WOMEN ON BOARDS

GLOBAL TRENDS IN GENDER DIVERSITY ON CORPORATE BOARDS

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EXECUTIVE SUMMARY

Many global asset owners and other institutional investors are increasingly focused on the gender composition of company boards.[1] MSCI ESG Research's research shows that companies in the MSCI World Index with strong female leadership[2] generated a Return on Equity of 10.1% per year versus 7.4% for those without (as of September 9, 2015, measured on an equal-weighted basis), confirming previous research, though we could not establish causality. We also found that companies lacking board diversity suffered more governance-related controversies than average. We did not, however, find strong evidence that having more women in board positions indicates greater risk aversion.

The possibility of performance benefits coupled with non-financial studies suggesting diversity could improve decision-making have been cited by both global asset owners and advocacy groups in support of efforts to promote a 30% global female director goal. MSCI ESG Research estimates that, based on current "business as usual" trends, women are unlikely to comprise 30% of directorships in publicly held companies until 2027. However, there are two mechanisms we explored to achieve the 30% target at a faster pace:

- The **Accelerated Conversion** approach would double the proportion of new board seats taken by women reducing the 30% estimate by five years, and;
- The **Accelerated Turnover** approach would keep the current rate of women taking new board seats at the historical rate, but turnover of existing board seats could increase resulting in a less disruptive "refresh" achieving the 30% target by 2020.

Focusing exclusively on this 30% top-line number, however, can mask other dimensions of female leadership. U.S. companies generally lag their European counterparts when it comes to the percentage of women on their boards, but U.S. companies are far more likely to appoint a female CEO or CFO. As of August 15, 2015, one-sixth (16.9%) of the MSCI USA Index had at least one woman serving as CEO or CFO; outside the U.S., this figure is 11.4%.

Some observers claim there is a dearth of qualified women to take board seats. However, when executive positions are taken into account, the gap between men and women in corporate leadership roles may be smaller than perceived. We find that while female directors typically lagged their male counterparts in C-Suite experience, they outpaced men in achieving advanced educational degrees.

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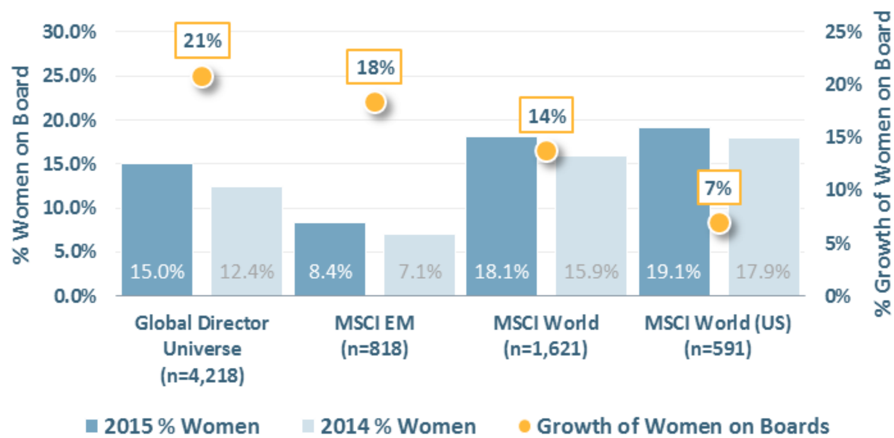
[1] Based on unpublished research conducted earlier this year by MSCI ESG Research on behalf of a leading global asset owner. Also, data in this paper refers to the number of *companies* in MSCI indexes found in ESGManager; the number of *constituents* is slightly higher because some companies, particularly outside the U.S., employ multiple share classes.

[2] Time period for evaluating "strong female leadership" was between December 2009 and August 2015. "Strong female leadership" is defined within the paper.

THE GLOBAL CONTEXT

- Among MSCI World Index companies, women held 18.1% of all directorships (up from 15.9% last year) as of August 15, 2015, with women at MSCI USA companies holding 19.1% of directorships (up from 17.9% in 2014).
- Female directors comprised only 8.4% of boards at MSCI Emerging Markets Index companies (up from 7.1% in 2014).
- Among the 4,218 companies covered in our global director reference universe, as of August 15, 2015, women held 15.0% of all directorships, up from 12.4% last year and an increase of 4.8% since 2009.
- Norway (40.1%), Sweden (33.7%) and France (33.5%) have the highest percentage of board seats filled by women.

Exhibit 1: Global Trend in Women on Boards, 2014-2015



Source: MSCI ESG Research

Within the global director reference universe, 73.5% of companies have at least one female director, though that number drops to just 20.1% for boards with at least three women. Academic research suggests that three women may constitute a critical mass to allow women to contribute more equally to group decision making.[3]

[3] "Increasing the number of women to three or more enhances the likelihood that women's voices and ideas are heard and that boardroom dynamics change substantially," Kramer, V. W., Konrad, A. M., and Erkut, S. "Critical Mass on Corporate Boards: Why Three or More Women Enhance Governance." Research & Action Report Fall/Winter 2006. See also:

WOMEN ON BOARDS AND CORPORATE PERFORMANCE

- Companies that had strong female leadership generated a Return on Equity of 10.1% per year versus 7.4% for those without (on an equal-weighted basis).
- Companies lacking board diversity tend to suffer more governance-related controversies than average.
- We did not find strong evidence that having more women in board positions indicate greater risk aversion

The interest in the gender diversity of boards has increased in recent years in part due to some evidence from industry studies demonstrating a positive link between women in leadership positions and corporate performance. Credit Suisse's study,[4] for example, shows that between 2012 and 2014, large companies (greater than USD 10 billion in market cap) with at least one woman on the board outperformed other large companies by 5 percentage points on a sector-neutral basis.

