



Research article

Gender diversity on boards and environmental violations in European firms

Gema C. Fleitas-Castillo, Devora Peña-Martel, Jerónimo Pérez-Alemán and Domingo Javier Santana-Martín*

Department of Financial Economics and Accounting, University of Las Palmas de Gran Canaria, c/Juan de Quesada, 30, 35001 Las Palmas de Gran Canaria, Spain

* **Correspondence:** Email: javier.santana@ulpgc.es.

Supplementary

Appendix

Table A1. Definitions of variables.

Measure of corporate social irresponsibility

VIOL.ENV	Natural logarithm of one plus the number of environmental fines in year t. Penalties are due to firms' violations related to environmental offenses, toxic waste actions, energy conservation violations, maritime violations, nuclear safety, offshore drilling, and zoning violations.
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Measures of board gender diversity

WOMEN	Percentage of female directors divided by the total number of directors.
BLAU	<i>BLAU</i> is a measure of diversity that reflects equity in gender distribution (Blau, 1977). It varies from 0 (no diversity, all same gender) to 0.5 (maximum diversity for two genders). The Blau index is calculated with the following formula:

$$\text{Blau index} = 1 - \sum_{i=1}^k P_i^2$$

	where p_i is the proportion of each gender on the board.
MASS3	Dummy variable that takes the value 1 if the firm appoints three or more female directors, and 0 otherwise.
<i>Control variables</i>	
SIZE	Natural logarithm of assets.
DEBT	The sum of short- and long-term debt divided by total assets.
ROA	Return on assets, computed as earnings before interest, taxes, depreciation, and amortization divided by total assets.
BOARD	Natural logarithm of the number of directors.
VOTING	Voting rights of the largest owner of the firm.
MTB	Market value of equity divided by the book value of equity.
<i>Instrumental variables</i>	
I.WOMEN	Average board diversity of other firms in the same industry and country for each year analyzed.

Table A2. Instruments on environmental violations (exclusion criterion).

<i>Dependent variable</i>	VIOL.ENV
I.WOMEN	-0.007 (-0.80)
<i>Constant</i>	1.363*** (4.50)
<i>F test</i>	0.64
<i>No. of firm-year observations</i>	3172



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