

NORTHWESTERN'S BOARD OF TRUSTEES IS AN OUTLIER

An analysis for the consideration of Chair of the Board Barris, University President Schill, and the Northwestern Community

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Statement about the data and the analysis

I was awarded a Ph.D. in statistical physics in Jan 1996. I have since collaborated with multiple scholars in the social and biological sciences on the analysis of empirical and experimental data. For the last few years, I have been teaching CHEM_ENG 312 – Probabilities and Statistics for Chemical Engineering. I provide in an Appendix the relevant information to check the soundness of the data and the analysis but would be happy to share the data I collected, and the Python code used to collect it.

Anonymous peer reviews

Because this report presents unpublished data and analysis, I request anonymous peer reviews from several colleagues from the social behavioral and economic sciences with a quantitative bent. I received the following response.

Report - "I am a quantitative social scientist who has been working with data for more than 25 years. I have reviewed this report and find the analysis to be sound and the inferences made to be appropriate. The report also is strikingly transparent about its sources and analytics. The results are certainly worthy of serious consideration."

If you support the conclusions of this report, and wish to add your name in support, please use the link below:

<https://forms.microsoft.com/Pages/ResponsePage.aspx?id=YdN2fXeCCEekd2ToNmzRvGNUY7VqtRVHs77LMumf23FUNDUwVDFEV0JWNFdBS1Y5RTcyWklQTVdIOC4u>

At Northwestern University, as in many other Universities, the Board of Trustees (BoT) establishes policies for the governance of the University and oversees management of the institution and its finances. Specifically, the Board selects and appoints the President of the University, has the final decision on the awarding of honorary degrees, on the promotion and tenure of faculty, and on the revision of the Faculty Handbook. The Board also sets the guidelines for investment of the university’s endowment.

At the May 4th 2022 session of the Faculty Senate, the then chair of the Board, Mr. J. Landis Martin, noted that the Board of Trustees would be undergoing a [program review](#), which at Northwestern is a “multi-faceted process that systematically evaluates each of the University’s academic and administrative units once every seven to ten years.” During program review, the Office of Administration and Planning (OAP) collects data, works with the target unit in developing a self-study, and organizes a review visit with external experts in the field as well as an internal team. At the end of their visit, the panel of external experts prepares a report, and the OAP then coordinates an implementation plan for the report’s recommendation and conducts follow-up reports.

Because the program review is a closed process, and because the Board plays such a critical role in overseeing the institution, I believe that it is critical that our faculty, staff and students be made aware of how the structure and governance of our board compares to the boards of peer institutions and to the recommendations of experts. While not the only possible reference point, I use a recent report by McKinsey & Company titled ‘[Shaping university boards for 21st century higher education in the US](#)’ as a benchmark for evaluation. In the section ‘Redefine Board structure,’ the McKinsey Report states:

... good board systems are smaller (consisting of about 20 to 25 members [...]) and more effective, generationally diverse, have clear term limits and lengths, and consist of members representing a varied set of capabilities. (p. 5)

Let us then see how Northwestern’s Board of Trustees compares to other boards and to this benchmark, so that the program review might probe the benefits of restructuring the current Board. The following analysis compares the Northwestern’s board to the boards of 19 private peer universities, using publicly available data. Table 1 presents the list of peer institutions and their board size. The Appendix lists the coding categories used in assessing a Trustee’s professional background. The raw data and python coding are available upon request.

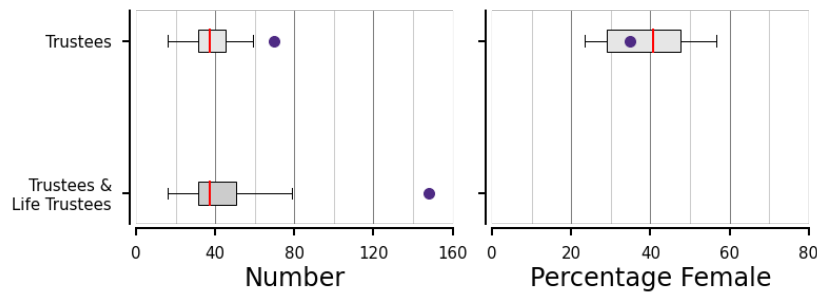
Table 1. The Twenty Private Universities included in analysis (number of trustees + number of life trustees, if different from zero). Only 3 other institutions, besides Northwestern, appoint life trustees.