MSCI ESG Research's analysis largely corroborates Credit Suisse's key findings. In our analysis, we categorized the MSCI World companies into two groups, one with strong female leadership and one without. We designate a company as having strong female leadership if the company's board has three or more women or if its percentage of women on the board is above its country average. A company is also considered to have "strong female leadership" if it has a female CEO and at least one woman on the board. [5]

- On an equal-weighted basis, we find that as of September 9, 2015, MSCI World Index companies with strong female leadership enjoyed both premium returns (average annual ROE of 10.1% versus 7.4%) and superior average valuation (price-to-book ratio of 1.76 versus 1.56) compared to companies without strong female leadership.[6]

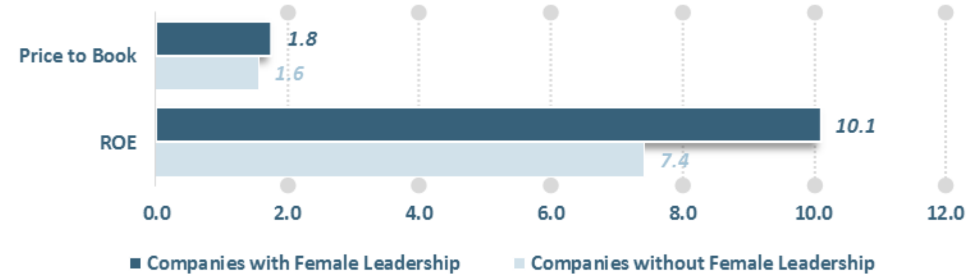
1. Jia, M. and Zhang, Z. "Critical Mass of Women on BODs, Multiple Identities, and Corporate Philanthropic Disaster Response: Evidence from Privately Owned Chinese Firms." Journal of Business Ethics 118 (2013): 303-317.
2. Konrad, A. M., Kramer, V., and Erkut, S. "Critical Mass: The Impact of Three or More Women on Corporate Boards" Organizational Dynamics 37.2 (2008): 145.
3. Torchia, M., Calabro, A., and Huse, M. "Women Directors on Corporate Boards: From Tokenism to Critical Mass." Journal of Business Ethics 102 (2011): 299-317.

[4]Credit Suisse. "The CS Gender 3000: Women in Senior Management." September 2014.

[5] In our analysis, we also excluded companies from the list if they have been implicated in discrimination allegations in the past three years, as captured by MSCI's controversies database. As of August 15, 2015, 53 companies from the MSCI ACWI Index are disqualified from the "strong female leadership" category due to these controversies.

[6] Analysis is conducted based on board composition as of August 15, 2015 and financial data as of September 9, 2015.

Exhibit 2: Financial Characteristics of Companies with Strong Female Leadership (September 9, 2015),[7] MSCI World Companies



Source: MSCI ESG Research

Similar to other studies, MSCI ESG Research's analysis does not posit a causal link between women in leadership positions and corporate performance. Given the limited historical data, it cannot be clearly established why companies with stronger female leadership might demonstrate some superior financial characteristics.

However, academic research in management and social psychology has long shown that groups with more diverse composition tended to be more innovative and made better decisions.[8] For example:

- One study using mathematical modeling concluded that groups of randomly selected problem solvers outperformed groups of high ability problem solvers because the latter group's greater ability is more than offset by their lack of problem solving diversity.[9]

[7] We designate a company as having strong female leadership if the company's board has three or more women or if its percentage of women on the board is above its country average. A company is also categorized in the 'strong female leadership' group if it has a female CEO and at least one woman on the board. We disqualify companies from 'strong female leadership group' if they have been implicated in discrimination allegations in the past three years, as captured by MSCI's controversies database.

[8] Research in this area start with the classic studies of failures in judgment in homogenous groups (*Janis, I. L. (November 1971). "Groupthink." Psychology Today 5 (6): 43–46, 74–76)*. More recent treatments on diversity and decision making and problem solving include Page, Scott. *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies* (Princeton University Press, 2007.

[9] Hong, Lu and Page, Scott. "Groups of diverse problem solvers can outperform groups of high-ability problem solvers.'". Edited by William J. Baumol, New York University, New York, NY, and approved September 17, 2004 (received for review May 25, 2004).

- Informational diversity among a group improved performance, according to field research; the more complicated the task that required interdependent work, the more pronounced the effect of diversity.[10]
- While homogenous groups felt more confident about their decisions than diverse groups, the former groups' decisions were more often wrong compared to those of diverse groups, according to one study.[11]

We think that enhanced decision making capacity of more diverse boards is likely an important benefit of having more women on boards. An alternative explanation for why companies might benefit from having more women directors is that women maybe more risk averse in decision making.[12] This line of reasoning would posit that companies with stronger female leadership might have enjoyed a performance benefit over the sample periods from better risk management. Despite some indications that this could be a plausible explanation, taken in aggregate, our analysis does not support this view.

To test this hypothesis, we first extended our analysis from our 2014 Women on Boards report. We used MSCI ESG Research's proprietary database of companies implicated in controversial business practices over the past three years[13] and compared it to boards with gender diversity above and beyond regulatory mandates. Once again, we found fewer instances of governance-related controversies such as cases of bribery, corruption, fraud and shareholder battles. In this part of the analysis, we analyzed the broader MSCI ACWI Index universe of over 2,400 developed and emerging market companies. However, most of our focus in the rest of this paper remains on the MSCI World Index, which includes only developed market companies.

