

Organization Science

Publication details, including instructions for authors and subscription information:
<http://pubsonline.informs.org>

An Institutional Approach to Gender Diversity and Firm Performance

Letian Zhang

To cite this article:

Letian Zhang (2020) An Institutional Approach to Gender Diversity and Firm Performance. Organization Science 31(2):439-457.
<https://doi.org/10.1287/orsc.2019.1297>

Full terms and conditions of use: <https://pubsonline.informs.org/Publications/Librarians-Portal/PubsOnLine-Terms-and-Conditions>

This article may be used only for the purposes of research, teaching, and/or private study. Commercial use or systematic downloading (by robots or other automatic processes) is prohibited without explicit Publisher approval, unless otherwise noted. For more information, contact permissions@informs.org.

The Publisher does not warrant or guarantee the article's accuracy, completeness, merchantability, fitness for a particular purpose, or non-infringement. Descriptions of, or references to, products or publications, or inclusion of an advertisement in this article, neither constitutes nor implies a guarantee, endorsement, or support of claims made of that product, publication, or service.

Copyright © 2020, INFORMS

Please scroll down for article—it is on subsequent pages



With 12,500 members from nearly 90 countries, INFORMS is the largest international association of operations research (O.R.) and analytics professionals and students. INFORMS provides unique networking and learning opportunities for individual professionals, and organizations of all types and sizes, to better understand and use O.R. and analytics tools and methods to transform strategic visions and achieve better outcomes.

For more information on INFORMS, its publications, membership, or meetings visit <http://www.informs.org>

An Institutional Approach to Gender Diversity and Firm Performance

Letian Zhang^a

^a Harvard Business School, Harvard University, Boston, Massachusetts 02163

Contact: letian.lt.zhang@gmail.com,  <https://orcid.org/0000-0002-3212-8303> (LZ)

Received: October 28, 2016

Revised: May 27, 2017; July 8, 2018;
October 9, 2018

Accepted: October 20, 2018

Published Online in Articles in Advance:
February 25, 2020

<https://doi.org/10.1287/orsc.2019.1297>

Copyright: © 2020 INFORMS

Abstract. This study examines data from 35 countries and 24 industries to understand the relationship between gender diversity and firm performance. Previous studies report conflicting evidence: some find that gender-diverse firms experience more positive performance, and others find the opposite. However, most research to date has focused on a single country or industry and has not accounted for possible variation across social contexts. This paper advances an institutional framework and predicts that gender diversity's relationship with performance depends on both its normative and regulatory acceptance in the broader institutional environment. Using a unique longitudinal sample of 1,069 leading public firms around the world, I find that the relationship between gender diversity and firm performance varies significantly across countries and industries owing to differences in institutional context. The more that gender diversity has been normatively accepted in a country or industry, the more that gender-diverse firms experience positive market valuation and increased revenue. These findings underscore the importance of the broader social context when considering the relationship between gender diversity and firm performance.

Keywords: diversity • gender • performance • institutional theory • cross-national • global

Introduction

The women's rights movement has increased the number of women in workforces around the world (Ali et al. 2011), which has, in turn, raised the question of how the gender diversity within a given organization affects its outcomes. Recent work has generally taken one of two broad approaches. One suggests that gender diversity may serve as a signal to investors and other external stakeholders and influence their perceptions of a firm's value (Wright et al. 1995a, b; Lee and James 2007; Dobbin and Jung 2011; Smith and Gaughan 2016). A second line of work focuses on gender diversity's role inside organizations, emphasizing both its positive effect on innovative capacity and breadth of knowledge and its negative effect on social cohesion (Cox 1994; Dwyer et al. 2003; Frink et al. 2003; Richard et al. 2004, 2006; Herring 2009; Ali et al. 2011; Yang and Konrad 2011). Despite the many studies using these two approaches, empirical evidence has been mixed, with some studies finding a positive association between gender diversity and future performance and others finding a negative or null association (Post and Byron 2015). It, therefore, remains largely unclear how gender diversity relates to a firm's performance.

However, previous research has paid little attention to the broader social context. This is an unfortunate oversight given the ways that societal norms and rules can influence how people approach diversity (Joshi and

Roh 2009, Shore et al. 2009). In fact, institutional theory has long suggested that the institutional environment determines how workers, managers, and other stakeholders interpret and evaluate an organization's practices and structures (Meyer and Rowan 1977, DiMaggio and Powell 1983, Scott 1987, Zucker 1987, Suchman 1995, Powell and DiMaggio 2012).¹ Accounting for institutional context in the study of the diversity-performance relationship may afford important insights (Yang and Konrad 2011, Konrad et al. 2016).

I, therefore, propose that the relationship between gender diversity and firm performance—the latter measured by market valuation and firm revenue—depends on the acceptance of gender diversity in the institutional environment. I distinguish between normative and regulatory institutions, defining *normative legitimacy* as the acceptance of a practice as appropriate and desirable based on shared organizational norms and values and *regulatory legitimacy* as the endorsement of a practice by regulators. I propose that both types moderate the association between gender diversity and firm performance and examine this proposition using a unique panel data set of 1,069 leading public firms from 35 countries and 24 industries.

Gender Diversity and Firm Performance

There are two broad approaches to understanding the relationship between gender diversity and firm

performance. One considers the influence of gender diversity on external evaluators' perceptions of a firm, focusing on outcomes, such as organizational reputation, image, and market valuation. A second approach considers gender diversity's influences on workers and managers, focusing on outcomes related to productivity and revenue. Although the two approaches focus on different processes, I suggest that they could be similarly moderated by normative and regulatory environments.

Market Valuation

A firm's gender diversity can be an important criterion for potential investors (Lee and James 2007, Smith and Gaughan 2016). The rise of shareholder activism has encouraged more investors to become attentive to employment practices, and it has pushed more firms to disclose diversity numbers in their annual reports (Dobbin and Jung 2011, Hirsh and Cha 2015). As a number of studies have suggested, gender diversity can appeal to investors and benefit a firm's market valuation, because it is seen as important for a firm's long-term growth and because it signals a firm's commitment to progressive gender values and attention to regulatory risks (Wright et al. 1995a, b; Roberson and Park 2007; Lamkin Broome and Krawiec 2008). For example, studies find that firms ranked high on *Fortune's* diversity ranking tend to have higher market values as do firms with more women in managerial positions (Carter et al. 2003, Roberson and Park 2007, Dezsö and Ross 2012). Similarly, firms typically experience a jump in stock price after winning an award related to diversity initiatives (Wright et al. 1995a, b; Hannon and Milkovich 1996).

However, other studies suggest that, because of gender stereotyping, organizations with women in leadership roles may experience negative market reactions. Ahern and Dittmar (2012) find an immediate stock price drop after the announcement of a boardroom gender quota in Norway and lower market valuation for affected firms in subsequent years. Some studies also find a negative market reaction to the appointment of women directors and chief executive officers (Lee and James 2007, Dobbin and Jung 2011).

The relationship between gender diversity and market valuation may be contingent on the social context. Norms and rules can shape investors' awareness of and preference for gender diversity, and there is indeed a wide variation in attitudes toward gender diversity across national and industrial contexts (Nishii and Özbilgin 2007, Jonsen et al. 2011). The intent of this study, which samples firms from across a variety of social contexts, is to provide a better understanding of the circumstances in which gender diversity is positively associated with market valuation.

Firm Revenue

A rich body of work has explored how gender diversity relates to a firm's productivity and revenue. Related literatures differ in the level of analysis: some focus on gender diversity in small groups within a firm, and others focus on a firm's entire workforce (for reviews of group diversity, see Williams and O'Reilly (1998), Van Knippenberg and Schippers (2007), and Joshi and Roh (2009); for reviews of board diversity, see Post and Byron (2015), Hoobler et al. (2016), and Jeong and Harrison (2017); for a review of workforce diversity, see McMahan (2010)). This study focuses on a firm's overall gender diversity, although it draws key insights from group-level studies.

There are two dominant perspectives on how gender diversity influences revenue. The resource-based view considers diversity a valuable human resource that can increase a firm's productivity, creative capacity, and strategic decisions by increasing the range of available skills, perspectives, knowledge, and social networks (Cox 1994, DiTomaso et al. 2007). A number of studies find that firms with gender-diverse workforces innovate better and thus, achieve higher output and returns (Richard et al. 2004, Herring 2009, Ali et al. 2011, Yang and Konrad 2011).

An opposite perspective posits that diversity hurts productivity and revenue by lowering group commitment and cohesion. Drawing from a combination of social categorization theory (Tajfel 1981), social identity theory (Turner et al. 1987), and the similarity-attraction paradigm (Byrne 1971), this perspective suggests that, in gender-diverse groups, people are more likely to make favorable associations with ingroup members (those of their same gender) than with outgroup members (those of another gender). This can lead to conflict and stereotyping and hinder group solidarity and cooperation, thus reducing efficiency (Tsui et al. 1992, Cox 1994, DiTomaso et al. 2007, Van Knippenberg and Schippers 2007, Coffman 2014). Studies supporting this perspective find that gender diversity is associated with less productivity and lower efficiency (Richard et al. 2004, Ahern and Dittmar 2012, Matsa and Miller 2013).

It seems, then, that gender diversity could be a double-edged sword, bringing performance gains to some firms and losses to others. To fully understand this process, we must identify conditions that lead to one outcome rather than the other (Van Knippenberg and Schippers 2007, Joshi and Roh 2009). Research has mostly examined group-level moderators, focusing on characteristics related to group interdependence and task type. However, the broader social context could also be influential. People's perceptions of and attitudes about gender could shape how they interact in gender-diverse settings, and these perceptions and

attitudes are usually influenced by social norms at a societal level (Cox 1994).

In sum, the literature has developed several theoretical mechanisms by which gender diversity can influence a firm's valuation and revenue, but they are often at odds with one another. Institutional theory offers a framework that explains how norms and rules influence organizational behavior and its consequences (Meyer and Rowan 1977, DiMaggio and Powell 1983). In the following, I suggest that incorporating this broader social context may help resolve these conflicting perspectives.