Brown University (46)	Caltech (59 + 20)
Columbia University (21)	Cornell University (59)
Dartmouth College (24)	Duke University (35)
Harvard University (30)	Johns Hopkins University (34)
MIT (42 + 25)	Northwestern University (70 + 78)
Princeton University (37)	Rice University (26)
Stanford University (33)	Tufts University (40)
University of Chicago (47)	University of Notre Dame du Lac (37)
University of Pennsylvania (54)	University of Southern California (33 + 40)
Washington University of St. Louis (45)	Yale University (16)

Board Size & Gender Diversity. Northwestern’s BoT includes two categories: trustees¹ and life-trustees. My first analysis compares the size of boards of our peer institutions both excluding and including life-trustees. As Figure 1 demonstrates, Northwestern’s BoT (purple dot) is about 3 times larger than McKinsey’s recommended size, and nearly twice as large as the median board-size of our peer institutions (red line). The boxes represent the range between 25% and 75% of the sizes observed, while the lines extending outward from the boxes capture the range of expected board sizes given the data’s statistical characteristics. The purple dots show that the size of Northwestern’s board is outside the statistically expected size, and thus that Northwestern’s BoT is a significant size-outlier.

Another way that Northwestern is atypical is that it is one of only four institutions in the studied cohort that appoints life trustees. When including life trustees, the size of our board is even more exceptional: nearly four times as large as the median size of other boards (red line), and nearly twice as large as the second largest board.

Figure 1. Sizes of board of trustees and female representation across 19 top private universities and comparison to Northwestern’s BoT. Three of these 19 universities – and Northwestern – appoint life trustees.



Northwestern also does not have as much gender diversity² as many of our peers. Even excluding the less diverse life trustees, Northwestern’s BoT still includes only about 34% females (purple dot), which is below the median value for the boards our peer institutions (red line). While Northwestern is not an outlier when it comes to gender diversity, given the large size of our board and the possibilities it offers diversification, one might question whether the Northwestern community should be happy with the current level of gender diversity especially considering that female students are now a majority in ours and many other campuses.

Varied Set of Board Capabilities. McKinsey’s report notes that for many BoTs the composition and the design of boards has not been adjusted for the twenty-first century environment. BoTs typically provide expertise in the fields of higher education, non-profit management, and in the management of the endowment. In addition, because universities are expected to prepare students for work in varied occupations, BoTs could be expected to include members from varied occupations. For institutions such as Northwestern, meaning institutions that include schools in Business, Communication, Education, Engineering, Journalism, Law, and Medicine, we might further expect representation based on the occupations covered by their schools. Figure 2 categorizes trustees based on their listed or inferred professional backgrounds, and it places Northwestern’s BoT in comparison to the cohort of trustees at the other 19 institutions. The figure demonstrates that BoTs trend towards having many representatives from

¹ Some Boards appoint both Trustees and Fellows. Fellows may be appointed for longer terms and have additional responsibilities.

² Due to data limitations, comparisons of race and non-binary gender categories could not be included. Following standard practices, trustee gender was assessed through a statistical analysis that draws on demographic data associated with first names. Where a gender could not be guessed from a name, the author drew on photos or descriptive use of gendered pronouns.

the fields of finance and consulting. That said, Northwestern stands out for having a finance-heavy and education light BoT.

Figure 2. Distribution of professional backgrounds of 692 trustees appointed across 19 private universities. The gray bars display the percentage of trustees across the 19 peer universities with the named professional background. The purple bars display the percentage of the 68 Northwestern trustees with the named professional background. Data do not include life trustees. In 20 cases for the other universities and 2 for Northwestern, it was not possible to ascertain a professional background.

