Female Board Representation and Corporate Performance: A Review and New Estimates for Australia

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Key findings

We thoroughly review the international literature and find that:

- despite a conventional wisdom that female board members positively impact firm performance, research to date finds no consensus on this question; and
- high-quality studies (those that have a plausible identification strategy to identify a causal impact) using regression techniques are split roughly equally into studies which find:
  - no effect
  - a positive effect
  - a negative effect

  of female board representation on corporate performance.
- Event studies mostly find no effect of female board appointments on firm performance.

We undertake event study and regression analysis using Australian data to understand what explains these mixed results. To do this, we build the largest datasets that have been constructed to date. Our data for the regression analysis contain observations on 2,483 firms for the 2005-2016 period. For the event study, we examine 1,721 non-executive director appointments of which 302 were suitable for event study analysis.

- Our event study analysis suggests that there is no effect on share price of the appointment of a female non-executive director to Australian Stock Exchange listed companies in Australia.
- Our regression analysis points to a similar result. We estimate 5,400 regressions using a wide variety of outcome measures, control variables and specifications. The vast majority produce statistically insignificant results.
- In the small number of statistically significant results, negative results are two to three times more common that positive ones.

Taken together, the evidence is very strong that the gender of board appointees does not impact firm financial performance. We find no evidence in Australia that appointing a female board member has an effect different to appointing a male board member on firm financial performance.

What we knew

- Female representation on corporate boards has been low and has lagged behind other parts of the labour market in terms of gender equality.
- A variety of countries have implemented quotas or targets for female board representation.
- There is a popular impression that appointing a woman to a board produces better results for companies than appointing a similarly qualified man to a board.

What we do

- We assemble large datasets covering company performance, board composition and female board appointments to Australian Stock Exchange (ASX) listed companies between 2000 and 2016 using data from Thomson Reuters Datastream, Morgan Stanley Capital International, Morningstar Datanalysis, Securities Industry Research Centre of Asia-Pacific (SIRCA), and the Thomson Reuters Connect 4 Boardroom database.
- We conduct a new event study for Australia.
- We conduct an extensive regression analysis using five different measures of company performance (return on assets; return on equity; the ratio of cash flow operations to total assets; Tobin's Q and $\ln(Q)$), five different econometric techniques (ordinary least squares, random effects, fixed effects, instrumental variables and Arellano-Bond) and a wide range of control variables including board size, average board tenure, percentage of independent board members, CEO gender, CEO tenure, CEO turnover, breadth of business, firm age and size, debt leverage, lagged firm performance and industry and year dummies.
- We consider a wide range of variables to capture the presence of females on boards: an indicator for any females; the proportion of females; and the Blau index, which captures non-linearity.
- To see if we can identify whether certain outcome variables or certain types of model specifications impact on results, we estimate 5,400 models by varying the above elements.
- For all firms, 18 per cent of coefficients for the measures of female board presence were statistically significant at 10 per cent, 12 per cent at 5 per cent and 6 per cent at the 1 per cent level.
- Negative results make up between 67 and 77 per cent of statistically significant results.
- For ASX200 firms (11 per cent, 5 per cent and 1 per cent of models significant at the 10, 5 and 1 per cent levels respectively), the proportion of significant models is roughly what one would expect from random variation.

What we know now

- We find no evidence in Australia that appointing a female board member has an effect different to appointing a male board member on firm financial performance.
- The evidence for a zero effect is very strong, with non-zero effects occurring at a rate that is consistent with random chance.

What to make of these results?

- Our event study and our extensive exploration of regression analyses show that if one were determined to find either a strong negative result or a strong positive result, it would be possible to do so.
- However, such results are uncommon and not robust to minor specification changes.
- Our literature review suggests that zero results are quite common, despite well-known biases of journals towards publishing statistically significant results.
- All of this suggests that one should be wary of strong claims of either a positive or negative effect of female board appointments based upon one study.

- The best evidence that social science produces comes from strong theory backed by rigorous empirical work which documents the accuracy of theoretical predictions in a wide variety of time periods, different circumstances and different places. Consistent evidence of this type has yet to be generated for the proposition that increasing the number of women on boards improves firm financial performance.

What conclusions should we draw from these results?

- One possibility is that board members have no effect on firm performance, whether male or female.
- Another possibility is that boards have an effect on firm performance but there is no differential impact of female board members. This could be the case if females who have been appointed to boards are of a similar quality to male appointees.
- We only examine firm financial performance. More gender-diverse boards could bring other benefits. Possibilities include improved staff happiness and well-being. These may occur in the absence of an impact on firm financial performance.
- We do not evaluate social goals such as 'justice'. If board positions are simply paid sinecures, with no impact on firm performance, and these are controlled by 'old boy networks', then breaking them up with policies such as targets and quotas could be welfare-enhancing.

More information

- Get the full working paper at: `https://crawford.anu.edu.au/sites/default/files/publication/taxstudies_crawford_anu_edu_au/2023-06/complete_wp_bayly_breunig_wokker_june_2023_0.pdf`
- Get the journal version at: `https://doi.org/10.1111/1475-4932.12795`
- If you think we got it wrong or just want to replicate our results, you are welcome to use our code and data to improve upon our analysis:
`https://drive.google.com/drive/folders/10mIR5EcJ8nZzhqDr2LtzPeljJ5UxjNug`
- We would welcome the opportunity to present our research to your team and to discuss potential joint research projects on related or similar topics.
- Contact us at `robert.breunig@anu.edu.au`