An Institutional Approach

Institutional theory suggests that organizations are located within institutional environments, defined as “the communities of organizations that share a common meaning system” (Scott 1995, p. 56). Norms and rules in an institutional environment have important consequences for organizations and their stakeholders, helping shape what organizational practices are considered legitimate (Meyer and Rowan 1977, DiMaggio and Powell 1983, Ingram and Silverman 2002). Legitimacy is the general assumption that a practice is desirable, proper, or appropriate within some socially constructed system of rules, norms, and values (Suchman 1995).

I focus on two broad types of legitimacy: normative and regulatory (Archibald 2004). Regulatory legitimacy refers to institutional processes based on monitoring, rule setting, and sanctioning. A practice gains regulatory legitimacy when regulators support it, usually through policies and standards. Normative legitimacy has both social and cognitive dimensions. A practice gains normative legitimacy when it is accepted as appropriate and desirable based on norms and values that are widely shared in the larger society (Aldrich and Marlene Fiol 1994, Zimmerman and Zeitz 2002, Archibald 2004). This definition of normative legitimacy is broader than that used in some studies, where normative institutions are equated with the particular ethics and worldviews of formal professions (DiMaggio and Powell 1983, Scott 1995). I use the more comprehensive definition to include the norms, values, and cultural cognitions of the broader institutional environment, including but not limited to professions (Suchman 1995, Archibald 2004, Deephouse and Suchman 2008).

Normative legitimacy and regulatory legitimacy may interact and reinforce each other. Norms and values can influence regulators' perceptions of a practice and the content or enforcement of laws and policies. Similarly, regulatory frameworks can enact and transmit norms and values for organizations (Edelman 1992, Kelly and Dobbin 1998, Edelman et al. 2001, Archibald 2004, Dobbin and Kelly 2007,

Deephouse and Suchman 2008). Despite their reinforcing relationship, normative legitimacy and regulatory legitimacy are distinct institutional forces, and as I propose below, they may interact with gender diversity through different mechanisms.

Normative Legitimacy

Investors generally find it difficult to assess the value of a firm's gender diversity. Facing uncertainty, their perceptions are often shaped by the institutional environment's norms on how organizations should behave (Zajac and Westphal 2004, Huang 2018). They tend to value normatively accepted practices—which may or may not confer any actual performance benefit—and penalize those outside the normative expectation (Westphal and Zajac 1998, Zuckerman 1999, Zajac and Westphal 2004). Therefore, in environments in which gender diversity is normatively accepted, investors should be more likely to perceive it as beneficial to a firm's future performance. In addition, investors, as speculators, care about other investors' behavior (Zajac and Westphal 2004). When the benefit of gender diversity is normatively accepted, investors may anticipate positive responses from other investors when a firm increases its gender diversity. In contrast, in contexts in which gender diversity has not gained normative acceptance, investors may see it as irrelevant or even detrimental to future performance.

When gender diversity is normatively accepted, it can also provide indirect benefits. Investors tend to see firms that follow normatively accepted practices as better managed than firms that do not (Zajac and Westphal 2004). Expecting firms to converge toward a norm, such as greater gender diversity, investors may view an increase in a firm's gender diversity as a signal of good management (Welbourne et al. 2007). However, when gender diversity is not normatively accepted, investors may not expect firms to promote it, and they may not see an increase as a positive signal.

Hypothesis 1. *The normative legitimacy of gender diversity positively moderates the relationship between a firm's gender diversity and its subsequent market valuation. Specifically, gender diversity is more positively related to market valuation in contexts in which it has more normative acceptance.*

Normative legitimacy may also moderate the relationship between gender diversity and firm revenue. First, the role of gender diversity in generating a wide variety of knowledge-based resources and innovative solutions may itself be contingent on its normative acceptance. When gender diversity is normatively accepted, workers and managers are more likely to value it in the workplace (Bilimoria 2006). This attitude is important in facilitating open and explicit discussion of different perspectives and integrating

diverse knowledge and solutions to improve organizational effectiveness (Thomas and Ely 1996, Van Knippenberg and Schippers 2007), which can help the firm appeal to a wider range of customers and generate better strategies and solutions (Cox 1994, Joshi and Roh 2009, Ali et al. 2011). This is particularly important in high-technology sectors, in which technical innovation is critical, and in service industries, in which marketing innovation can create competitive advantage (Joshi and Roh 2009). In contrast, when gender diversity is not valued, workgroup interactions tend to lack crosscultural learning, and women often cannot bring their unique skills and insights to bear (Ely and Thomas 2001, Lee and Huang 2018).

Second, the normative legitimacy of gender diversity can moderate social categorization. When gender diversity is widely embraced, the exchange of different perspectives and knowledge creates a sense of inclusion and makes women employees feel respected and valued for their contributions (Ely and Thomas 2001, Van Knippenberg et al. 2007). It also facilitates healthy interactions in the workplace, reducing the likelihood of discrimination and conflict (Van Knippenberg and Schippers 2007, Van Knippenberg et al. 2013, Zhang 2017). When gender diversity is not valued, however, women tend to experience more gender stereotyping, which could lead them to feel less attachment to the organization (Ely and Thomas 2001, Van Knippenberg et al. 2007). That, in turn, undermines social cohesion, which is an important determinant of firm productivity; employees work harder and cooperate more effectively when they feel a stronger attachment to the firm (Ely and Thomas 2001, Richard et al. 2006, Van Knippenberg and Schippers 2007).

Hypothesis 2. *The normative legitimacy of gender diversity positively moderates the relationship between a firm's gender diversity and its subsequent revenue. Specifically, gender diversity is more positively related to firm revenue in contexts in which it has more normative acceptance.*

Regulatory Legitimacy

Firms that do not follow state diversity regulations, such as antidiscrimination and affirmative action policies, can suffer substantial reputational loss in addition to fines (James and Wooten 2004, Hirsh and Cha 2015). Studies have found that firms suffer an average 15.6% drop in market value after a diversity lawsuit (Hersch 1991, James and Wooten 2004). In Norway, when the boardroom gender quota law was introduced, firms with women on their boards experienced significantly more positive market reactions than firms without (Ahern and Dittmar 2012). These studies suggest that investors are highly attentive to a firm's conformity to diversity regulations and that any indication of violation may lead investors to preventively withdraw investments.

In practice, because it is difficult to directly assess a firm's conformity to diversity regulations, a firm's diversity figures often become an important indicator (Edelman 1992, Hirsh and Kornrich 2008). For example, Equal Employment Opportunity investigators in the United States frequently use workplace composition data to determine if a firm has used ascription in hiring and opportunity allocation (Hirsh and Kornrich 2008). In institutional contexts where diversity laws are in effect, investors are more likely to use a firm's gender diversity numbers as an indicator of litigation risk.

Hypothesis 3. *The regulatory legitimacy of gender diversity positively moderates the relationship between a firm's gender diversity and its subsequent market valuation. Specifically, gender diversity is more positively related to firm market valuation in contexts in which it has more regulatory acceptance.*

However, it is also possible that investors may not be influenced by the regulatory environment to the same extent that they are by the normative environment. Investors, overwhelmed with information, may not have the attention span to closely follow a firm's conformity to regulations. Although studies have shown negative market reactions to diversity lawsuits, such lawsuits are rare and often receive inflammatory media coverage. In addition, when investors perceive a firm's gender diversity as merely a reaction to rules imposed by regulators, they could interpret it as mere symbolic "window dressing" and may even react negatively. Ahern and Dittmar (2012) show that increases in board gender diversity after the introduction of Norway's quota led to negative market reactions, largely because investors saw the newly appointed women directors as less competent than the existing directors, installed only to meet the quota. Therefore, there are reasons to believe that the moderating role of the regulatory environment may be insignificant.

Finally, gender diversity's regulatory legitimacy may also positively influence patterns of interaction among workers and managers inside a diverse firm, affecting its productivity and output. When regulators endorse diversity, people are more likely to see the presence of women in the workforce and in leadership positions as legitimate. For example, experiments show that, when higher authorities institutionalize women's leadership, subjects are less likely to gender stereotype and are more likely to see women leaders as competent (Lucas 2003). As with the mechanisms underlying the construction of Hypothesis 2, I expect the regulatory acceptance of gender diversity to reduce gender stereotyping and encourage women to contribute their unique views and perspectives, which could increase productivity and improve decision making, leading to higher revenue for more gender-diverse firms.

Hypothesis 4. *The regulatory legitimacy of gender diversity positively moderates the relationship between a firm's gender diversity and its subsequent revenue. Specifically, gender diversity is more positively related to firm revenue in contexts in which it has more regulatory acceptance.*

There is also evidence that calls into question the positive influence of regulatory legitimacy. Affirmative action laws sometimes lead employees to perceive women as less competent, marginalizing them and reducing crossgroup communication (Heilman et al. 1997). Additionally, although diversity regulation can reduce open discrimination, it may also discourage people from openly confronting different perspectives and viewpoints. In a qualitative study, Ely and Thomas (2001) find that, when workers and managers see diversity as prevention of discrimination rather than as a valuable asset, there tends to be less crossgroup interaction and learning. That is, when workers see diversity as a result of regulatory compliance rather than a way to capitalize on an asset, it has a less positive impact on innovation and problem solving (Thomas and Ely 1996, Ely and Thomas 2001). Regulatory legitimacy may, therefore, have a minimal moderating influence on productivity and firm revenue.

Methods

I examine the relationship between a firm's gender diversity and its subsequent performance across two types of institutional context: countries and industries (Thornton and Ocasio 2008). First, gender diversity regulation and norms are often country specific. In most cases, the state is responsible for conferring regulatory legitimacy through employment regulations, and normative discourses on gender diversity also show significant crossnational variation (Wright et al. 1995a, b). For example, both the national media and the general public can contribute to the emergence of country-specific gender diversity norms (Jonsen et al. 2011). Crossnational studies have found that national context strongly shapes both the regulatory legitimacy and the normative legitimacy of gender diversity in organizations (Nishii and Özbilgin 2007, Klarsfeld 2010).

Second, the normative legitimacy and regulatory legitimacy of gender diversity can be industry specific. Each industry has a unique set of task environments, and therefore, investors and workers may see the importance of gender diversity in some industries but not in others (Joshi and Roh 2009, Ali et al. 2011). Organizations in an industry also share a common meaning system (Scott and Meyer 1982, Scott 1995), and each industry has its standards and professional norms that are reinforced by industry-wide associations and peer interactions, often at the global level (Arias and Guillen 1998, Wooten and Hoffman 2016).