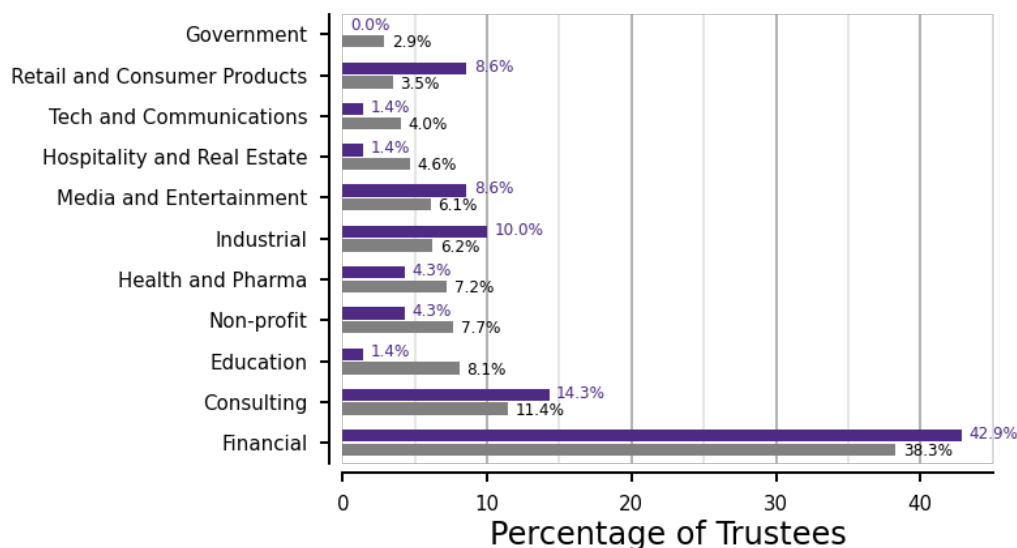


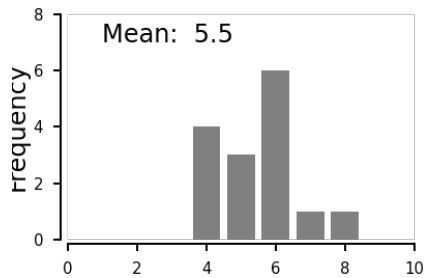
Figure 2 demonstrates that over half of Northwestern’s board have professional backgrounds in finance and consulting. This is especially noteworthy given the large size of Northwestern’s board. With a 70-member board, any individual trustee changes the representation of any category by a mere 1.4%. This means that Northwestern is not only relatively finance and consulting heavy, finance and consulting dominate Northwestern’s BoT in absolute terms and, in all likelihood, on every advisory and decision-making committee within the BoT. Meanwhile, most BoT committees at Northwestern will lack any representation from a Trustee with a background in higher education, non-profit, health, tech or government.

Term Limits. McKinsey’s report of good board practice recommends term limits, noting that “without term limits or rules around term lengths, it can be difficult to foster change and create opportunities for new leaders.” (p. 7). Many universities do not explicitly state the terms of their trustees, although sometimes one can infer a term length from press releases announcing new board appointments. Even if terms are delimited, several universities appoint some trustees to two or more consecutive terms.

For Northwestern, it is unclear what the term limit is. The category of “Life Member” suggests that for a segment of the board, the term has no end date. Northwestern and a few other universities also seem to appoint children and spouses of trustees to the board, which again suggests that certain board members may become super trustees with built-in constituencies and unequalled influence.

Figure 3 displays the data for the 15 universities where term limits were ascertainable. For these universities, the average term was 5.5 years, with a mode of 6 years. The McKinsey report identifies several reasons why term limits, or a lack thereof, may affect a Board. Some concerns include a lack of up-to-date expertise and relevant training, risks that arise from long term membership, and the difficulty that new members may have in asserting board leadership. That said, the bottom line seems to be that universities need to decide and balance priorities when it comes to board composition.

Figure 3: Term limits on Boards of Trustees. Term limit information was ascertainable for 15 of the 20 universities in this analysis.



The dominance of finance and consulting on Northwestern’s BoT poses several concerns. One issue is the potential for conflict of interests in decisions about real estate, construction, the purchase of services or software, or the hiring of consultants. A second issue is whether financial decisions are always disinterested. Conflict of Interest policies and firewalls can mitigate these concerns, yet the combination of unlimited terms and the dominance of certain backgrounds makes these concerns worthy of serious consideration. A third concern is that the combination of consulting and finance backgrounds and the BoT size means that significant additions, such as adding five or even ten trustees with diverse backgrounds, may do little to affect committee or board demographics and dynamics.

