

# Networks as Newsletters: The Effects of Female Network Connectedness on Gender Diversity Efforts

Jack J. Lin<sup>1</sup>, Julia D. Hur<sup>2</sup>

<sup>1</sup>Stanford Graduate School of Business, <sup>2</sup>New York University

## Abstract

While people have been highlighting the benefits of having a well-connected board of directors, this research analyzes the relationship between the network connectedness of female board directors and future efforts to increase boardroom gender diversity. The study suggests that firms with highly connected female directors are less inclined to increase the number of female directors due to perceived satisfactory diversity levels and progress. Furthermore, the study found the detrimental effect is intensified when female directors have a longer tenure, and when there are fewer women presented on the board. The findings imply that while female directors' social networks could enhance board effectiveness, they might inadvertently hinder gender diversity progression.

## Background

- Previous literature suggests that well-connected board directors have mostly beneficial effects on both individuals (e.g., knowledge transfer, productivity, creativity, influence and power, career development, social support) and organizational performance (e.g., innovation, board effectiveness, ESG/CSR/Financial performance).
- Social network literature highlights the function of network connections as the channels for information flow and, most importantly, signaling.
- Women are underrepresented and are less well-connected compared to male directors in US board contexts (the so-called White Boys' Club).
- Companies in the US usually face great public scrutiny and societal to increase the representation of women on boards.

## Research Question

**Key research question:** How does the female directors' overall social network connectedness affect future boardroom gender diversity? Based on moral credential theory and the signaling functions of social networks, we proposed that:

**H1. Organizations with female directors who are more well-connected in social networks are less likely to increase gender diversity in the boardroom than those with female directors who are less well-connected.**

### Social Networks as Channels for Diversity Information



A female board member: "I am excited to announce that I was elected as a board director in Company A."  
Company A hired a female board director.

Our theorization also suggests that the longer the tenure the female directors had, the more salient they were in the social network (both because of their status and the time length through which the diversity information was signaled):

**H2. The negative effect of female directors' network connectedness would be strengthened by their tenure length.**

Further, the detrimental effect could be even stronger when women are merely numeric tokens on the board. Thus, more connections from fewer women would further intensify such a detrimental effect:

**H3. The negative effect of female directors' network connectedness would be stronger on boards with fewer women than those with more women.**

## Method

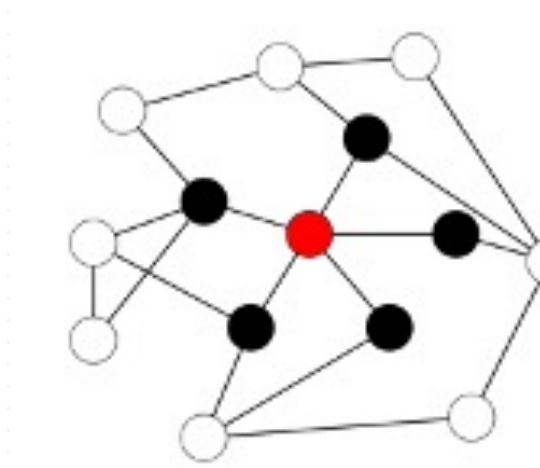
BoardEx STANDARD  
& POOR'S

### Sample

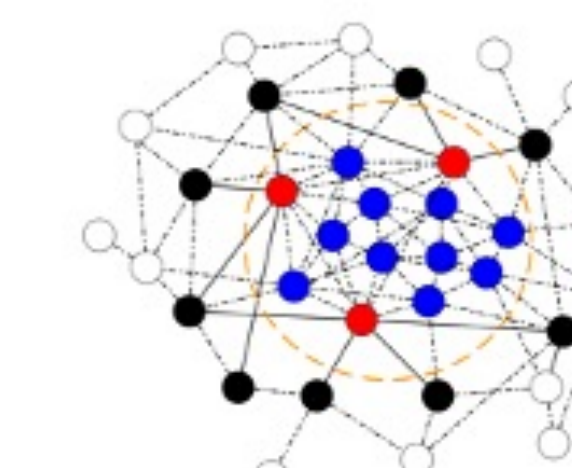
- Board composition and company information for S&P 1500 companies (1999 – 2020)
- Individual network (1945 – 2020) data held by BoardEx, including 1.4 million individuals and 583.4 million social ties.

### Independent variable

- Yearly aggregated number of female directors' distinct connections in social networks built in the past outside the current board.
- See the following illustrations with the calculation of the variable at year  $t$  for each board. Red dots represent female directors, blue dots represent male directors, the dashed circle represents the current board, and black dots represent outside individuals.  $D_t = |\{d_i | d_i \in C_{f,t} \text{ and } d_i \notin B_t\}|$ , where  $C_{f,t} = \{\text{women's connections before year } t\}$ , and  $B_t = \{\text{directors on the current board in year } t\}$ .



D = 5



Aggregated D = 9

### Dependent variable

- Whether a company decided to increase the number of women on board in each year (1 = yes, 0 = no)
- N = 26,871 Org-level observations (i.e., board-level)

### Control variables

- Financial performance (ROA), Company Size, Board size, current number of female directors, aggregate network connectedness of male directors, number of nominating female directors, director independence, Women's tenure, Women's board experience

## Analyses/Results

### Analysis strategy

- Logit regressions with robust errors, using variables in year  $t$  to predict the board decision at year  $t+1$
- Year & company fixed effects
- OLS, as the robustness check, yielded similar results

### Results

- **Hypothesis 1:** The network connectedness of female directors significantly and negatively predicted the likelihood of the board increasing the number of women in the next year, both without ( $b = -0.34$ ,  $SE = 0.02$ ,  $z = -20.18$ ,  $p < 0.001$ ) and with control variables ( $b = -0.06$ ,  $SE = 0.02$ ,  $z = -3.02$ ,  $p = 0.002$ ). It is also worth noting that male directors' overall connectedness had a significant but opposite effect ( $b = 0.03$ ,  $SE = 0.01$ ,  $z = 2.89$ ,  $p = 0.004$ ), indicating that the detrimental effect was specific to female directors.
- **Hypothesis 2:** As predicted, the interaction between female directors' overall connectedness and average tenure on the current board was significant and negative ( $b = -0.01$ ,  $SE = 0.00$ ,  $z = -3.64$ ,  $p < 0.001$ ).
- **Hypothesis 3:** As predicted, the interaction between female directors' overall connectedness and the number of women on the current board was significant and positive ( $b = 0.04$ ,  $SE = 0.01$ ,  $z = 4.03$ ,  $p < 0.001$ ).

## Takeaways

### A potential downside of network connectedness

- Information flow through social networks can be used as a signal to highlight past diversity efforts

### Men's and women's networks function differently

- Specifically, female directors' network generates the effect

### A novel determinant of organizational diversity goals

- Minority members' networks have an unexpected, negative effect