Thus, the normative legitimacy and regulatory legitimacy of diversity should differ across industries.

This study examines leading firms across different countries and industries. Larger firms face stronger institutional pressure, because they tend to attract more scrutiny from regulators, investors, media, and the general public. Greater scrutiny pushes many of them to regularly disclose workforce diversity numbers. These characteristics make these firms an ideal setting for examining how the institutional environment moderates investors', workers', and managers' approaches to gender diversity.

Data

The sample includes leading public firms from 35 countries and 24 industries and spans from 2007 to 2014. I began with the S&P Global Index, which represents the movement of the global stock market and is one of the most commonly used global indices (Hansen et al. 2013). It contains 1,200 leading public corporations, including 500 listed on U.S. exchanges (S&P 500 Index), 350 in Europe (S&P 350 European Index), 150 in Japan, and 200 from the rest of the world. Because firms outside North America, Western Europe, and Japan are underrepresented, I supplemented the sample by drawing from the leading index in each of the following major markets: Australia (ASX 200 Index), Austria (VSE Austrian Traded Index), Brazil (Bovespa Index), China and Hong Kong (Hang Seng Index), Colombia (COLCAP Index), India (BSE Sensex Index), Indonesia (JSE LQ45 Index), Israel (Tel Aviv 25 Index), Malaysia (KLCI Index), Philippines (Philippines SE Index), Russia (MICEX Index), Singapore (FTSE Straits Times Index), South Africa (BSE Sensex 30 Index), South Korea (KOSPI 50 Index), and Thailand (Thai SET 50 Index). Nine countries and regions have fewer than five firms in the sample: Bermuda, Jersey, Jordan, Luxembourg, Macau, Malta, Panama, Peru, and Portugal. Because so few observations may not offer good representation, I excluded firms headquartered in these countries from the analysis, leaving 1,703 firms in 35 countries and 24 industries. I classified industries according to the Global Industry Classification Standard (GICS), which is widely used internationally (Bhojraj et al. 2003).

I gathered gender composition and financial data on each firm from Bloomberg, a widely used financial database that provides company profiles and financial statements (Yan et al. 2019). Bloomberg collects workforce diversity information from firms' annual reports. An increasing number of firms are reporting workforce gender composition annually as part of disclosure on corporate social responsibility. Many of these reports help investors learn not only a firm's current gender diversity but also, how it compares with previous years. For example, Google's 2015 Corporate

Social Responsibility Report report states: “31% of our employees were women, a 1% increase from last year.” Of the 1,703 firms, 1,069 (63%) have disclosed their workforce gender composition through such reports and have, on average, 4.7 years of observations between 2007 and 2014. Most of the firms missing this information are headquartered in Asia and North America. Selection bias could potentially confound the results; I, therefore, ran separate analyses on firms headquartered in Europe and Latin America, where selection bias is a relatively minor issue. Findings from this subsample are substantively similar to findings from the full sample.

Finally, although I used the country location of each firm’s headquarters, it is possible that some firms focus heavily on an overseas market and are, therefore, also subject to a different set of institutional norms.

I, therefore, obtained data from Bloomberg on firms’ market distribution by geography and designated a firm as overseas oriented if its largest geographical market segment is a country other than its headquarters country. Of my sample, 202 firms (19%) are categorized as overseas oriented. I ran a robustness check by grouping these firms into a separate country category in calculating normative legitimacy; this does not substantively change the results.

Tables 1 and 2 give a detailed breakdown of the sample by country and industry, respectively.

Analytic Strategy

I used linear regression models with fixed effects on firms and country-year dyads to explore patterns between gender diversity and firm performance across different contexts. A firm fixed effects model accounts

Table 1. Firm Distribution by Country

Country	Number of firms in main sample	Number of firms with valid data	Average percentage of women workers in sample	Percentage of women among all board members	Percentage of firms with diversity policies	Laws supporting women at work (score)
Australia	187	142	36	11	77	6.5
Austria	20	15	27	9	77	10
Belgium	10	10	41	11	68	9.3
Brazil	66	58	28	5	72	7
Canada	57	47	31	11	42	8
Chile	5	5	26	3	58	6
China	16	14	43	8	38	6
Colombia	20	18	36	9	59	5
Denmark	10	10	44	16	63	8
Finland	9	9	32	23	75	10
France	48	47	38	15	86	8
Germany	39	39	30	13	72	10
Hong Kong	36	21	43	9	36	7
India	30	22	14	4	36	5
Indonesia	44	12	15	5	75	5
Ireland	14	7	31	9	57	7
Israel	19	6	45	17	64	7
Italy	18	18	31	8	68	8
Japan	150	44	27	1	43	10
Malaysia	17	13	37	8	59	4
Mexico	10	9	23	6	67	6
Netherlands	17	15	37	13	76	9
Norway	6	6	30	37	86	8
Philippines	30	7	40	11	57	5
Russia	14	10	44	11	33	8
Singapore	26	13	39	6	36	5
South Africa	30	30	41	16	83	6
South Korea	21	21	25	1	61	8
Spain	20	20	37	10	84	9
Sweden	26	26	36	27	84	8
Switzerland	33	32	39	9	65	6.6
Taiwan	12	12	37	5	67	8
Thailand	50	16	35	8	63	4
United Kingdom	105	103	40	12	90	7
United States	488	192	35	12	51	6
Total	1,703	1,069	35	10	67	7.3

Table 2. Firm Distribution by Industry

GICS industry group	Number of firms in main sample	Number of firms with valid data	Average percentage of women workers in sample	Percentage of women among all board members	Percentage of firms with diversity policies
Automobiles & components	42	24	14	6	66
Banks	130	89	55	12	59
Capital goods	159	87	21	9	46
Commercial & professional services	46	34	34	12	77
Consumer durables & apparel	52	34	44	12	67
Consumer services	46	26	47	12	69
Diversified financials	68	37	42	11	64
Energy	117	79	24	8	59
Food & staples retailing	28	20	51	14	62
Food, beverage & tobacco	82	46	31	11	75
Healthcare equipment & services	53	23	54	13	72
Household & personal products	20	14	43	17	67
Insurance	52	31	54	13	72
Materials	194	151	17	8	67
Media	51	32	48	14	64
Pharmaceuticals & biotechnology	56	30	46	10	66
Real estate	102	50	48	10	61
Retailing	64	31	56	15	53
Semiconductors	25	10	32	7	72
Software & services	51	26	30	10	69
Technology hardware	44	22	33	9	75
Telecommunication services	52	38	39	11	90
Transportation	63	46	32	10	73
Utilities	106	89	23	12	48
Total	1,703	1,069	35	9	57

for unobserved time-invariant firm characteristics. In this sample, 5.8% of the firms have a single observation and are, therefore, dropped in firm fixed effects models. The average sample firm has a 9% change in the number of female workers, suggesting at least some within-firm variation in gender composition during the study period.

Likewise, I included country-by-year dyadic fixed effects to account for country-level changes each year, because a firm's stock price and revenue can be driven by a country's economic growth. The inclusion of country-year-dyad fixed effects controls for country-level differences among firms, eliminating the need for other country-level controls in the model.

Although the large number of parameters used in fixed effects models makes them less efficient than random effects models, they provide more stringent tests of hypotheses (Halaby 2004). As an alternate

assessment, I also performed analyses using firm random effects models. Because fixed effects cannot account for time-varying within-cluster correlation, I clustered standard errors at the firm level.

Measures of Firm Performance

I used two measures of firm performance as the dependent variables: Tobin's *Q* and return on assets (ROA). Tobin's *Q* is calculated as a firm's market value over the replacement value of its assets. Because investors determine the market value, Tobin's *Q* directly measures the market's perception of a firm's long-term value. ROA measures actual return without taking into account stock market speculations. As Tables 3 and 4 show, the two measures are correlated at 0.5. Because ROA can influence market valuation, I include it as a control in models predicting Tobin's *Q*.

Table 3. Variable Summary

Number	Variable	Mean	SD	Min	Max
1	Gender diversity ($t - 1$)	0.39	0.1	0	0.5
2	Country avg female pct on boards	0.11	0.1	0.01	0.38
3	Industry avg female pct on boards	0.09	0.02	0.03	0.15
4	Country pct firms with diversity policy	0.67	0.2	0.07	0.96
5	Industry pct firms with diversity policy	0.57	0.1	0.22	0.90
6	Country laws supporting women at work	7.3	1.5	4	10
7	Debt-to-equity ratio (log)	4.0	1.4	0	11.8
8	Total employees (log)	9.9	2.0	1.4	21.7
9	Employee turnover (pct)	0.03	0.3	-5	1
10	Firm diversity policy	0.87	0.3	0	1
11	Pct females on boards	0.15	0.1	0	0.7
12	Return on assets	5.2	8.1	-84	115
13	Tobin's Q (log)	0.28	0.6	-3.5	3.6

Gender Diversity Measure

To measure a firm's gender diversity in a given year, I used the conventional Blau's index (Richard et al. 2004, Ali et al. 2011): $Gender\ diversity = 1 - (\text{percentage of women workers})^2 - (\text{percentage of men workers})^2$. The resulting variable ranges from 0 to 0.5, with a higher value indicating greater gender diversity. I lagged measures of gender diversity by one year. As a robustness check, I replaced Blau's index with the percentage of female employees in a firm. The two measures are highly correlated ($cor = 0.8$), and the resulting models are substantively similar.

Measures of Normative Legitimacy and Regulatory Legitimacy

I measured the normative legitimacy of gender diversity using two methods. The first is the prevalence of women on boards of directors in each country and industry. Having women in important and visible positions signals that organizations value gender diversity and see the presence of women in their workforces as appropriate and desirable (Lamkin Broome and Krawiec 2008, Dobbin and Jung 2011, Skaggs et al. 2012, Dezsó et al. 2016). For example, crossnational analyses found

that the prevalence of women on boards in a country is strongly correlated with various other proxies of that country's diversity norms (Grosvold 2011).