Looking ahead. Top research universities are places of learning, teaching, sharing, and creating. Universities today are also facing new challenges, including the changing nature of student bodies, heightened international competition, and a more complex health, political, financial and security environment. Boards of Trustees can play a critical role in guiding universities provided they have the required diversity of thought and experience.

It is fortuitous that this academic year Northwestern is both welcoming new leaders (President Schill and BoT Chair Barris) and that the Board is going through Program Review. This confluence of events offers a unique opportunity to critically reflect whether better governance could have helped Northwestern more successfully navigate the difficult moments that it has faced, including the downgrading of Northwestern’s financial rating, the controversies surrounding the cheer team and the appointment of the VP of Athletics, the declining investments in faculty, the loss of competitiveness of salaries, and the lack of investment in facilities for the social sciences. While the Board of Trustee’s self-study and review will presumably remain confidential, in this case, we believe that shared governance requires that the Northwestern community learns the reasoning that stands behind any decision to keep or change its unusual structure and composition.

Appendix:

Classifying Board Members

Affiliations classified as 'Government.'

'City of Boston', 'City of Oakland', 'District of Minnesota', 'Federal Reserve Bank of Atlanta', 'Federal Retirement Thrift Investment Board', 'New York State Supreme Court', 'State of Illinois', 'State of Kansas', 'Superior Court of the District of Columbia', 'US Air Force', 'US Congresswoman', 'US Court of Appeals', 'US Court of Appeals for the Second Circuit', 'US Department of Education', 'US Department of Transportation', 'US Department of Treasury', 'US Food and Drug Administration', 'US Navy'

Affiliations classified as 'Tech and Communications.'

'AT&T Services', 'Ambarella', 'Anaplan', 'Apple', 'Arena Analytics', 'Audible', 'BlackBerry', 'Comcast Co', 'Confluent', 'Exegy', 'Glenair', 'Google', 'IBM', 'IBM Co', 'Kacchip', 'Microsoft', 'Microsoft Co', 'Mundivox Communications', 'Neeva', 'PubMatic', 'Qualcomm', 'RedSeal', 'Sidewalk Labs', 'TierPoint', 'Workday', 'Yahoo'

Affiliations classified as 'Retail and Consumer Products.'

'Amazon', 'Aramark Co', 'Archer Daniels Midland Co', 'Belleza Home and Garden', 'CDW Co', 'Coca-Cola Beverages Florida', 'E and J Gallo Winery', 'Estee Lauder Companies', 'FEMSA', 'Fair Oaks Foods', 'Johnson and Johnson', 'Kaehler Luggage', 'Kellogg Co', 'McDonald's', 'My-T Acres', 'Panda Restaurant Group', 'Passion Growers', 'Reyes Holdings', 'Sauce', 'Schnuck Markets', 'Seneca Foods', 'Summersalt', 'Walmart', 'Whole Earth Brands', 'Williams-Sonoma'

Affiliations classified as 'Hospitality and Real Estate.'

'Arnel Development', 'Bernstein Companies', 'Cal-American', 'CarDon and Associates', 'Carnival Co', 'Caruso', 'China Fortune Land Development', 'Citrine Investment Group', 'Cordish Companies', 'Four Seasons Hotels and Resorts', 'Grounds Anderson', 'HMTX Industries', 'Hilton Worldwide', 'Hyatt Hotels Co', 'IEDIFIKO', 'Invitation Homes', 'JLL Hotels and Hospitality', 'Jamison Realty', 'Kennedy Wilson', 'Marcus Partners', 'NAIOP Massachusetts', 'Northwood Investors', 'Ogden CAP Properties', 'Plastpro', 'Starwood Property Trust', 'Sunset Development Co', 'Triton Atlantic Partners', 'Vanir', 'Ventas', 'Virtual Realty Enterprises', 'W P Carey', 'Zillow'

Affiliations classified as 'Media and Entertainment.'