Exhibit 3 details the results. Companies with board gender diversity in the bottom quartile against their country's average gender diversity suffered 24% more governance-related controversies than average (normalized for market capitalization) between 2012 and 2015.

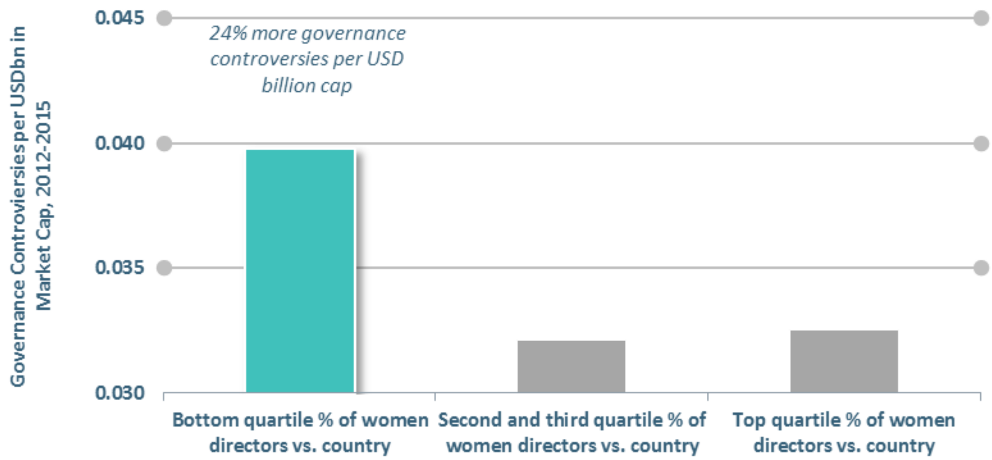
[10] Why Differences Make a Difference: A Field Study of Diversity, Conflict, and Performance in Workgroups. Karen A. Jehn; Gregory B. Northcraft; Margaret A. Neale Administrative Science Quarterly , Vol. 44, No. 4. (December 1999), pp. 741-763.

[11] Is the Pain Worth the Gain? The Advantages and Liabilities of Agreeing With Socially Distinct Newcomers *Personality & Social Psychology Bulletin March 2009 35: 336-350, first published on December 19, 2008*

[12] Jianakoplos, N. and Bernasek, A. (1998) Are Women More Risk Averse? Economic Inquiry, 36, 620-630. Robert B. Barsky, F. Thomas Juster, Miles S. Kimball, and Matthew D. Shapiro, "Preference Parameters and Behavioral Heterogeneity: An Experimental Approach in the Health and Retirement Study" Quarterly Journal of Economics 112 (May 1997) 537-579.

[13] MSCI ESG Research identified and assessed the severity of environmental, social and governance controversy cases implicating the 2,400+ companies in the MSCI ACWI coverage universe. For this analysis, we focused on the 3,224 governance-related controversy cases dated between 2012 and 2015 across MSCI ACWI companies.

Exhibit 3: Relationship between Female Board Representation and Governance-Related Controversies, MSCI ACWI Companies



Source: MSCI ESG Research

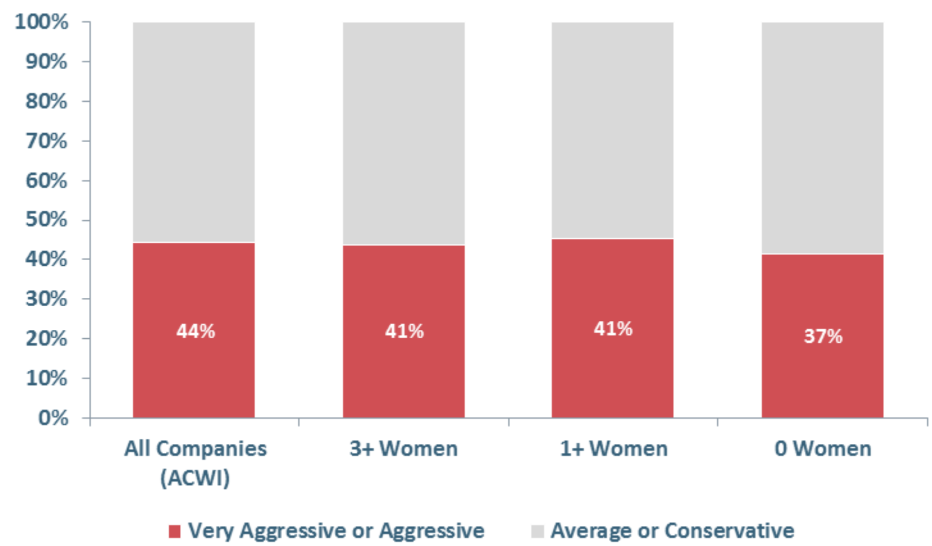
Despite fewer cases of bribery, corruption and fraud, however, we did not find strong evidence that having more women in board positions indicated stronger risk management on a number of other measures.[14] For example:

- We found small, but largely unsubstantial differences in the aggressiveness of accounting practices between MSCI ACWI companies with more women on boards versus companies with fewer women on boards. Exhibit 4 uses MSCI ESG Research's AGR scores[15] (forensic accounting scores that aim to detect industry and market outliers), to show virtually no difference in accounting aggression linked to board gender diversity.
- We also found no substantial differences among these companies' corporate governance practices, ranging from combined CEO/Chairman roles to executive/board pay practices to poison pills and other takeover defenses.

[14] Additionally, Credit Suisse's study found that companies with more diverse leadership also had higher leverage.