Because the main sample is biased toward larger firms, I gathered a more representative sample in each country and industry to measure the prevalence of women on boards. The S&P Global Broad Market Index is one of the broadest and most representative stock indices, covering 11,000 large-, middle-, and small-cap firms worldwide. Bloomberg offers annual data on board composition for over 80% of the firms in the Broad Market Index.² Using this more representative sample, I constructed normative legitimacy based on the average percentage of women board members in a country or industry.

The second measure of normative legitimacy is the percentage of firms in a country or industry that have publicly announced prodiversity policies or programs. Past studies suggest that organizations' public commitment to diversity reflects its normative legitimacy in the institutional environment (Edelman 1992, Dobbin et al. 2011). Every year, Bloomberg tracks over 8,000 firms in the Broad Market Index on whether they have announced, through press releases

Table 4. Correlations

Number	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Gender diversity ($t - 1$)	1												
2	Country avg female pct on boards	0.1	1											
3	Industry avg female pct on boards	0.4	0.1	1										
4	Country pct firms with diversity policy	0.1	0.5	0.2	1									
5	Industry pct firms with diversity policy	0.0	0.2	0.4	0.4	1								
6	Country laws supporting women at work	-0.0	0.1	-0.1	0.2	-0.1	1							
7	Debt-to-equity ratio (log)	0.1	0.0	0.1	0.0	0.0	0.0	1						
8	Total employees (log)	0.0	-0.0	-0.0	0.0	0.1	0.0	0.1	1					
9	Employee turnover (pct)	-0.0	-0.0	-0.0	0.0	0.0	-0.1	-0.1	0.2	1				
10	Firm diversity policy	0.1	0.2	0.0	0.2	0.1	0.0	0.0	0.2	-0.0	1			
11	Pct females on boards	0.2	0.6	2.2	0.2	0.1	-0.0	0.1	0.1	-0.1	0.1	1		
12	Return on assets	-0.0	0.0	-0.0	-0.0	0.0	-0.2	-0.3	-0.0	0.1	0.0	0.0	1	
13	Tobin's Q (log)	0.1	0.1	0.00	-0.0	0.1	-0.2	-0.3	-0.0	0.00	0.0	0.1	0.5	1

or investors’ reports, a commitment to increase diversity, ensure equal employment, promote affirmative action, or otherwise support diversity. The two measures of normative legitimacy are moderately correlated (0.5 at the country level and 0.4 at the industry level).

To measure regulatory legitimacy, I used the Women, Business, and the Law database provided by the World Bank Group to examine each country’s legal environment for women in the workplace. Since 2010, the World Bank Group has issued biannual reports that measure gender inequality in the law for over 140 countries. These reports are compiled by a team of experienced lawyers and legal experts who use a consistent set of metrics across countries in evaluating legal frameworks to “ensure data comparability” (World Bank Group). A section of the report focuses on the regulatory environment for women in the workplace, including laws on maternity and parental leave, nondiscrimination and equal remuneration, retirement age, and legal restrictions to certain occupations and tasks. Using this information, I assigned each country a score, which I used as the measure of the regulatory legitimacy of gender diversity in each country-year. The appendix includes more details on the construction of this variable.

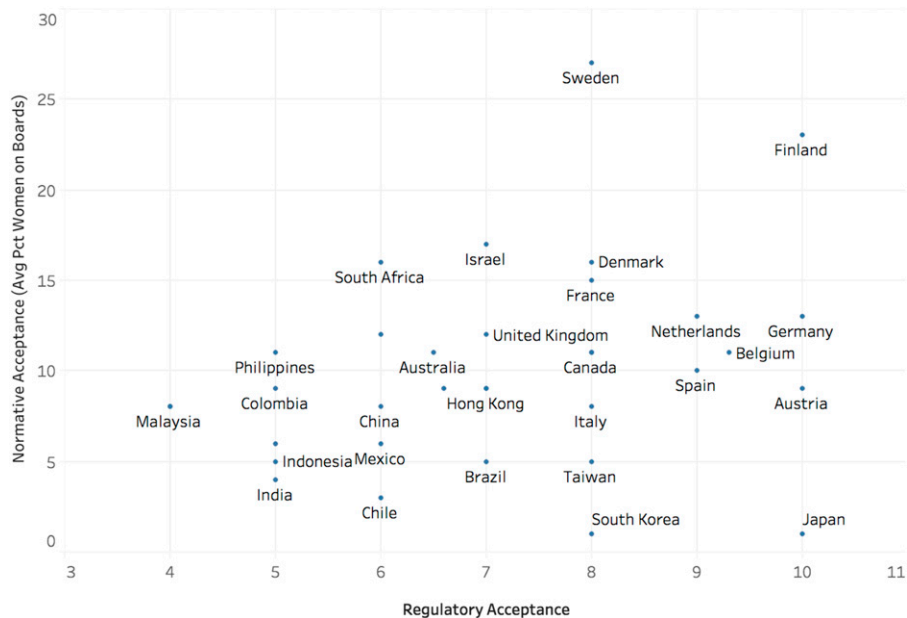
As discussed earlier, normative legitimacy and regulatory legitimacy may influence each other. Not surprisingly, in my sample of countries, the regulatory legitimacy measure and the two normative legitimacy measures have positive correlations (0.2 and 0.3 at the country-year level, respectively). However, as Figure 1 shows, some countries rank high in one type of legitimacy but not in the other, suggesting

considerable distinctions between the two types. For example, both Japan and South Korea have strong regulatory support for women in the workplace but weak normative acceptance of gender diversity.

Controls

I included the following time-varying firm-level variables collected from Bloomberg: number of employees, percentage of employee turnover, whether a firm has a diversity policy, and percentage of women board members (Dobbin and Jung 2011). The number of employees accounts for a firm’s size and the percentage of turnover controls for possible firm downsizing, both of which may influence performance. At the country level, I included a country’s gender wage gap, female-to-male ratio for years of schooling, and GDP per capita and interacted them with gender diversity as additional controls. Data for these variables come from the Organisation for Economic Co-operation and Development (OECD) and the International Labour Organization (ILO) among other sources.³ Gender wage gap and female-to-male ratio for years of schooling help capture gender differences in human capital and workplace hierarchy, which could confound the performance effect of gender diversity. It is worth noting that, although wage and education gender gaps could reflect a country’s institutional environment, they are also influenced by other factors and only weakly correlated with a country’s normative and regulatory acceptance of gender diversity (at the country-year level, none of the correlations surpass 0.2). Finally, at the industry level, I adopted the criteria in Joshi and Roh (2009, p. 613) and categorized each firm as manufacturing,

Figure 1. (Color online) Institutional Legitimacy of Gender Diversity



service, or high technology based on its main industry; then, I interacted gender diversity with the firm's industry type to account for differences in industry activities. I also controlled for each industry's gender segregation and interacted it with gender diversity to consider the possibility that gender diversity may embody different meanings in highly segregated industries and industries with no segregation. I obtained each industry's level of gender segregation from the work of Cartwright et al. (2011), which constructed these values based on data from the United States.

Results

Results suggest that the more gender diversity has been normative accepted, the more it positively relates to subsequent market valuation and firm revenue. Table 5 uses linear models with firm fixed effects on the entire sample. Table 6 includes additional variables to account for alternative explanations. Table 7 includes lagged dependent variables, because a firm's past performance could influence its future performance. Table 8 uses firm random effects instead of fixed effects to give between-firm comparisons.

Table 5 uses firm fixed effects. Models (1) and (6) examine the correlation between a firm's gender diversity and its subsequent ROA and Tobin's Q . Gender diversity by itself has no statistically significant correlation with either revenue or market valuation, a result mostly consistent with previous studies (Richard et al. 2006, Ali et al. 2011). However, normative legitimacy and regulatory legitimacy in the institutional environment have significant moderating influences. Models (2)–(5) show that all measures of normative legitimacy, at both the country and industry levels, positively moderate the correlation between gender diversity and ROA. Models (3) and (4) include a country's regulatory legitimacy, which also positively moderates the relationship between gender diversity and ROA. Models (7)–(10) use Tobin's Q as the measure of firm performance and show a similar pattern. Normative legitimacy and regulatory legitimacy of gender diversity, at both the country and industry levels, positively moderate the correlation between gender diversity and Tobin's Q . When a country has high normative legitimacy and regulatory legitimacy of gender diversity (one standard deviation (SD) above the mean), an increase in a firm's gender diversity has a statistically significant positive correlation with both future ROA ($b = 14.7$) and future Tobin's Q ($b = 0.69$). However, when the firm is in a country with low normative legitimacy and regulatory legitimacy of gender diversity (one SD below the mean), the same increase in gender diversity is negatively associated with future ROA ($b = -29.2$) and future Tobin's Q ($b = -0.89$). A similar

pattern occurs across industries. It is worth noting that models predicting Tobin's Q control for ROA, and therefore, the observed effects are owing to investors' perceptions of a firm's future value beyond its current revenue. Overall, Table 5 is consistent with the hypotheses that both normative and regulatory acceptance positively moderate the association between gender diversity and firm performance.