'Boston Ballet', 'CL3 Architects', 'CNN', 'CandyBomber Productions', 'Chicago Bulls', 'Common Sense Media', 'Deep Blue Productions', 'ESPN/PTI', 'Emmis Communications', 'Facebook (Oculus)', 'Fenway Sports Group', 'FullSky Partners', 'Fuller Project for International Reporting', 'Gensler', 'HBO', 'HBO/HBO Sports', 'HOK', 'JJJ Fitness', 'Jill Furman Productions', 'Legal Times', 'Lionsgate', 'Lionsgate Entertainment', 'Metropolitan Opera', 'Minneapolis Star', 'Minnesota Public Radio', 'NBA', 'NBC', 'NCSOFT', 'National Basketball Association', 'News UK', 'Sane Designs', 'Studio Echelman', 'Sutton Communications', 'Turner Broadcasting System', 'Twentieth Century Fox Film (TCFF)', 'US Women's National Team and Sky Blue Football Club', 'USA Today; ABC News; CNN', 'WCAU NBC 10 News', 'Walt Disney Studios Motion Picture Production', 'Warner Bros Pictures', 'Washington Post', 'Ziff Davis'

Affiliations classified as 'Industrial.'

'ASUR', 'Boeing Co', 'Callan Petroleum Co', 'Carbon', 'ChampionX', 'Directional Aviation Capital', 'Double Eagle Distributing', 'Dupont', 'EPC Co', 'Econolite Control Products', 'Edison International', 'EnerG-ID Solutions Co', 'Enterprise Product Co', 'Essential Utilities', 'Exelon Co', 'Ferrovia SA', 'Folger Energy', 'GE Renewable Energy', 'General Dynamics', 'General Motors Co', 'HEICO Co', 'HM International', 'HNA Group North America', 'Herrick'

Co', 'Hunter Engineering Co', 'Illinois Tool Works', 'Invenergy', 'Keytrade AG', 'Midstream Partners', 'Northrop Grumman Co', 'OCI NV', 'Orbital ATK', 'PT Arwana Citramulia Tbk', 'Penn Resources', 'Select Energy Services', 'Space Exploration Technologies Co', 'Spartan Light Metal Products', 'Stellar Solutions', 'Tile Shop Holdings', 'Tireco', 'Transocean', 'UL', 'United Airlines', 'United Airlines Holdings', 'Wanxiang America Co', 'Washington Gas', 'WaterSaver Faucet Co', 'Wheels'

Affiliations classified as 'Health and Pharma.'

'Aaron Diamond AIDS Research Center', 'Abbott', 'Addgene', 'Africa Health Holdings', 'After Hours Pediatrics', 'Air Liquide and ARMGO Pharmaceuticals', 'Amgen', 'BJC HealthCare', 'Banner Health', 'Biocon Limited', 'Boston Children's Hospital', 'Boston Medical Center', 'Brigham and Women's Hospital', 'Bristol-Myers Squibb', 'Celgene Co', 'Cerevel Therapeutics', 'Children's Hospital of Philadelphia', 'Cygna Therapeutics', 'Dentalia Clinics (Jeddah)', 'Devoted Health', 'East End Periodontics', 'Henry Ford Health System', 'Heritage Provider Network', 'Home Care Assistance', 'Immunocore', 'InCarda Therapeutics', 'Iora Health', 'MTM', 'Masimo Co', 'Massachusetts General Hospital', 'Medical Imaging of Lehigh Valley', 'Merck and Co', 'NYU Langone Health', 'NanoString Technologies', 'National Board of Medical Examiners', 'Nektar Therapeutics', 'Neuspera Medical', 'New York-Presbyterian Hospital', 'Northwestern Memorial HealthCare', 'Oral Diagnosis', 'Parseghian Medical Research Foundation', 'Pharmacovigilance', 'Precision For Medicine', 'Sanofi', 'Sumitovant Biopharma', 'UnitedHealthcare', 'WellPoint', 'WellStar Health System', 'inVentiv Health'

Affiliations classified as 'Non-profit.'