[15] MSCI ESG Research produces Accounting and Governance Risk (AGR) ratings on over 27,000 companies globally. Assessments are based on a forensic assessment of financial statements and quantifiable governance metrics, with the worst 35% of companies ranking either Very Aggressive or Aggressive. For more details, see the MSCI ESG Research AGR methodology document.

Exhibit 4: Accounting Aggressiveness (AGR Assessments), by Female Representation on the Board, 2015



Source: MSCI ESG Research

THE 30 PERCENT SOLUTION

- Leading asset owners and global advocacy groups (see Appendix VII) seek to have women comprise 30% -- or better— of board seats globally.
- At the current pace, this target will not be met until 2027 globally.
- Doubling the proportion of new board seats taken by women to 32% would shave five years off that estimate.
- Alternatively, increasing turnover of existing board seats to 10% from 7.9% would meet the target by 2020.

Citing the potential benefits of board diversity — whether it be from performance or affecting the culture of boards — leading asset owners and advocacy groups around the globe have set a target of women comprising 30% -- or better— of board seats.

The Thirty Percent Coalition, for example, is an initiative supported by major institutional investors including California's Public Employees Retirement Plan (CalPERS) and State Teachers Pensions Plan (CalSTRS) that had originally targeted having 30% of U.S. public board seats filled by women directors by 2015. (See Appendix VII for a list of key initiatives around the world.)

To estimate how long it might take to reach the 30% goal for companies globally, MSCI ESG Research conducted a scenario analysis based on two key factors that determine the overall percentage of women on boards:

- The number of board seats that open up each year ("new seats"); and
- The share of those new seats filled by women ("female share").

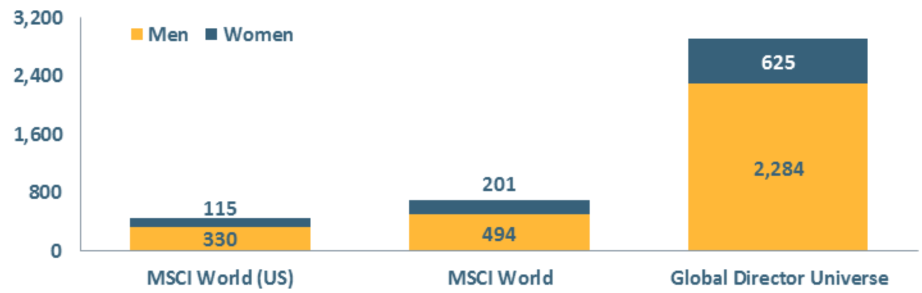
Based on current trends, we project 30% target will not be reached until 2027, as we explain in our "business as usual" scenario.

SCENARIO ANALYSIS: "BUSINESS AS USUAL"

This scenario uses trends from 2009-2015 as baseline assumptions.

Between December 2009 and August 2015 across the approximately 4,200 companies in our global directors reference universe, with a total of 42,344 board seats on average, an average of 3,343 "new seats" opened up each year, representing the opportunity set for a woman director to replace a male director. Over that time frame, the average percentage of "new seats" filled by a woman director was 16.0%.

Exhibit 5: New Director Seats Added, December 2009 to August 2015



Source: MSCI ESG Research

Projecting forward, if the number of new seats that open up each year remains roughly the same and the female share remains the same, we project that by 2027, 30% of the roughly 42,000 global board seats would be filled by women directors.[16]

While advocates have proposed many different avenues to accelerate change, it is perhaps instructive to see how many seats would need to shift to reach the 30% target sooner than 2027.

SCENARIO ANALYSIS: ”ACCELERATED CONVERSION” VERSUS ”ACCELERATED TURNOVER”

In the ”Accelerated Conversion” scenario, we assume acceleration in the growth rate of new seats filled by women in line with both policy and stakeholder initiatives. We assume that the number of new seats that open remain the same each year. Between December 2009 and August 2015, the percentage of new seats filled by women grew each year by an average of 1.54 percentage points. If we assume that policy and stakeholder initiatives are successful in extending recent achievements in growth rates – achieving a year-on-year increase of 1.54 percentage points in the share of seats from 2016 onwards, then 30% of board seats will be held by women by 2022, a five-year improvement over 2027.

It is important to note that this rate of increase would mean that rather than filling new seats by the average rate over the past six years (16%), women would have to fill approximately 32% of all new seats that open by 2021. This is an aggressive scenario, as it essentially doubles the percentage of the recent average share.

In the “Accelerated Turnover” scenario, we assume that the female share of new seats remains the same, that is, women directors’ share continues to average 16.0%. What

[16] It is important to note that the 30% share of board seats does not necessarily mean that 30% of all unique individual directors are female. In fact, we project that in the ”business as usual” scenario, 28% of the total director pool would be women, due to the number of individuals who hold multiple board seats.