Table 6 includes interactions between gender diversity and additional country- and industry-level variables to account for possible confounders. First, countries vary in their gender wage gaps (Wright et al. 1995a). In some less liberalized markets, gender diversity may simply be a way to lower costs rather than reflecting an institutional norm (Klarsfeld 2010). To account for this possibility, I included the interaction between gender diversity and the country's gender wage gap. Second, another possibility is that cross-national differences in human-capital gender gaps may contribute to the findings in Table 6. It is possible that countries that have legitimized gender diversity in the workplace also have smaller human-capital gender gaps. I addressed this possibility by including the interaction between gender diversity and female-to-male years of schooling ratio. Third, a country's economic development may also moderate the impact of gender diversity on performance (Klarsfeld 2010). I used a country's annual logged GDP as a control and interacted it with gender diversity in Table 6. Fourth, past research has argued that the effect of organizational diversity may differ between technology, service, and manufacturing industries (Joshi and Roh 2009, Ali et al. 2011). Table 6 controls for the interaction between gender diversity and industry type. Fifth, research has shown significant cross-industrial differences in patterns of gender segregation (Wharton and Baron 1987). It is possible that, in highly gender-segregated industries, there is little opportunity for cross-gender interaction, and hence, gender diversity has little meaning to firms, workers, and investors. I, therefore, controlled for the interaction between gender diversity and industry-level gender segregation. Most of these additional interaction terms do not significantly moderate the relationship between gender diversity and performance, with the exception of industry type. Gender diversity tends to be more positively associated with subsequent performance in service industries as is evident in Models (2), (4), and (7). This is presumably because service industries require more customer interaction, innovation, and problem solving, all of which could benefit from gender diversity. Gender diversity also has a more positive correlation with Tobin's Q in high-technology industries but surprisingly, a more negative correlation with ROA. High-technology industries require more creativity and innovation, and therefore, they

Table 5. Predicting Firm Performance, 2007–2014

Variable	ROA					Tobin's Q				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Gender diversity (t - 1)</i>	-9.56 (5.76)	-103.36** (23.68)	-35.69** (8.38)	-99.67** (24.35)	-27.82** (7.27)	-0.20 (0.25)	-3.37** (1.00)	-1.28** (0.47)	-3.29** (1.02)	-0.87* (0.38)
<i>Gender diversity (t - 1) × Country avg female pct on board</i>		75.74* (32.34)					3.75* (1.48)			
<i>Gender diversity (t - 1) × Industry avg female pct on board</i>			362.21** (86.78)					14.95** (5.39)		
<i>Gender diversity (t - 1) × Country pct firms with diversity policy</i>				17.38* (8.41)					1.21** (0.41)	
<i>Gender diversity (t - 1) × Industry pct firms with diversity policy</i>					38.24** (9.17)					1.38* (0.54)
<i>Gender diversity (t - 1) × Country laws supporting women at work</i>		12.04** (2.88)		11.01** (2.83)			0.39** (0.12)		0.32** (0.12)	
<i>Debt-to-equity ratio (log)</i>	-2.38** (0.29)	-2.36** (0.29)	-2.32** (0.29)	-2.34** (0.29)	-2.29** (0.29)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)
<i>Total employees (log)</i>	-0.37 (0.20)	-0.34 (0.19)	-0.37 (0.20)	-0.33 (0.19)	-0.36 (0.20)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
<i>Employee turnover (in pct)</i>	1.12* (0.51)	1.13* (0.51)	1.13* (0.51)	1.12* (0.51)	1.11* (0.52)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
<i>Firm diversity policy</i>	-0.59 (0.50)	-0.55 (0.50)	-0.44 (0.50)	-0.44 (0.50)	-0.33 (0.50)	0.03 (0.02)	0.03 (0.02)	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)
<i>Female pct on boards</i>	0.11 (2.44)	0.03 (2.43)	0.18 (2.42)	0.05 (2.42)	0.14 (2.41)	-0.15 (0.08)	-0.15 (0.08)	-0.15 (0.08)	-0.15 (0.08)	-0.15 (0.08)
<i>Industry avg female pct on board</i>	17.67 (21.86)	28.84 (21.77)	-115.24** (39.70)	-4.45 (2.84)	-20.63** (4.69)	-0.44 (1.08)	0.05 (1.07)	-5.92* (2.45)	-0.34** (0.13)	-0.93** (0.29)
<i>Industry pct firms with diversity policy</i>										
<i>Return on assets</i>										
<i>Constant</i>	-9.75 (21.84)	32.59 (24.14)	21.50* (8.75)	54.34** (14.22)	22.64* (9.44)	-2.67** (0.84)	-1.23 (0.95)	-0.38 (0.36)	1.70** (0.57)	0.65 (0.39)
<i>Observations</i>	5,006	5,006	5,006	5,006	5,006	5,006	5,006	5,006	5,006	5,006
<i>R²</i>	0.14	0.15	0.15	0.15	0.15	0.42	0.42	0.42	0.43	0.42
<i>Number of firms</i>	1,069	1,069	1,069	1,069	1,069	1,069	1,069	1,069	1,069	1,069
<i>Firm fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Country-year fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

** $p < 0.01$, * $p < 0.05$.

Table 6. Predicting Firm Performance: Additional Controls

Variable	ROA					Tobin's Q				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Gender diversity</i> ($t - 1$)	-63.93 (88.79)	-93.04 (88.46)	-27.54 (87.66)	-94.32 (89.01)	-24.53 (88.17)	-5.53 (4.10)	-6.29 (4.16)	-4.14 (3.95)	-6.21 (4.08)	-4.07 (3.98)
<i>Gender diversity</i> ($t - 1$) \times <i>Country avg female pct on board</i>		81.32* (32.16)					3.78* (1.57)			
<i>Gender diversity</i> ($t - 1$) \times <i>Industry avg female pct on board</i>			365.59** (91.59)					14.14* (5.84)		
<i>Gender diversity</i> ($t - 1$) \times <i>Country pct firms with diversity policy</i>				19.87* (8.46)					1.30** (0.43)	
<i>Gender diversity</i> ($t - 1$) \times <i>Industry pct firms with diversity policy</i>					40.49** (8.78)					1.45** (0.54)
<i>Gender diversity</i> ($t - 1$) \times <i>Country laws supporting women at work</i>		12.80** (3.09)		11.46** (3.10)			0.43** (0.13)		0.34** (0.13)	
<i>Gender diversity</i> ($t - 1$) \times <i>Gender wage gap</i>	-0.17 (0.57)	-0.06 (0.54)	0.19 (0.56)	0.11 (0.56)	0.35 (0.56)	0.03 (0.02)	0.03 (0.02)	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)
<i>Gender diversity</i> ($t - 1$) \times <i>Female to male years of schooling</i>	-41.16 (61.93)	-27.38 (64.25)	-81.48 (58.02)	-32.95 (61.50)	-95.31 (56.81)	0.87 (3.76)	0.92 (3.98)	-0.70 (3.43)	0.12 (3.59)	-1.11 (3.44)
<i>Gender diversity</i> ($t - 1$) \times <i>GDP per capita</i> (log)	8.94 (5.68)	0.23 (6.64)	6.76 (5.57)	1.11 (6.79)	7.77 (5.66)	0.35 (0.35)	0.06 (0.38)	0.26 (0.34)	0.13 (0.38)	0.30 (0.34)
<i>Gender diversity</i> ($t - 1$) \times <i>Service industry</i>	22.57 (12.31)	28.43* (12.92)	10.26 (13.09)	28.28* (13.14)	21.28 (12.66)	0.73 (0.46)	0.94* (0.48)	0.26 (0.49)	0.94 (0.48)	0.68 (0.47)
<i>Gender diversity</i> ($t - 1$) \times <i>Technology industry</i>	-191.37 (99.96)	-186.26* (92.54)	-203.04* (98.84)	-188.21* (93.24)	-194.64* (98.00)	8.81** (3.06)	8.89** (3.27)	8.32** (3.09)	8.65** (3.19)	8.61** (3.08)
<i>Gender diversity</i> ($t - 1$) \times <i>Industry gender segregation</i>	-1.90 (1.74)	-1.62 (1.66)	-1.83 (1.73)	-1.79 (1.65)	-1.42 (1.72)	0.03 (0.10)	0.04 (0.10)	0.03 (0.10)	0.03 (0.09)	0.05 (0.10)
<i>Debt-to-equity ratio</i> (log)	-2.36** (0.29)	-2.34** (0.28)	-2.31** (0.28)	-2.31** (0.29)	-2.27** (0.28)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)
<i>Total employees</i> (log)	-0.35 (0.20)	-0.32 (0.20)	-0.37 (0.20)	-0.31 (0.20)	-0.35 (0.20)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
<i>Employee turnover</i> (in pct)	1.12* (0.52)	1.12* (0.52)	1.15* (0.52)	1.11* (0.52)	1.12* (0.53)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
<i>Firm diversity policy</i>	-0.64 (0.51)	-0.60 (0.50)	-0.50 (0.50)	-0.48 (0.50)	-0.41 (0.50)	0.03 (0.02)	0.03 (0.02)	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)
<i>Female pct on boards</i>	0.25 (2.47)	0.09 (2.47)	0.26 (2.46)	0.12 (2.46)	0.22 (2.45)	-0.15 (0.08)	-0.15 (0.08)	-0.15 (0.08)	-0.15 (0.08)	-0.15 (0.08)
<i>Industry avg female pct on board</i>	20.13 (21.76)	30.32 (21.71)	-116.65** (41.50)			-0.51 (1.06)	-0.08 (1.06)	-5.79* (2.64)		
<i>Industry pct firms with diversity policy</i>				-4.19 (2.86)	-21.40** (4.53)				-0.33* (0.13)	-0.95** (0.29)

Table 6. (Continued)

Variable	ROA					Tobin's Q				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Return on assets</i>										
<i>Constant</i>	-4.35 (26.85)	35.42 (28.55)	17.91 (10.61)	54.85** (14.78)	19.91* (9.82)	0.00* (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Observations	5,006	5,006	5,006	5,006	5,006	5,006	5,006	5,006	5,006	5,006
R ²	0.15	0.15	0.15	0.15	0.15	0.42	0.43	0.43	0.43	0.43
Number of firms	1,069	1,069	1,069	1,069	1,069	1,069	1,069	1,069	1,069	1,069
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**p < 0.01, *p < 0.05.

should benefit more from gender diversity. The negative correlation with ROA in technology industries is inconsistent with theoretical expectations but consistent with previous empirical findings (Joshi and Roh 2009).

For the purpose of examining the main hypotheses, including these additional interaction terms in Table 6 does not substantively change the findings. Consistent with Table 5, both normative legitimacy and regulatory legitimacy moderate the relationship between gender diversity and performance.

Table 7 includes lagged dependent variables. A firm's past performance could influence its subsequent engagement with diversity and inclusion (Zhang 2019). I used Arellano–Bover linear dynamic panel data estimation, which uses an instrument approach and is designed for data sets with many panels and few periods (Blundell and Bond 1998). This approach produces some results that are consistent with the findings in Table 5 and a few that are notably different. First, consistent with the previous models, an industry's normative acceptance of gender diversity positively moderates the correlation between gender diversity and both ROA and Tobin's Q, as shown in Models (3), (5), (8), and (10). Second, a country's normative acceptance shows a positive moderating influence when measured as the percentage of firms with diversity policies (Models (4) and (9)) but not when measured as the average percentage of women board members (Models (2) and (7)). Third, a country's regulatory environment no longer shows a significant moderating influence (Models (4) and (9)). Overall, these models provide evidence that gender diversity's normative legitimacy positively moderates its relationship with performance, but its regulatory legitimacy does not.