'AFL-CIO', 'Ahmanson Foundation', 'American Association for the Advancement of Science', 'American Jewish Committee', 'Annenberg-Dreier Commission', 'Big Brothers Big Sisters of Essex Hudson and Union Counties', 'Bloomberg Philantropies', 'Blue Star Families', 'Carlson Family Foundation', 'Civil Rights Corps', 'Consumer Reports', 'Corporate Leadership Center', 'Dallas County Promise', 'David Bohnett Foundation', 'Design Connect Create', 'Duchossois Family Foundation', 'Education Pioneers', 'Education Trust', 'Emerson Collective', 'Environmental Defense Fund', 'Girls Who Code and Marshall Plan for Moms', 'Gordon and Betty Moore Foundation', 'Hassenfeld Family Initiatives', 'Ithaca S&R', 'J Paul Getty Trust', 'Joyce Ivy Foundation', 'Julie Beren Platt and Marc E Platt Foundation', 'Management Leadership for Tomorrow', 'Mansueto Foundation', 'Markle Foundation', 'Marriage and Family Therapist', 'Micron Technology Foundation', 'Mills River United Methodist Church', 'NC-Conference - Raleigh Area', 'Schmidt Futures', 'Service Employees International Union', 'Shirley Proctor Puller Foundation', 'Sperling Family Charitable Foundation', 'Stavros Niarchos Foundation', 'United Way for Southeastern Michigan', 'Unknown', 'Walton Family Foundation', 'William Penn Foundation', 'Yellow Chair Foundation'

Affiliations classified as 'Education.'

'American University in Cairo', 'Arizona State University Enterprise', 'Art History and Visual Studies', 'Belfer Center for Science and International Affairs', 'Brandeis University', 'Caliber Schools', 'California Institute of Technology', 'Cornell University', 'Dartmouth', 'Davidson College', 'Emory School of Medicine', 'Emory University', 'Emory University School of Law', 'ExED', 'Hamlin School', 'Harvard Medical School', 'Harvard University', 'Hawthorn Leadership School Foundation', 'Icahn School of Medicine at Mount Sinai Medical Center', 'Johns Hopkins University', 'King's College', 'Massachusetts Institute of Technology', 'Missouri School of Journalism', 'Morehouse College', 'Paul and Daisy Soros Fellow', 'Purdue University', 'Saint George's College', 'Stanford University', 'Stanford University School of Medicine', 'Stony Brook University', 'Suffolk County Community College in New York', 'Tsinghua University Law School', 'Tufts University's Health Sciences Schools', 'U Penn', 'USC School of Dramatic Arts', 'University of Arizona', 'University of California San Francisco; Covered California', 'University of Maryland', 'University of Miami Leonard M Miller School of Medicine', 'University of South Dakota', 'University of Texas MD Anderson Cancer Center', 'University of Texas at Austin', 'Unknown', 'Vanderbilt University School of Medicine', 'Wake Forest University', 'Washington University', 'Yale Law School', 'Yale University School of Medicine'

Affiliations classified as 'Consulting.'

'Accenture', 'Albright Stonebridge Group', 'AlixPartners', 'Arnold and Porter', 'Bain and Co', 'Baker Williams Matthiesen', 'Bartlit Beck', 'Booz Allen', 'Boston Consulting Group', 'C Space', 'CSMI', 'Caulfield Consulting Group', 'Chicago Volunteer Legal Services', 'Cohen Shapiro Shiekman and Cohen', 'DAM CyFly Consulting', 'DLA Piper', 'Dailey and Associates', 'Dalberg Advisors', 'Deloitte', 'Doug Mitarotonda Consulting', 'Duane Morris', 'ExecMommy Group', 'Fairmont Consulting Group', 'Fried Frank', 'Front Range Technology Group', 'Gibson Dunn and Crutcher', 'HHS Partners', 'Hackett Security', 'Haynes and Boone', 'Hogan Lovells', 'Holland and Knight', 'Howard Woolley Group', 'Hutt Co', 'INCISENT Labs Group', 'Ingenuity International', 'Jones Day', 'KPMG', 'Kaleidoscope Group', 'Kirkland and Ellis', 'LMB Group', 'Lewis and Munday', 'MGM Consulting', 'MITRE Co', 'Mathematica', 'McKinsey and Co', 'Mintz Levin Cohn Ferris Glovsky and Popeo', 'Newport', 'Omnicom Specialty Marketing Group', 'Pace Global Energy Services', 'Paul Weiss Rifkind Wharton and Garrison', 'Pluribus Digital', 'Point Rider Group', 'PricewaterhouseCoopers', 'Quinn Emanuel Urquhart and Sullivan', 'R3 Group', 'Reed Smith', 'Ropes and Gray', 'Russell Reynolds Associates', 'Salesforce', 'Sentinel HS Group', 'Sidley Austin', 'Simpson Thacher and Bartlett', 'Skadden Arps', 'Spy Pond Partners', 'Sterne Kessler Goldstein and Fox', 'Sullivan and Cromwell', 'TBGD Partners', 'Thompson Coburn', 'World Economic Forum', 'World Wide Technology'

Affiliations classified as 'Financial.'