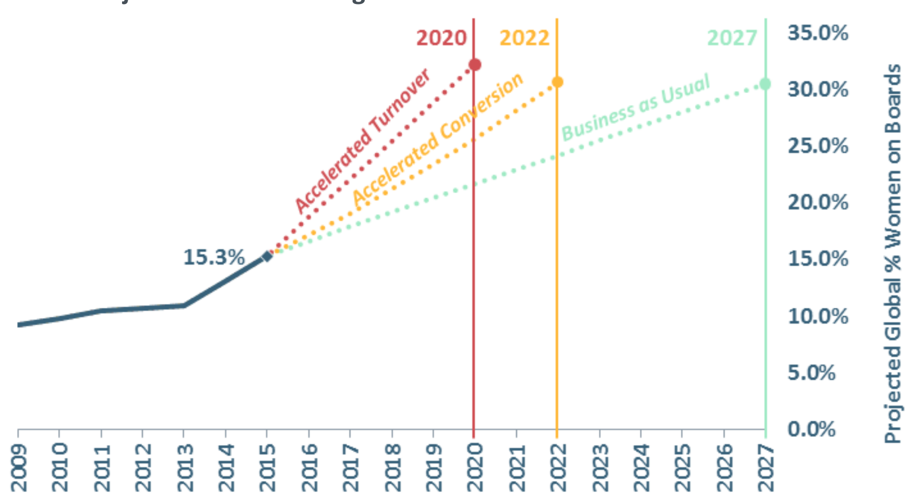
changes is that the number of ”new seats” increases due to a greater portion of the board seats turning over. Between 2009 and 2015, an average of 7.9% of board seats turned over. If this number were to increase to 10.0%, then an additional 890 seats would open each year. If women continue to capture new seats at the same average share as they have over the past 5.5 years (16.0%), then 30% of board seats across this universe will be held by women by 2020 — seven years sooner than at the current pace.

From the perspective of sound corporate governance, these additional new seats ideally could come primarily from long-tenured or aged male directors who currently sit on many boards, particularly in the U.S. and certain emerging markets.

While ”refreshing” such boards might seem desirable to improve governance oversight and board diversity, there are significant barriers to turning over these seats. First, the United States and many emerging market countries lack regulatory mandates that would require or even encourage highly tenured and aged directors to leave their seats. The U.S. has the greatest impact when it comes to boards that are comprised of a significant number of highly tenured or aged directors, affecting nearly 15% of the U.S. companies in our global directors reference universe.

Second, there is a considerable subset of these companies that are highly unlikely to accelerate refreshment of their boards due to the nature of their ownership and control. Both founder and family controlled companies tend to be slower in refreshing their boards, yet also more likely to have the highest concentration of long-tenured or aging directors. Though seemingly the likeliest targets for increased gender diversity, such companies are also among the most resistant to change.

Exhibit 6: Projections for Reaching 30% Women on Boards



Source: MSCI ESG Research

BEYOND THE BOARD: WOMEN EXECUTIVE LEADERSHIP

- U.S. companies were far more likely to appoint a female CEO and CFO than their European counterparts, even while lagging in selecting women directors.
- One-sixth (16.9%) of MSCI USA Index companies had at least one woman serving as CEO or CFO, as of August 15, 2015; at non-U.S. companies, the figure was only 11.4%.
- For all MSCI World companies, as of August 15, 2015, companies where the CEO is a woman were more likely to have more than one woman on the board.

A MISMATCH BETWEEN BOARDROOM AND EXECUTIVE OFFICE

While the 30% target is a highly visible goal, it is not the whole story. That top-line figure can draw attention away from gains that women have achieved in attaining top U.S. corporate executive positions — and the converse in Europe.

In fact, as of August 15, 2015, U.S. companies in the MSCI World Index[17] were far more likely to appoint a female CEO or CFO than their European counterparts, even while they lagged their European peers when it came to selecting women directors. In Europe, the opposite trend is often true: While some European markets have moved quickly to increase the number of women on boards, the same is not true in top executive jobs.

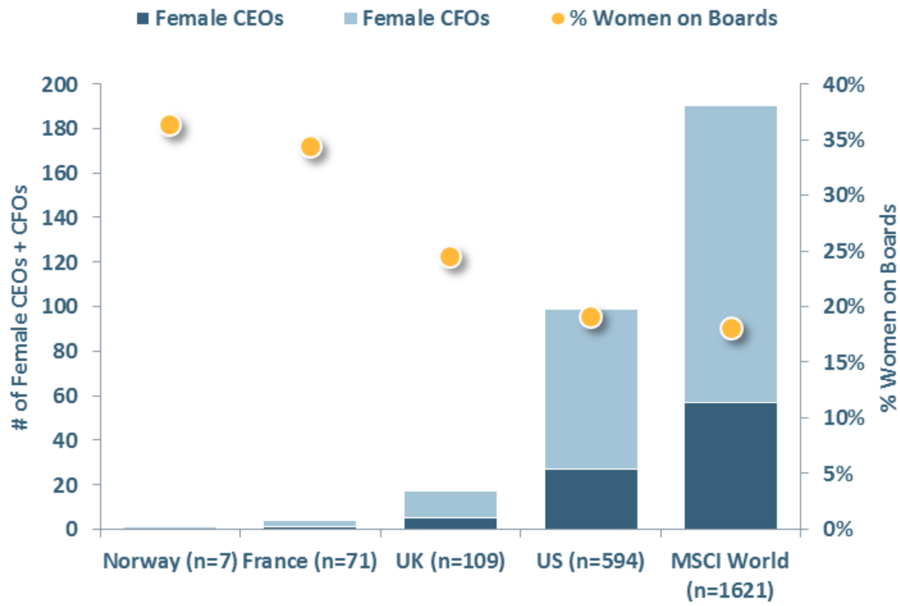
As Exhibit 7 shows, the discrepancy between female representation in the boardroom and the executive suite are particularly glaring in France and Norway.

- Nearly one-sixth (16.9%) of the U.S. companies in the MSCI World had at least one woman in the CEO or CFO office (four companies have both a female CEO and CFO: American Water Works Company, Hewlett-Packard Company, TEGNA Inc., and Xerox Corporation); this compares with 11.4% for the rest of the MSCI World Index.

- Despite the huge gains for women in the boardrooms of French companies in the MSCI World Index (34.4% in 2015, up from 27.9% in 2014 and just 9.0% in 2009), there was only one female CEO and three female CFOs among the 71 French companies in the global index. In contrast, despite much lower female presentations in U.S. boardrooms (19.1%), there were 28 female CEOs and 72 female CFOs among the 591 US companies in the MSCI World Index.