Finally, Table 8 uses random effects instead of fixed effects at the firm level. In predicting ROA, Models (1)–(5) show findings consistent with those in Table 5. Both normative and regulatory environments positively moderate the relationship between gender diversity on ROA. In predicting Tobin's Q, normative legitimacy positively moderates the relationship of gender diversity when measured as the percentage of firms with diversity policies, but this moderation effect becomes null when using the average percentage of women board members to measure the normative environment. In Models (7) and (9), regulatory environment does not have a significant influence on how gender diversity is related to Tobin's Q.

In sum, there is fairly strong evidence that gender diversity's normative acceptance in the environment positively moderates its relationship with both firm revenue and market valuation (Hypotheses 1 and 2) but only weak evidence that its regulatory acceptance has such a moderating role (Hypotheses 3 and 4).

Table 7. Predicting Firm Performance: Including Lagged Dependent Variable

Variable	ROA					Tobin's Q				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Gender diversity</i> ($t - 1$)	17.96 (9.54)	-35.73 (35.19)	-30.27* (13.07)	-38.69 (34.08)	-30.62* (12.09)	-0.66 (0.49)	-1.67 (1.70)	-2.10** (0.56)	-3.01 (1.75)	-1.78** (0.54)
<i>Gender diversity</i> ($t - 1$) × <i>Country avg female pct on board</i>		140.41 (80.07)					-1.82 (2.58)			
<i>Gender diversity</i> ($t - 1$) × <i>Industry avg female pct on board</i>			618.06** (157.76)	31.85* (12.39)	80.40** (18.66)			19.39** (6.87)	1.41* (0.60)	1.72* (0.67)
<i>Gender diversity</i> ($t - 1$) × <i>Country pct firms with diversity policy</i>										
<i>Gender diversity</i> ($t - 1$) × <i>Industry pct firms with diversity policy</i>										
<i>Gender diversity</i> ($t - 1$) × <i>Country laws supporting women at work</i>		5.35 (4.23)		4.76 (4.33)			0.17 (0.20)		0.18 (0.21)	
<i>Debt-to-equity ratio</i> (log)	-2.16** (0.38)	-2.12** (0.38)	-2.08** (0.37)	-2.00** (0.37)	-1.96** (0.37)	-0.02 (0.01)	-0.02 (0.01)	-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.01)
<i>Total employees</i> (log)	-0.03 (0.15)	-0.01 (0.15)	-0.01 (0.14)	0.08 (0.15)	0.04 (0.15)	-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
<i>Employee turnover</i> (in pct)	-0.30 (0.55)	-0.29 (0.54)	-0.26 (0.55)	-0.32 (0.54)	-0.24 (0.54)	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)
<i>Firm diversity policy</i>	-0.71 (0.74)	-0.64 (0.72)	-0.41 (0.70)	-0.41 (0.72)	-0.25 (0.70)	-0.02 (0.04)	-0.02 (0.04)	-0.01 (0.04)	-0.01 (0.04)	-0.01 (0.04)
<i>Female pct on boards</i>	3.97 (2.90)	3.96 (2.88)	4.21 (2.95)	4.16 (2.77)	3.62 (2.74)	-0.27 (0.15)	-0.27 (0.15)	-0.28 (0.15)	-0.25 (0.14)	-0.25 (0.15)
<i>Industry avg female pct on board</i>	-17.38 (24.13)	-14.66 (24.31)	-258.17** (67.83)	-4.45 (2.87)	-35.85** (7.43)	-2.10 (1.15)	-2.00 (1.11)	-9.49** (2.50)		
<i>Industry pct firms with diversity policy</i>									0.37** (0.11)	-0.32 (0.29)
<i>Return on assets</i>						-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
<i>Constant</i>	0.30 (10.57)	21.86 (18.76)	26.09** (7.10)	25.58 (18.49)	23.50* (9.38)	0.20 (0.43)	0.62 (0.89)	1.08** (0.23)	0.95 (0.87)	0.48 (0.38)
<i>Observations</i>	3,965	3,965	3,965	3,965	3,965	3,965	3,965	3,965	3,965	3,965
<i>R²</i>	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
<i>Number of firms</i>	629	629	629	629	629	629	629	629	629	629
<i>ROA at t - 1</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>ROA at t - 2</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>ROA at t - 3</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Tobin's Q at t - 1</i>						Yes	Yes	Yes	Yes	Yes
<i>Tobin's Q at t - 2</i>						Yes	Yes	Yes	Yes	Yes
<i>Tobin's Q at t - 3</i>						Yes	Yes	Yes	Yes	Yes

** $p < 0.01$, * $p < 0.05$.

Table 8. Predicting Firm Performance: Random Effects Models

Variable	ROA					Tobin's Q				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Gender diversity</i> ($t - 1$)	0.23 (1.98)	-27.33** (10.04)	-11.99* (5.53)	-28.14** (10.49)	-24.16** (5.10)	0.19 (0.12)	-0.76 (0.54)	-0.48 (0.37)	-0.96 (0.53)	-0.58 (0.31)
<i>Gender diversity</i> ($t - 1$) × <i>Country avg female pct on board</i>		60.25** (23.29)					2.10 (1.28)			
<i>Gender diversity</i> ($t - 1$) × <i>Industry avg female pct on board</i>			150.65* (64.33)	15.37* (6.81)				8.16 (4.34)	0.89* (0.35)	
<i>Gender diversity</i> ($t - 1$) × <i>Country pct firms with diversity policy</i>										
<i>Gender diversity</i> ($t - 1$) × <i>Industry pct firms with diversity policy</i>					44.02** (8.45)					1.37** (0.51)
<i>Gender diversity</i> ($t - 1$) × <i>Country lazos supporting women at work</i>		3.03* (1.25)		2.64* (1.25)			0.10 (0.06)		0.08 (0.07)	
<i>Debt-to-equity ratio</i> (log)	-1.96** (0.17)	-1.96** (0.17)	-1.95** (0.17)	-1.95** (0.17)	-1.92** (0.17)	-0.05** (0.01)	-0.05** (0.01)	-0.05** (0.01)	-0.05** (0.01)	-0.05** (0.01)
<i>Total employees</i> (log)	-0.14 (0.13)	-0.11 (0.13)	-0.14 (0.13)	-0.13 (0.13)	-0.15 (0.13)	-0.01* (0.00)	-0.01* (0.00)	-0.01* (0.00)	-0.01* (0.00)	-0.01* (0.00)
<i>Employee turnover</i> (in pct)	0.85 (0.44)	0.84 (0.44)	0.87* (0.44)	0.86 (0.44)	0.88* (0.45)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
<i>Firm diversity policy</i>	0.07 (0.44)	0.11 (0.44)	0.07 (0.43)	0.14 (0.44)	0.26 (0.43)	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)
<i>Female pct on boards</i>	1.96 (1.96)	1.80 (1.96)	1.96 (1.95)	1.97 (1.94)	2.08 (1.92)	-0.05 (0.08)	-0.06 (0.08)	-0.05 (0.08)	-0.05 (0.08)	-0.05 (0.08)
<i>Industry avg female pct on board</i>	8.04 (9.45)	6.61 (9.54)	-51.01* (25.96)			-0.20 (0.59)	-0.21 (0.59)	-3.34 (1.85)		
<i>Industry pct firms with diversity policy</i>				1.13 (2.22)	-17.50** (4.08)				0.07 (0.12)	-0.51 (0.27)
<i>Return on assets</i>						0.01** (0.00)	0.01** (0.00)	0.01** (0.00)	0.01** (0.00)	0.01** (0.00)
<i>Constant</i>	16.01** (1.92)	27.69** (4.52)	19.39** (2.45)			0.20 (0.12)	0.60* (0.25)	0.04 (0.21)		
Observations	5,006	5,006	5,030	5,006	5,006	5,006	5,006	5,006	5,006	5,006
R ²	1,069	1,069	1,072	1,069	1,069	1,069	1,069	1,069	1,069	1,069
Number of firms	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

** $p < 0.01$, * $p < 0.05$.

Conclusion

What is the relationship between a firm's gender diversity and its subsequent performance? I suggest that the answer depends on the institutional context. Using a unique longitudinal data set of 1,069 firms in 35 countries and 24 industries, I show that the more gender diversity is normatively accepted in a country or industry, the more it is positively correlated with a firm's subsequent market valuation and revenue.

This study uses institutional theory to explain the relationship between gender diversity and firm performance. In recent years, a rich literature has emerged on gender diversity and performance, but it has produced highly inconsistent predictions and findings: some propose and find a positive association between gender diversity and subsequent performance, whereas others show a negative or null association. As recent review articles and metastudies have pointed out, it seems that gender diversity could benefit performance in some settings and harm it in others and that the conditions that moderate its effect need more exploration (Joshi and Roh 2009, Post and Byron 2015). In identifying these conditions, most studies have focused on group-level moderators. This study shifts the focus to macrolevel contexts by examining crossnational and crossindustrial variations. Social norms and regulations could influence how investors, workers, and managers perceive and approach gender diversity. For instance, in some countries and industries, gender diversity is considered a valuable asset that can improve productivity and decision making; therefore, investors may prefer gender-diverse firms, and employees may approach gender diversity positively. Where gender diversity is not valued, investors may see it as detrimental to firms' future performance, and women employees may experience more discrimination and stereotyping, diminishing their ability to contribute to firm performance. Thus, the institutional environment shapes people's attitudes and approaches toward gender diversity and moderates its relationship with performance.

In investigating the institutional context, this study differentiates between normative and regulatory environments. Across most models, normative legitimacy of gender diversity has a significant and positive moderating role on the relationship between gender diversity and firm performance, suggesting that societal norms are important in shaping how investors, workers, and managers approach gender diversity. Regulatory legitimacy of gender diversity shows a significant moderating role in some models but not in others. It is possible that the regulatory environment has less influence on investors, workers, and managers than the normative environment does. When people

see diversity as a regulatory requirement and do not accept its value, they may simply ignore it or even approach it negatively. Hence, gender diversity may not benefit a firm when it has been accepted by regulators but not by societal norms. This possible distinction between normative and regulatory institutions can help us better understand the workings of various types of institutional forces (Aldrich and Marlene Fiol 1994, Scott 1995, Zimmerman and Zeitz 2002, Archibald 2004, Deephouse and Suchman 2008).