'A&R Investments', 'AME Cloud Ventures', 'AQR Capital', 'AQR Capital Management', 'Aberon Pty', 'Abyr Partners', 'Adams Street Partners', 'Addition', 'Advent International', 'Aeris', 'Alper Investments', 'Alphadyne Asset Management', 'Amasia Venture Capital', 'American Securities', 'Andreessen Horowitz', 'Angelo Gordon', 'Apollo Asset Management', 'Apollo Debt Solutions', 'Apollo Global Management', 'Ares Management Co', 'Ariel Investments', 'Ashley Capital', 'Assembled Universe', 'Astignes Capital Asia', 'Astra Capital Management', 'Atlas Holdings', 'B Capital Group', 'BBR Partners', 'BDT and Co', 'BNY Mellon', 'Bain Capital', 'Bain Capital Asia', 'Baker Brothers Investments', 'Bank of America', 'Bank of America Co', 'Bank of New York Mellon', 'Bayview Financial', 'Belfer Management', 'Bellco Capital', 'Benchmark Capital', 'Bessemer Venture Partners', 'Blackstone', 'Bloomberg', 'Bluewall Capital', 'Bracebridge Capital', 'Broad Peak Investment Advisers Pte', 'Brookfield Asset Management', 'Brown Advisory', 'Canadian Personal Banking', 'Canyon Partners', 'Capital Group Companies', 'Capital Guardian Trust Co', 'Capital World Investors', 'Capula Investment Management', 'Carlyle Group', 'Causeway Capital', 'Centerview Capital', 'Centerview Partners', 'Cequel III', 'Chaparral Investments', 'Chicago Board Options Exchange', 'Chicago Pacific Founders', 'Chubb Limited/Chubb Group', 'Cimweek Partners', 'Citadel Investment Group', 'Citi Group', 'Clarity Partners', 'Clearlake Capital Group', 'Coastview Capital', 'Coin Acceptors', 'CoinMint', 'Commerce Bancshares', 'Consonance Capital Partners', 'Corby 2.0', 'CorpGroup', 'Credit Suisse First Boston', 'DDJ Capital Management', 'DKR Capital Partners', 'DRW', 'Davidson Kempner Capital Management', 'Dodge and Cox', 'EB5 Capital', 'EW Healthcare Partners', 'East West Bank', 'Edward Jones', 'Evercore Partners', 'Exos', 'FPR Partners', 'Farm Credit East', 'Flagship Pioneering', 'Floodgate', 'Fortress Credit Funds', 'Fortress Investment Group', 'Fortress Investments', 'Fubon Group', 'GCM Grosvenor', 'Gabriel Investments', 'General Atlantic', 'Global Gaming Asset Management', 'Global Infrastructure Partners', 'Goldman Sachs', 'Goldman Sachs Chile', 'Goldman Sachs Group', 'Goodyear Capital Co', 'Graham Allen Partners', 'Green Visor Capital', 'Greenhill and Co', 'Greenlight Capital', 'Greylock', 'Guggenheim Partners', 'Gulf Shore Private Capital', 'H+ Partners', 'HPS Investment Partners', 'Hall Capital Partners', 'HalseyPoint Asset Management', 'Harbour Group', 'HarbourVest Partners', 'Helios Investment Partners', 'Hellman and Friedman', 'Henry Crown and Co', 'Highland Capital Partners', 'Hill Ventures', 'Hillcrest Venture Partners', 'Himalaya Capital', 'Himalaya Capital Management', 'Horsley Bridge Partners', 'Hudson Executive Capital', 'Idealab', 'Inclusive Capital Partners', 'Incubic Venture Capital', 'Index Ventures', 'Intercorp', 'Investec', 'Irving Group', 'JP Morgan', 'JP Morgan Chase', 'JPMorgan', 'Jane Street Capital', 'Jordan Co', 'Judd Enterprises', 'Junto Capital Management', 'KSL Capital Partners', 'Kite Lake Capital Management', 'Kleiner Perkins', 'KoHop Ventures', 'Kohlberg Kravis Roberts', 'LAD Ventures', 'Lake Capital', 'Lancer Capital', 'Lazard', 'Leap Ventures', 'LendingClub', 'Lewis and Clark Holdings', 'Link Asset Management Limited', 'Lipper Advisory Services', 'Loop Capital Markets', 'MSCI', 'MSD Partners', 'Madison Dearborn Partners', 'Madison Industries', 'Madrone Capital Partners', 'Massiah Foundation', 'MasterCard', 'Material Impact', 'Merrill Lynch', 'Meru Capital Group', 'Milestone Partners', 'Millennium Management', 'Miller Value Partners', 'Moelis and Co', 'Mohr Davidow Ventures', 'Monarch Global Strategies', 'Morgan Stanley', 'National Financial Partners', 'Neuberger Berman Investment Advisers', 'New Amsterdam Partners', 'New Enterprise Associates', 'New Holland Capital', 'New Horizon Capital', 'New Paradigm Capital',

