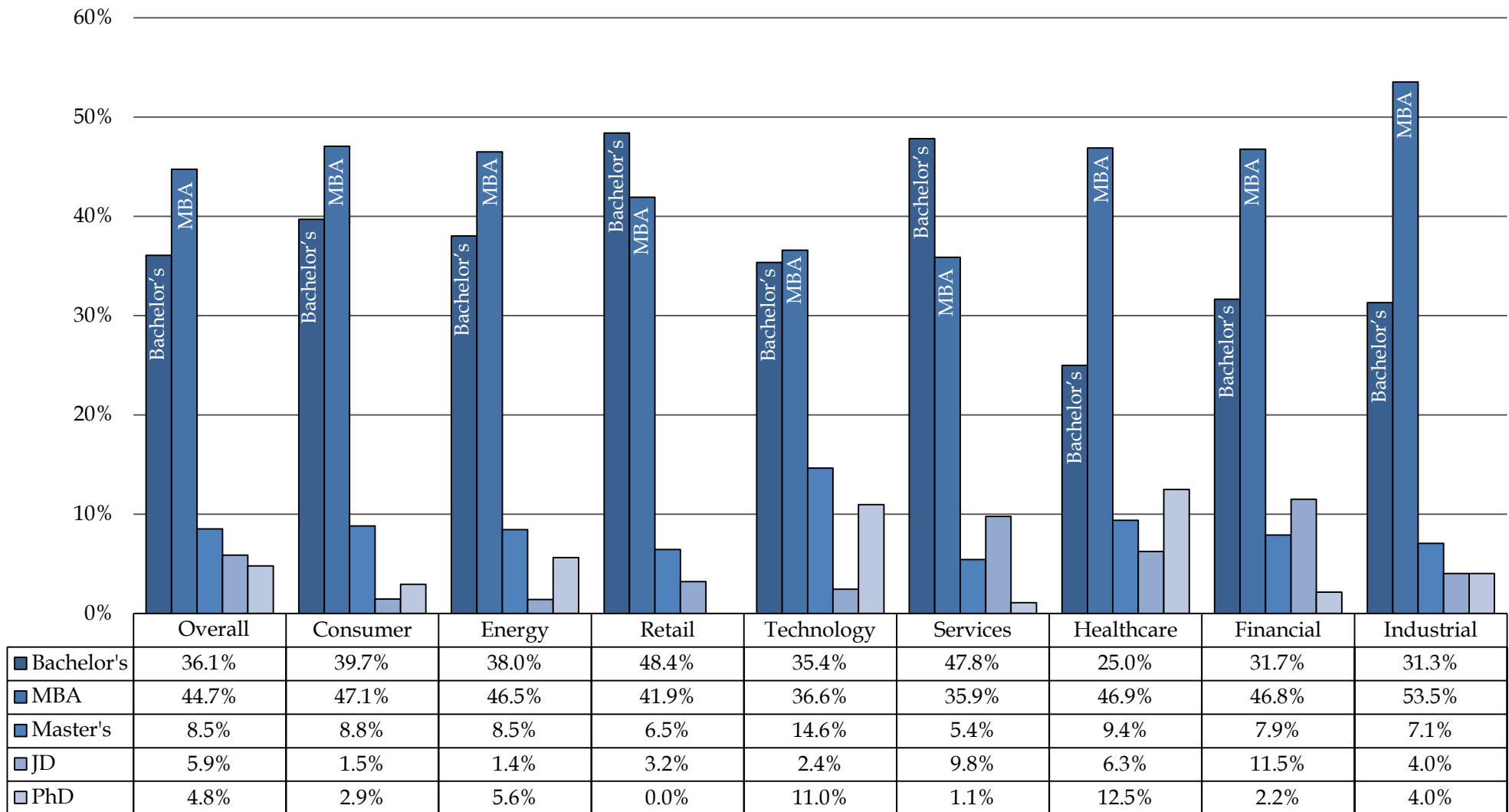
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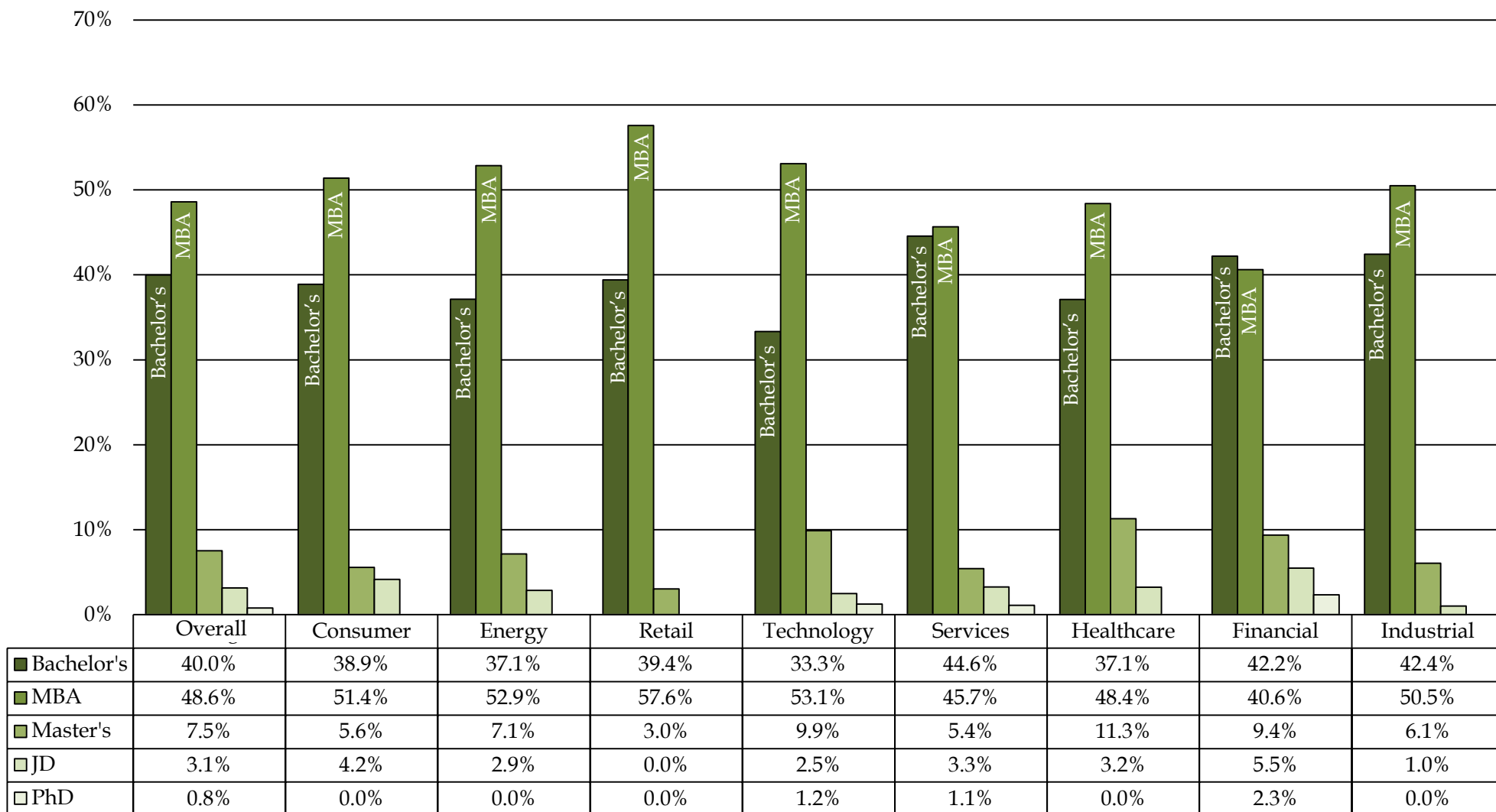
64% of CEOs possess an advanced degree

CEO Terminal Degree Educational Background
 2018 Fortune 500 and S&P 500 (673 Companies; 679 Sitting CEOs; 651 Known Education Backgrounds)



50% of CFOs hold an MBA degree

CFO Terminal Degree Educational Background
 2018 Fortune 500 and S&P 500 (673 Companies; 670 Sitting CFOs; 637 Known Education Backgrounds)



The path to the C-Suite runs through eight leading MBA programs

Top MBA Schools
 2018 Fortune 500 and S&P 500 (673 Companies; 651 CEO and 637 CFO Known Education Backgrounds)

