

Supplement to:

Smith, Edward Bishop, Jillian Chown, and Kevin Gaughan.
2021. “Better in the Shadows? Public Attention,
Media Coverage, and Market Reactions to Female
CEO Announcements.” *Sociological Science* 8: 119-
149.

APPENDIX A:

RavenPack (ravenpack.com) uses a generic algorithm for coding the news. One of the categories it uses to classify each news article is *Executive Appointment*. Although there are further refined subcategories such as *Chief Executive Officer* within RavenPack's classification system, not all CEO announcements were included in their predefined category. As such, we extracted all observations from the broader executive appointment category and generated an algorithm to extract the relevant announcements based on keywords in the headline of the news item (i.e. CEO, chief executive, etc.). We then drew a random sample ($N = 100$), and manually assessed the accuracy of our algorithm by determining whether each announcement was a relevant CEO announcement. The rate of false positives was 16%. Of the false positives identified, more than two-thirds were CEO announcements for a subsidiary of a focal firm (i.e., a business unit). All code is available upon request from the authors.

Aside from potentially decreasing the efficiency of the estimators in models containing the full sample, it is possible that this noise may be biasing the estimates as well. For instance, if we assume that a) the majority of false positives are subsidiaries, and b) that CEO announcements for subsidiaries receive less overall media attention than CEO announcements for publicly traded firms, then these observations are likely to have firm size values that are larger than expected and media attention that is lower than expected, conditional on size. Thus, the relationship between firm size and media attention may be

artificially low. However, since we conduct a one-to-many and one-to-one matched sample to identify causal effects, the noise included in the full sample is eliminated completely in our more stringent statistical tests. All matched samples were assessed for irrelevant observations—false positive appointments—and those observations were replaced with the next best match.

APPENDIX B:

Table B1. OLS Regressions of Media Coverage and CEO Gender on CAR

Variable Name	Cumulative Abnormal Returns (CAR)			
	Unique Outlets	Without Press Releases†	Unique Outlets (Industry Weighted)	Unique Outlets (Readership Weighted)
Female	1.844* (0.958)	2.569** (1.218)	2.305** (1.161)	2.869** (1.414)
Media Coverage	0.179** (0.087)	0.193*** (0.070)	0.265*** (0.092)	0.152* (0.082)
Female x Media Coverage	-1.192*** (0.408)	-1.275*** (0.439)	-1.363*** (0.463)	-1.743*** (0.642)
Size	0.017 (0.087)	0.019 (0.087)	0.059 (0.089)	0.006 (0.080)
ROA _{t-1}	2.424 (1.886)	2.411 (1.891)	0.502 (1.970)	2.515 (1.718)
Leverage	1.369*** (0.427)	1.373*** (0.427)	1.461*** (0.397)	1.311*** (0.402)
Book-to-Market	0.239 (0.156)	0.238 (0.156)	0.246* (0.144)	0.269* (0.153)
Institutional Ownership	-0.313 (0.280)	-0.317 (0.280)	-0.318 (0.281)	-0.343 (0.263)
Index	0.305 (0.197)	0.308 (0.197)	0.254 (0.219)	0.276 (0.189)
Previous Media Coverage	-0.094 (0.117)	-0.094 (0.117)	-0.134 (0.127)	-0.088 (0.110)
Source Readership	0.139 (0.133)	0.171 (0.132)	0.228 (0.145)	0.085 (0.123)
Trading Volume	-0.126 (0.088)	-0.128 (0.088)	-0.152* (0.089)	-0.097 (0.082)
Media Sentiment	-2.162 (1.399)	-2.147 (1.399)	-1.590 (1.312)	-2.197* (1.259)
Gendered Words	0.002 (0.005)	0.002 (0.005)	0.004 (0.005)	-0.000 (0.004)
Constant	0.670 (1.759)	0.587 (1.758)	0.400 (1.819)	0.892 (1.839)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Observations	8,189	7,875	8,189	8,189
R ²	0.022	0.023	0.024	0.024

Notes: Robust standard errors in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

† 4 female observations were dropped from the model because no media outlets reported on the event outside of the company's press release.