'New York Life Investment Management', 'New York Private Bank and Trust', 'New York Stock Exchange', 'Nickerson Stoneleigh', 'Northern Trust', 'Northern Trust Co', 'Norwest Venture Partners', 'OAKS Family Office', 'Olayan Financing Co (OFC)', 'Orbis Investment Management', 'Ortus Capital Management Ltd', 'Owl Rock Capital', 'Owl Rock Opportunities Fund', 'PIMCO', 'PIPV Capital', 'PRM Advisors', 'Pacific Capital Group', 'Paine Schwartz Partners', 'Perceptive Advisors', 'Permira', 'Perry Capital', 'Pharos Capital Group', 'Platte River Equity', 'Point Olema Capital Partners', 'Port Capital', 'Princeton-Newport Partners', 'Prospect Advisors', 'Public Pension Capital Management', 'QS Investors', 'Quantitative Financial Strategies', 'Quantum Ventures', 'RRJ Capital', 'Redpoint Ventures', 'Reimagined Ventures', 'Riverstone Holdings', 'Roivant Social Ventures', 'Royalty Pharma', 'SPO Partners and Co', 'Sageview Capital', 'Sandler O'Neill + Partners', 'Satter Investment Management', 'Schoenfeld Asset Management', 'Scott Holdings', 'Searchlight Capital Partners', 'Silver Lake Group', 'Siris Capital Group', 'Siver Lake', 'Somers Investment Partners', 'Square', 'Steamboat Ventures', 'Stellus Capital Management', 'T Rowe Price Group', 'TA Associates', 'TCW', 'TGS Management Co', 'TPG Capital', 'Technology Crossover Ventures', 'Tegean Capital Management', 'Third Rock Ventures', 'Thoma Bravo', 'Three Cairns Group', 'Travelers Companies', 'Trimaran Capital Partners', 'Tristan Capital Partners', 'Two Sigma', 'Tyndall Management', 'UBS', 'Valor Equity Partners', 'Vanguard Group', 'Versant Ventures', 'Vistria Group', 'WSVC', 'WTI', 'Warburg Pincus', 'Watermill Group', 'Wealth Strategist Partners', 'Wells Fargo', 'WestBridge Capital', 'Wicks Group', 'Wilderness Point Investments', 'Wing Venture Capital', 'Wirtz Co', 'Wonderful Co', 'York Capital Management', 'aPriori Capital Partners'

Confidence interval for expected percentage of industry affiliations for a board with Northwestern's size versus observed value. The confidence intervals were obtained from 10,000 bootstrapped sets of 68 trustees.

	95% CI	Observed for NU
Financial	[26.5, 50.0]	42.9%
Consulting	[4.4, 19.1]	14.3%
Education	[2.9, 14.7]	1.4%
Non-profit	[1.5, 14.7]	4.3%
Health and Pharma	[1.5, 13.2]	4.3%
Industrial	[1.5, 11.8]	10.0%
Media and Entertainment	[1.5, 11.8]	8.6%
Hospitality and Real Estate	[0.0, 10.3]	1.4%
Tech and Communications	[0.0, 8.8]	1.4%
Retail and Consumer Products	[0.0, 8.8]	8.6%
Government	[0.0, 7.4]	0.0%