Although the results draw out a possible distinction between normative and regulatory institutions, I also recognize their influence on each other. In particular, regulations can help shape organizational actors' perceptions of the appropriate norms for their organizations; for example, the Equal Employment Opportunity law in the United States led to the emergence of diversity experts whose advocacy over time promoted the normative acceptance of diversity (Edelman 1992, Kelly and Dobbin 1998, Dobbin and Kelly 2007). In this study, a country's employment laws on gender may influence its firms' willingness to hire women directors and adopt diversity policies and vice versa as evident from the positive correlation between these measures. Future research should explore this interplay between normative and regulatory forces in the broader institutional environment.

In terms of design, the crossnational sample used in this study offers a unique opportunity to explore diversity issues globally. Research on gender diversity and performance has tended to focus on the United States and other Western countries (Nishii and Özbilgin 2007, Jonsen et al. 2011). This study shows important crossnational differences in how gender diversity relates to performance. Given the generally greater acceptance of gender diversity in Western countries, the benefit of gender diversity should be more readily visible there than in Asia, Latin America, the Middle East, and Africa. These important crossnational differences imply that research findings from the United States and Europe cannot be directly extrapolated to non-Western countries and suggest that future studies should further examine gender diversity and firm performance in non-Western contexts.

This study has limitations. First, the focus on leading firms may create generalizability issues. Although leading firms offer an advantageous study setting because of their greater connection to the institutional environment, institutional influence may be less salient in smaller firms. Second, although this study examines gender diversity in the general workforce, a separate literature has focused on diversity in top management teams (Post and Byron 2015, Jeong and Harrison 2017). Workforce diversity and top management diversity have important distinctions (Richard 2000),

and therefore, it is not clear whether the institutional influences hypothesized here apply to top management teams. This could be an interesting direction for future research.

Going forward, it will be worthwhile to further explore the role of the broader social context in determining how gender diversity relates to firm outcomes. The value of gender diversity can be socially constructed; how people perceive and approach it depends on the broader normative environment. The more that people accept gender diversity, the more they will embrace it, and the more it can benefit an organization. For this reason, analysis of gender diversity and firm outcomes should pay close attention to the social context. A fruitful future research direction will be to continue using a crossindustrial and crosscountry design to identify additional contextual variations in the relationship between gender diversity and firm performance. In addition, although this study focuses on gender diversity, the institutional environment may also affect the way that we perceive minority managers and workers; thus, it will be important to explore how institutional contexts moderate the other forms of diversity, such as race, ethnicity, and nationality.

In conclusion, as women continue to make progress in the workplace, understanding the association between gender diversity and firm performance has

significant implications for both practitioners and researchers. Using a crossnational and crossindustrial design, this study underscores the importance of institutional norms and encourages future research to account for broader social contexts in understanding the link between gender diversity and performance.

Acknowledgments

The author acknowledges comments from Bart Bonikowski, Jason Beckfield, Nancy DiTomaso, Frank Dobbin, Robin Ely, Simo Goshev, Alexandra Killewald, Tim Liao, Elena Obukhova, Corinne Post, Orlando Richard, Ned Smith, and two anonymous reviewers.

Appendix. Constructing the Variable *Country Laws Supporting Women at Work*

Since 2010, the World Bank Group has published biannual reports on over 140 countries documenting the legal environment for women in the workplace (part of the Women, Business, and the Law project). In 2016, it issued a score for each country based on 16 questions in the report that best reflect the country's legal conditions for women in the workplace. Because my sample covers the period from 2007 to 2014, I used the 2010 and 2012 reports to construct the score. Those reports contain only 11 of the 16 questions. The questions are listed below: each requires a *yes* or *no* answer. A country's index is simply the number of yes answers. I used the 2010 report to measure a country's score from 2007 to 2012 and the 2012 report to measure its score from 2013 to 2014.

Table A.1. Questions Used to Construct *Country Laws Supporting Women at Work*

Questions

1. Is there paid leave available to women of at least 14 weeks?
2. Do women receive at least 2/3 of their wages for the first 14 weeks or the duration of the leave if it is shorter?
3. Are the maternity leave benefits paid by the government?
4. Is there paid parental leave?
5. Does the law mandate equal remuneration for work of equal value?
6. Is dismissal of pregnant workers prohibited?
7. Can parents work flexibly?
8. Can women work the same night hours as men?
9. Can women work in jobs deemed hazardous, arduous, or morally inappropriate in the same way as men?
10. Are the ages at which men and women can retire with full pension benefits equal?
11. Are the ages at which men and women can retire with partial pension benefits equal?

Endnotes

¹There are several alternative names for institutional environment (DiMaggio and Powell 1983), including organizational field (Scott 1991), institutional field (Meyer and Rowan 1977), societal sector (Scott and Meyer 1982), and institutional sphere.

²The Bloomberg database has much more complete coverage for board data than for workforce data. For most of the 11,000 firms in the Broad Market Index, Bloomberg provides board data but not workforce data. Hence, I use the Broad Market Index only to measure normative legitimacy in each country and industry.

³The main data source on gender wage gap and educational attainment by gender is the OECD and the ILO. For countries not included in these two databases, I draw data from wageindicator.org, the United Nations Economic Commission for Europe, United

Nations Human Development Reports, and World DataBank from the World Bank Group.

References

- Ahern KR, Dittmar AK (2012) The changing of the boards: The impact on firm valuation of mandated female board representation. *Quart. J. Econom.* 127(1):137–197.
- Aldrich HE, Marlene Fiol C (1994) Fools rush in? The institutional context of industry creation. *Acad. Management Rev.* 19(4): 645–670.
- Ali M, Kulik CT, Metz I (2011) The gender diversity—performance relationship in services and manufacturing organizations. *Internat. J. Human Resource Management* 22(7):1464–1485.

- Archibald ME (2004) Between isomorphism and market partitioning: How organizational competencies and resources foster cultural and sociopolitical legitimacy, and promote organizational survival. Johnson C, ed. *Legitimacy Processes in Organizations* (Emerald Group, Bingley, UK), 171–211.
- Arias ME, Guillen M (1998) The transfer of organizational techniques across borders: combining neo-institutional and comparative perspectives. Alvarez JL, ed. *The Diffusion and Consumption of Business Knowledge* (Palgrave Macmillan, London), 110–137.
- Bhojraj S, Lee C, Oler DK (2003) What's my line? A comparison of industry classification schemes for capital market research. *J. Accounting Res.* 41(5):745–774.
- Bilimoria D (2006) the relationship between women corporate directors and women corporate officers. *J. Management Issue* 18(1): 47–61.
- Blundell R, Bond S (1998) Initial conditions and moment restrictions in dynamic panel data models. *J. Econometrics* 87(1):115–143.
- Byrne DE (1971) *The Attraction Paradigm*, vol. 11 (Academic Press, New York).
- Carter DA, Simkins BJ, Gary Simpson W (2003) Corporate governance, board diversity, and firm value. *Financial Rev.* 38(1):33–53.
- Cartwright B, Edwards PR, Wang Q (2011) Job and industry gender segregation: NAICS categories and EEO-1 job groups. *Monthly Labor Rev.* 134(11):37–50.
- Coffman KB (2014) Evidence on self-stereotyping and the contribution of ideas. *Quart. J. Econom.* 129(4):1625–1660.
- Cox T (1994) *Cultural Diversity in Organizations: Theory, Research and Practice* (Berrett-Koehler, Oakland, CA).
- Deephouse DL, Suchman M (2008) Legitimacy in organizational institutionalism. Greenwood R, Oliver C, Suddaby R, Sahlin K, eds. *The Sage Handbook of Organizational Institutionalism* (Sage, Los Angeles), 49–77.
- Dezsö CL, Ross DG (2012) Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management J.* 33(9):1072–1089.
- Dezsö CL, Ross DG, Uribe J (2016) Is there an implicit quota on women in top management? A large-sample statistical analysis. *Strategic Management J.* 37(1):98–115.
- DiMaggio PJ, Powell WW (1983) The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *Amer. Sociol. Rev.* 48(2):147–160.
- DiTomaso N, Post C, Parks-Yancy R (2007) Workforce diversity and inequality: Power, status, and numbers. *Annual Rev. Sociol.* 33(1): 473–501.
- Dobbin F, Jung J (2011) Corporate board gender diversity and stock performance: The competence gap or institutional investor bias? *North Carolina Law Rev.* 89(3):809–839.
- Dobbin F, Kelly EL (2007) How to stop harassment: Professional construction of legal compliance in organizations. *Amer. J. Sociol.* 112(4):1203–1243.
- Dobbin F, Kim S, Kalev A (2011) You can't always get what you need organizational determinants of diversity programs. *Amer. Sociol. Rev.* 76(3):386–411.
- Dwyer S, Richard OC, Chadwick K (2003) Gender diversity in management and firm performance: The influence of growth orientation and organizational culture. *J. Bus. Res.* 56(12): 1009–1019.
- Edelman LB (1992) Legal ambiguity and symbolic structures: Organizational mediation of civil rights law. *Amer. J. Sociol.* 97(6): 1531–1576.
- Edelman LB, Fuller SR, Mara-Drita I (2001) Diversity rhetoric and the managerialization of law. *Amer. J. Sociol.* 106(6):1589–1641.
- Ely RJ, Thomas DA (2001) Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes. *Admin. Sci. Quart.* 46(2):229–273.
- Frink DD, Robinson RK, Reithel B, Arthur MM, Ammeter AP, Ferris GR, Kaplan DM, Morrisette HS (2003) Gender demography and organization performance: A two-study investigation with convergence. *Group Organ. Management* 28(1):127–147.
- Grosvold J (2011) Where are all the women? Institutional context and the prevalence of women on the corporate board of directors. *Bus. Soc.* 50(3):531–555.
- Halaby CN (2004) Panel models in sociological research: Theory into practice. *Annual Rev. Sociol.* 30:507–544.
- Hannon JM, Milkovich GT (1996) The effect of human resource reputation signals on share prices: An event study. *Human Resource Management* 35(3):405–424.
- Hansen M, Ibarra H, Peyer U (2013) The best-performing CEOs in the world. *Harvard Bus. Rev.* 91(1/2):81–95.
- Heilman ME, Block CJ, Stathatos P (1997) The affirmative action stigma of incompetence: Effects of performance information ambiguity. *Acad. Management J.* 40(3):603–625.
- Herring C (2009) Does diversity pay? Race, gender, and the business case for diversity. *Amer. Sociol. Rev.* 74(2):208–224.
- Hersch J (1991) Equal employment opportunity law and firm profitability. *J. Human Resources* 26(1):139–153.
- Hirsh E, Cha Y (2015) Employment discrimination lawsuits and corporate stock prices. *Soc. Currents* 2(1):40–57.
- Hirsh E, Kornrich S (2008) The context of discrimination: Workplace conditions, institutional environments, and sex and race discrimination charges. *Amer. J. Sociol.* 113(5):1394–1432.
- Hoobler JM, Masterson CR, Nkomo SM, Michel EJ (2016) The business case for women leaders meta-analysis, research critique, and path forward. *J. Management* 44(6):2473–2499.
- Huang L (2018) The role of investor gut feel in managing complexity and extreme risk. *Acad. Management J.* 61(5):1821–1847.
- Ingram P, Silverman B (2002) *The New Institutionalism in Strategic Management* (Emerald Group, Bingley, UK).
- James EH, Wooten LP (2004) Restoring reputation: Firm response strategies for managing a discrimination crisis. Working paper, Darden Business School, University of Virginia, Charlottesville.
- Jeong S-H, Harrison DA (2017) Glass breaking, strategy making, and value creating: Meta-analytic outcomes of women as CEOs and TMT members. *Acad. Management J.* 60(4):1219–1252.
- Jonsen K, Maznevski ML, Schneider SC (2011) Special review article: Diversity and its not so diverse literature: An international perspective. *Internat. J. Cross Cultural Management* 11(1):35–62.
- Joshi A, Roh H (2009) The role of context in work team diversity research: A meta-analytic review. *Acad. Management J.* 52(3): 599–627.
- Kelly E, Dobbin F (1998) How affirmative action became diversity management employer response to antidiscrimination law, 1961 to 1996. *Amer. Behav. Sci.* 41(7):960–984.
- Klarsfeld A, ed. (2010) *SIInternational Handbook on Diversity Management at Work: Country Perspectives on Diversity and Equal Treatment* (Edward Elgar, Cheltenham, UK).
- Konrad AM, Yang Y, Maurer CC (2016) Antecedents and outcomes of diversity and equality management systems: An integrated institutional agency and strategic human resource management approach. *Human Resources Management* 55(1):83–107.
- Lamkin Broome L, Krawiec KD (2008) Signaling through board diversity: Is anyone listening. *Univ. Cincinnati Law Rev.* 77(2): 431–464.
- Lee M, Huang L (2018) Gender bias, social impact framing, and evaluation of entrepreneurial ventures. *Organ. Sci.* 29(1):1–16.
- Lee PM, James EH (2007) She'-E-Os: Gender effects and investor reactions to the announcements of top executive appointments. *Strategic Management J.* 28(3):227–241.
- Lucas JW (2003) Status processes and the institutionalization of women as leaders. *Amer. Sociol. Rev.* 68(3):464–480.