Table B2. Differences in Media Coverage of Announcement Between Male and Female CEOs

Variable Name	<i>Negative binomial</i> (1)	<i>OLS</i> (2)
Female	0.536*** (0.065)	0.793*** (0.118)
Size (Ln)	-0.070*** (0.007)	-0.069*** (0.007)
Previous Media Coverage (Ln)	0.198*** (0.012)	0.203*** (0.013)
ROA _{t-1}	0.123 (0.142)	0.135 (0.141)
Leverage	0.006 (0.051)	0.003 (0.052)
Book-to-Market	0.016* (0.010)	0.016 (0.011)
Institutional Ownership	0.120*** (0.033)	0.108*** (0.033)
Index	-0.042 (0.028)	-0.045 (0.028)
Trading Volume (Ln)	-0.001 (0.007)	-0.003 (0.007)
Source Readership	-0.405*** (0.025)	-0.379*** (0.020)
Media Sentiment	-0.739*** (0.190)	-0.750*** (0.191)
Gendered Words	-0.002 (0.002)	-0.002 (0.002)
Constant	0.919*** (0.096)	1.932*** (0.095)
Observations	8,189	8,189
R ²		0.042

Notes: Robust standard errors in parentheses. Model 1 represents the coefficient estimates when the total count of media articles is used as the dependent variable. The dependent variable for Model 2 is the logged count of media articles.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table B3. IV-2SLS Results: First-stage and Reduced Form Regressions

Variable Name	Media Coverage		CAR
	(1)	(2)	(3)
Volatility Shock	-0.119*** (0.029)	-0.143*** (0.030)	-0.239 (0.152)
Female		0.787*** (0.125)	0.446 (0.674)
Size		-0.056*** (0.007)	-0.044 (0.065)
ROA _{t-1}		0.117 (0.140)	2.885*** (1.780)
Book-to-Market		0.016 (0.011)	0.240 (0.156)
Leverage		-0.007 (0.053)	1.361*** (0.432)
Institutional Ownership		-0.070** (0.034)	-0.530** (0.251)
Index		-0.024 (0.029)	0.340* (0.199)
Previous Media Coverage		0.145*** (0.010)	-0.153 (0.101)
Female Board Percentage		-0.204** (0.102)	-1.367* (0.702)
Female x Volatility Shock		0.977** (0.460)	-0.570 (1.462)
Constant	1.027*** (0.011)	1.404*** (0.053)	-0.036 (1.624)
Observations	8,189	8,189	8,189
Year Fixed Effects	No	No	Yes
Industry Fixed Effects	No	No	Yes
R ²	0.002	0.036	0.021

Notes: Robust standard errors in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table B4. IV-2SLS Results: Second-Stage Regression

	CAR IV-2SLS (1)
Female	5.210* (3.037)
Media Coverage	2.473** (1.021)
Female x Media Coverage	-3.801** (1.682)
Size	0.089 (0.084)
ROA _{t-1}	2.616 (1.811)
Leverage	1.375** (0.431)
Book-to-Market	0.239 (0.155)
Institutional Ownership	-0.564** (0.286)
Index	0.370* (0.201)
Previous Media Coverage	-0.521*** (0.175)
Source Readership	0.111 (0.127)
Trading Volume	-0.122 (0.088)
Media Sentiment	-2.234 (1.387)
Gendered Words	0.002 (0.004)
Constant	-2.760* (1.663)
Observations	8,189
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R ²	—

Notes: Robust standard errors in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table B5. Effect of CEO Gender on Future Firm Performance

Variable Name	Future ROA _{t+4}	
	Full Sample (13)	Matched Sample (14)
Female	0.049 (0.066)	0.057 (0.070)
Media Coverage	-0.009 (0.006)	0.001 (0.010)
Female x Media Coverage	0.001** (0.000)	0.001 (0.001)
Size	0.005*** (0.001)	0.005*** (0.002)
ROA _{t-1}	0.256*** (0.060)	0.321*** (0.045)
Leverage	0.000 (0.003)	-0.001 (0.004)
Book-to-Market	-0.001*** (0.000)	-0.001* (0.001)
Institutional Ownership	0.020*** (0.003)	0.019*** (0.007)
Index	-0.004** (0.002)	-0.006 (0.005)
Previous Media Coverage (Ln)	-0.002*** (0.001)	-0.000 (0.001)
Female Board Percent	0.010 (0.007)	-0.006 (0.009)
Constant	-0.046*** (0.012)	-0.032* (0.019)
Observations	8,189	3,756
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
R ²	0.188	0.184

Notes: Robust standard errors in parentheses.

* $p < .10$; ** $p < .05$; *** $p < .01$

APPENDIX C: Gendered Language Dictionary

Businesswoman	Child	Children	Communal
Compassion	Connect	Cooperat*	Daughter
Depend	Empath*	Family	Female
Grandmother	Her	Interdependent*	Mom
Mother	Sensitive*	She	Son
Together*	Warm	Woman	Women

Notes: Words chosen based on Lee and James (2007) and Gaucher et al. (2011). Lee and James (2007) reported significant differences in how journalists framed the appointment of male and female CEO appointments, whereby females were associated with terms such as “woman,” “mother,” and “children.” If such language triggers gender stereotypes among investors, it may also negatively influence how the market reacts to female announcements.