[17] Our data on executive leadership and gender covers MSCI World companies only, not the broader MSCI ACWI companies.

Exhibit 7: Women on Boards v. Female Leadership as of August 15, 2015



Source: MSCI ESG Research

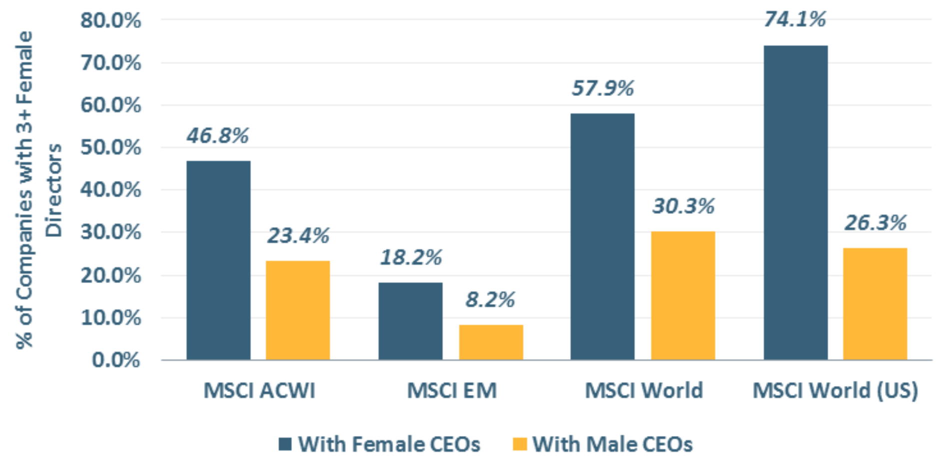
We see the same dynamic in Singapore, which stands out for the large discrepancy between women in the boardroom versus the executive office. While Singapore continued to lag behind the rest of the developed world with only 9.7% women on boards (besting only Japan among developed markets), approximately 13.6% of Singaporean companies were led by female CEOs as of August 15, 2015. In addition, nearly 30% of companies which report having a CFO indicate a woman in that role.

No other country in our coverage universe shows a higher rate of female CEOs compared to female directors. In fact, within our global directors reference universe, only 3.4% have reported female CEOs whereas 15.0% of board seats are filled by women.

FEMALE CEOS AND THEIR BOARDS

At companies where the CEO is a woman, she is unlikely to be the lone female representative in the board room. At more than half of the companies led by a female CEO, the board surpasses a critical mass of three women on the board: 57.9% of all MSCI World Index companies with female CEOs had at least three women on the board as of August 15, 2015; at male-led companies, this figure dropped to 30.3%.

Exhibit 8: Percentage of Companies with 3+ Women on Boards as of August 15, 2015



Source: MSCI ESG Research

Again, this positive relationship between female CEOs and the female representation on their boards is reflected at companies in Singapore, which had the highest percentage of female CEOs among countries included in the MSCI World Index as of August 15, 2015. Female directors of Singaporean companies led by male CEOs comprise less than 8% of the board on average; this figure compares against Singaporean companies led by female CEOs where over 22% of directors are women.

We offer a number of *hypotheses* to explain the difference in board room composition between companies with female versus male CEOs:

1) **Using the Social Network**: The director applicant pool may be wider and more diverse when there is a female CEO. When a board seat opens, boards at these companies can exploit the CEO's connections.

2) **More Diverse Cultures**: The presence of a female CEO may indicate that a company's culture is more amenable to female leadership in general. These companies are more likely to appoint female leaders, whether in the board room or in the C-suite;

3) **Glass Ceiling**: The appointment of a female CEO might break an institutional barrier against women ascending to the top ranks of leadership. Once this barrier has been breached, it may become easier for other women to fill leadership positions.

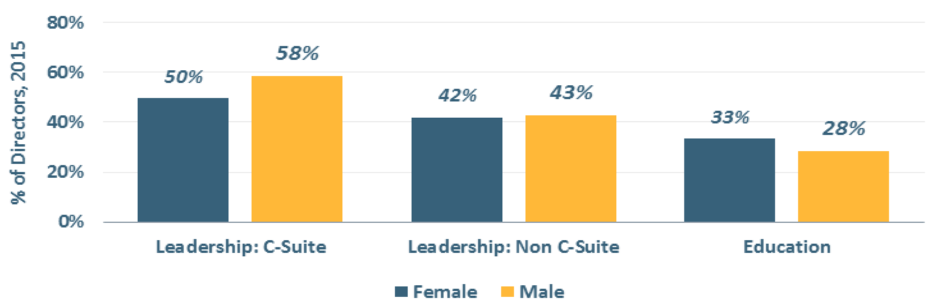
THE QUALIFICATION GAP?

- Some observers argue there is a dearth of qualified women to take board seats.
- When executive positions are taken into account, the gap between men and women in corporate leadership roles may be smaller than perceived.
- While female directors typically lagged their male counterparts in C-Suite experience, they outpaced men in achieving advanced educational degrees.

Given some potential benefits to board gender diversity, there is reason to question why a gender gap exists at all. Skepticism over improving the gender diversity of boards can typically be summed up in three ways: 1) distaste for overregulation on the part of the business community with regards to policy-based solutions such as mandates and targets; 2) a fear that voluntary or regulatory targets can result in the perception of "tokenism," whereby female board members' contributions are subsequently marginalized in decision making; and 3) the perception that there are not enough women with sufficient qualifications for board service.[18]

While the first two points are anecdotal and immeasurable, our analysis can shed some light on the merits of the third argument.