- Matsa DA, Miller AR (2013) A female style in corporate leadership? Evidence from quotas. *Amer. Econom. J. Appl. Econom.* 5(3):136–169.
- McMahon AM (2010) Does workplace diversity matter? A survey of empirical studies on diversity and firm performance, 2000–09. *J. Diversity Management* 5(2):37–48.
- Meyer JW, Rowan B (1977) Institutionalized organizations: Formal structure as myth and ceremony. *Amer. J. Sociol.* 83(2):340–363.
- Nishii LH, Özbilgin MF (2007) Global diversity management: Towards a conceptual framework. *Internat. J. Human Resource Management* 18(11):1883–1894.
- Post C, Byron K (2015) Women on boards and firm financial performance: A meta-analysis. *Acad. Management J.* 58(5):1546–1571.
- Powell WW, DiMaggio PJ, eds. (2012) *The New Institutionalism in Organizational Analysis* (University of Chicago Press, Chicago).
- Richard O (2000) Racial diversity, business strategy, and firm performance: A resource-based view. *Acad. Management J.* 43(2):164–177.
- Richard O, Ford D, Ismail K (2006) Exploring the performance effects of visible attribute diversity: The moderating role of span of control and organizational life cycle. *Internat. J. Human Resource Management* 17(12):2091–2109.
- Richard O, Barnett T, Dwyer S, Chadwick K (2004) Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Acad. Management J.* 47(2):255–266.
- Roberson QM, Park HJ (2007) Examining the link between diversity and firm performance: The effects of diversity reputation and leader racial diversity. *Group Organ. Management* 32(5):548–568.
- Scott WR (1987) The adolescence of institutional theory. *Admin. Sci. Quart.* 32(4):493–511.
- Scott WR (1991) Unpacking institutional arguments. Powell WB, DiMaggio PJ, eds. *The New Institutionalism in Organizational Analysis* (University of Chicago Press, Chicago), 164–182.
- Scott WR (1995) *Institutions and Organizations: Foundations for Organizational Science* (Sage, London).
- Scott WR, Meyer JW (1982) *The Organization of Institutional Sectors* (ERIC Clearinghouse, Washington, DC).
- Shore LM, Chung-Herrera BG, Dean MA, Ehrhart KH, Jung DI, Randel AE, Singh G (2009) Diversity in organizations: Where are we now and where are we going? *Human Resource Management Rev.* 19(2):117–133.
- Skaggs S, Stainback K, Duncan P (2012) Shaking things up or business as usual? The influence of female corporate executives and board of directors on women's managerial representation. *Soc. Sci. Res.* 41(4):936–948.
- Smith EB, Gaughan K (2016) Better in the shadows? Attention, media coverage, and market reactions to female CEO announcements. *Acad. Management Annual Meeting Proc.* (Academy of Management, Briarcliff Manor, NY), 1069–1074.
- Suchman MC (1995) Managing legitimacy: Strategic and institutional approaches. *Acad. Management Rev.* 20(3):571–610.
- Tajfel H (1981) *Human Groups and Social Categories: Studies in Social Psychology* (Cambridge University Press, Cambridge, UK).
- Thomas DA, Ely RJ (1996) Making differences matter. *Harvard Bus. Rev.* 74(5):79–90.
- Thornton PH, Ocasio W (2008) Institutional logics. Greenwood R, Oliver C, Suddaby R, Sahlin K, eds. *The Sage Handbook of Organizational Institutionalism* (Sage, London), 99–128.
- Tsui AS, Egan TD, O'Reilly CA III (1992) Being different: Relational demography and organizational attachment. *Admin. Sci. Quart.* 37(4):549–579.
- Turner JC, Hogg MA, Oakes PJ, Reicher SD, Wetherell MS (1987) *Rediscovering the Social Group: A Self-Categorization Theory* (Basil Blackwell, Cambridge, MA).
- Van Knippenberg D, Schippers MC (2007) Work group diversity. *Annual Rev. Psych.* 58:515–541.
- Van Knippenberg D, Haslam SA, Platow MJ (2007) Unity through diversity: Value-in-diversity beliefs, work group diversity, and group identification. *Group Dynamics* 11(3):207–222.
- Van Knippenberg D, van Ginkel WP, Homan AC (2013) Diversity mindsets and the performance of diverse teams. *Organ. Behav. Human Decision Processes* 121(2):183–193.
- Welbourne TM, Cycyota CS, Ferrante CJ (2007) Wall Street reaction to women in IPOs: An examination of gender diversity in top management teams. *Group Organ. Management* 32(5):524–547.
- Westphal JD, Zajac EJ (1998) The symbolic management of stockholders: Corporate governance reforms and shareholder reactions. *Admin. Sci. Quart.* 43(1):127–153.
- Wharton AS, Baron JN (1987) So happy together? The impact of gender segregation on men at work. *Amer. Sociol. Rev.* 52(5):574–587.
- Williams KY, O'Reilly CA III (1998) Demography and diversity in organisations: A review of 40 years of research. Staw BM, Cummings LL, eds. *Research in Organizational Behavior*, vol. 20 (JAI, Greenwich, CT), 77–140.
- Wooten M, Hoffman AJ (2016) Organizational fields past, present and future. Paper 1311, Ross School of Business, University of Michigan, Ann Arbor.
- Wright EO, Baxter J, Birkelund GE (1995a) The gender gap in workplace authority: A cross-national study. *Amer. Sociol. Rev.* 60(3):407–435.
- Wright P, Ferris SP, Hiller JS, Kroll M (1995b) Competitiveness through management of diversity: Effects on stock price valuation. *Acad. Management J.* 38(1):272–287.
- Yan S, Ferraro F, Almandoz J (2019) The rise of socially responsible investment funds: The paradoxical role of the financial logic. *Admin. Sci. Quart.* 64(2):466–501.
- Yang Y, Konrad AM (2011) Understanding diversity management practices: Implications of institutional theory and resource-based theory. *Group Organ. Management* 36(1):6–38.
- Zajac EJ, Westphal JD (2004) The social construction of market value: Institutionalization and learning perspectives on stock market reactions. *Amer. Sociol. Rev.* 69(3):433–457.
- Zhang L (2017) A fair game? Racial bias and repeated interaction between NBA coaches and players. *Admin. Sci. Quart.* 62(4):603–625.
- Zhang L (2019) Who loses when a team wins? Better performance increases racial bias. *Organ. Sci.* 30(1):40–50.
- Zimmerman MA, Zeitz GJ (2002) Beyond survival: Achieving new venture growth by building legitimacy. *Acad. Management Rev.* 27(3):414–431.
- Zucker LG (1987) Institutional theories of organization. *Annual Rev. Sociol.* 13(1):443–464.
- Zuckerman EW (1999) The categorical imperative: Securities analysts and the illegitimacy discount. *Amer. J. Sociol.* 104(5):1398–1438.

Letian Zhang is an assistant professor at Harvard Business School. He received his PhD in sociology from Harvard University and his BS in mathematics from Stanford University. His current projects examine diversity and inequality in organizations.