Exhibit 9: Qualifications of MSCI World Directors as of August 15, 2015



Source: MSCI ESG Research

[18] In 2009, CalSTRS and CalPERS started developing the Diverse Director DataSource (3D), to support boards seeking to nominate directors with more diverse backgrounds. 3D, which is housed at MSCI ESG Research, currently includes information on nearly 800 potential candidates, two-thirds of whom are women, and roughly half from the U.S. Nearly 40% of the candidates have already served or are currently serving as directors on the boards of public or private companies, and 25% of the candidates have served as chair of the board. The database was initiated to capture potential supply of diverse qualified candidates. It can be accessed at http://www.gmi3d.com/ .

We compared the qualifications of male and female directors serving on the boards of MSCI World Index companies along two dimensions: leadership experience and education background.

There is no established way to quantify the experience necessary to be a board director, nor is there a common set of criteria applicable for every company in every market. For our analysis, we created a natural language search to identify executive-level experience and the attainment of higher educational degrees in disclosed director biographies. As a caveat, the level of detail included in director biographies is not consistent between markets, so comparisons between companies in different markets will often be dissimilar.

From an analytical perspective, however, this lack of uniformity in disclosure across companies creates no bias towards either female or male directors. Additionally, the specific search terms may not comprehensively capture the experience and education of directors in certain markets,[19] hence we caution against making aggregate comparisons between two markets. However, within any given market, this should not create a bias towards either female or male directors. It is also important to note that employee representation on boards is mandated in a majority of European Union states, including France and Norway, but not in the U.S. These employees cannot be executives, thus shrinking any tally related to Leadership percentage or categories at non-U.S. companies.

COMPARING MALE AND FEMALE DIRECTORS AT MSCI WORLD INDEX COMPANIES

Overall, we analyzed 17,682 board seats of MSCI World Index companies[20] as of August 15, 2015, which were held by 12,194 male directors and 2,506 female directors. The average number of board seats per unique individual director is 1.2. These include:

- French companies: 273 female directors and 528 male directors who fill the 951 board seats at 111 French companies;
- Norwegian companies: 33 female directors and 55 male directors who fill the 89 board seats at 7 Norwegian companies;
- U.K. companies: 260 female directors and 792 male directors who fill the 1,174 board seats at 111 U.K. companies; and

[19] We found evidence that suggests director profiles at U.S. companies are more likely to cite the types of degrees granted over non-U.S. profiles, which merely state the names of the degree-granting institutions. While the lack of detail on type of degree means that we cannot compare companies across markets – which is in any case not the intent of the analysis – our sampling indicates that this has no effect on comparisons of directors within a market. For example, an analysis of the biographies of female directors among the top 10 largest French companies show that 27% of the biographies cite only the institution and no degree designation.

[20] MSCI World Index companies were included in lieu of MSCI ACWI Index companies given data availability.

- U.S. companies: 936 female directors and 4,191 male directors who fill the 6,267 board seats at 591 U.S. companies.

In our analysis, we counted instances of a director citing any of the following titles in his or her biography into two main categories: 1) C-suite experience, including the search terms CEO, CFO, and Chief and 2) Other high-level executive experience typical of named executive officers at publicly listed companies, including Executive Vice President, Senior Vice President, Managing Director and Managing Partner.

Our examination of these director profiles indicated that:

- Male directors more often had C-suite experience[21] than female counterparts (49.6% for female directors versus 58.3% for male directors).
- The difference between non C-suite leadership experience was negligible between male and female directors[22] (41.8% for female directors and 42.6% for male directors).
- Female directors have a notable lead in educational attainment over male counterparts.[23]

Overall, when we combined C-suite and Other Leadership experience into one Leadership category, female director profiles typically lagged their male counterparts, with 64.2% of them citing at least one of these positions in their biographies versus 71.5% for male directors.

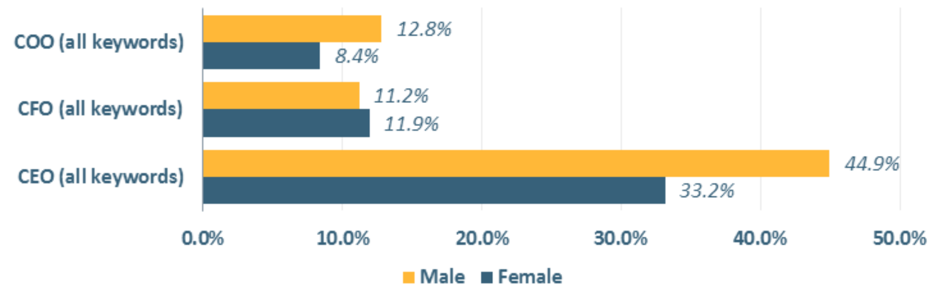
In aggregate, the leadership experience of male and female directors were broadly similar, though there may be a “glass ceiling” reflected in the discrepancy between C-suite roles and non C-suite roles. This discrepancy was evident when it came to the CEO title: 33.2% of the female directors have held a CEO position versus 44.9% of the male directors. However, when it comes to other leadership experience, we note that as either an “executive vice president” or a “senior vice president,” women outpace men by approximately 6 percentage points.

[21] Defined using the keywords CEO,C.E.O., Chief Executive, CFO, C.F.O., Chief Financial, Chief Operating, COO, C.O.O., and Chief

[22] Defined using the keywords Managing Director, Executive Vice President, EVP, Senior Vice President, SVP, and Partner

[23] Defined using the keywords PhD, Ph.D, Doctor, MBA, M.B.A., Master, Law, JD, and J.D.

Exhibit 10: C-Suite Experience of MSCI World Index Constituent Board Members as of August 15, 2015



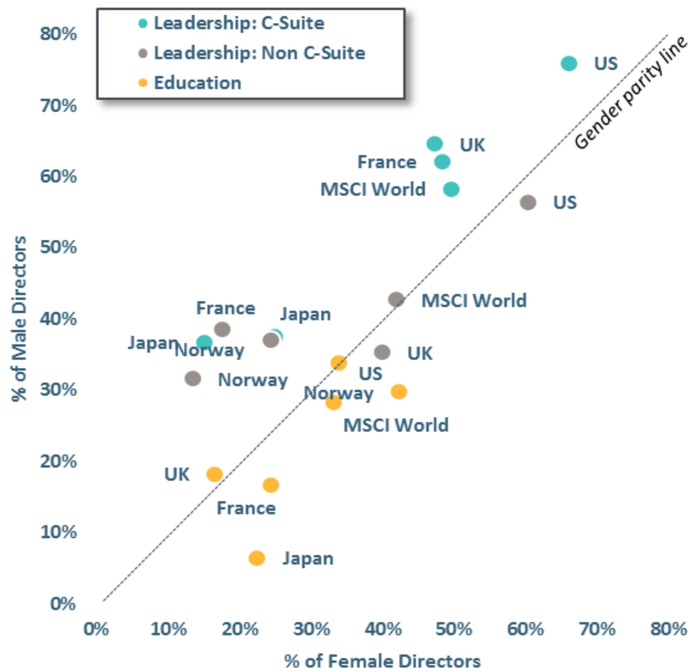
Source: MSCI ESG Research

Where women clearly outpace men is in their attainment of advanced educational degrees. In our Educational experience analysis; we counted instances of a director profile citing any of the following as the highest degree attained: Ph.D., other Doctorate, Masters of Business Administration, Law Degree and other Master degrees. Across the board, from a Masters or Law degree to a Doctorate, our analysis of director profiles shows that female directors serving on the boards of MSCI World Index companies have attained higher educational degrees than male directors.

CASE STUDIES: FRANCE AND NORWAY

Our analysis of director profiles at the MSCI World Index companies in France and in Norway for the same period reveals some of the same characteristics. In France, fewer women have prior leadership experience but they have attained higher levels of educational experience. In Norway, on the other hand, female directors lead in leadership experience but lag in overall educational experience. The leadership gap is considerably larger on French boards relative to Norwegian ones perhaps due to the extremely rapid growth of female directors in France since gender diversity mandates were established in 2010. In contrast, Norwegian mandates were introduced in 2003.

Exhibit 11: Gender Parity in Leadership Experience, Select Countries, as of August 15, 2015



Source: MSCI ESG Research

Overall, while the profiles of female directors at MSCI World Index companies reflect higher levels of education and lower levels of leadership experience, it is important to note that the men and women in our director qualification analysis may be at different points in their careers. For example, the average age[24] of the French female directors we studied was 55, whereas the average age for the French male directors we studied was 60. Director tenure at these same French companies, however, was 3.8 years for women and 7.2 years for men, reflecting the sharp increase in female directors added during the initial period after quotas were imposed in that country.

The female and male directors serving on the boards of MSCI World Index companies also held virtually the same number of average board seats, including boards at companies who are not MSCI World Index companies), 1.9 and 1.8, respectively. This comparison is particularly relevant in light of concerns that markets with gender diversity quotas may suffer the unintended consequence of picking female directors who are more ”over-boarded” than their male peers, as the pool of candidates is smaller and boards may be turning to the same women to sit on multiple seats.

[24] Based on MSCI ESG Research director data, as of August 15, 2015.

CONCLUSION

MSCI ESG Research's latest research shows that companies in the MSCI World Index that had strong female leadership generated a Return on Equity of 10.1% per year versus 7.4% for those without such leadership, based measured on an equal-weighted basis as of September 9, 2015.

In the U.S., the Thirty Percent Coalition, among others had set a goal of 30% of seats in U.S. publicly held companies to be held by women directors by 2015, similar to the goals set by the 30% Club in the U.K. Clearly, this goal is not being met. Growth in the percentage of women directors is growing glacially in markets — such as the United States — where regulatory mandates to improve representation do not exist. Among MSCI World Index companies, women held 18.1% of all directorships (up from 15.9% last year), with women at U.S. companies in this universe holding 19.1% of directorships (up from 17.9% last year).

If we extend the 30% target globally, we estimate that it will take until 2027 for women to comprise 30% of directors in publicly held companies at current rates. We examined two other scenarios that would more rapidly approach this goal:

- An "Accelerated Conversion" scenario would double the share of new seats filled by women to 32% a year from the current 16%, resulting in meeting the target by 2021.
- An "Accelerated Turnover" scenario would increase the number of seats that change over in a given year to 10% of all directorships, creating a larger opportunity set of new seats for women to fill such that the 30% target would be reached by 2020.

Absent a stronger commitment to gender parity on the part of corporate boards, and especially among U.S. small-cap and emerging market companies, demands for the imposition of quotas and other regulatory measures are likely to continue. Though seemingly aggressive compared to "business as usual," what both of our accelerated scenarios demonstrate is that the actual number of new women seats that need to be added each year represent a very small fraction of the overall director universe, and well under a majority of all new seats added each year.

Our research suggests that meeting the 30% target is attainable without imposing an undue burden on companies. Our scenario analysis implies that no company would need to add more than one new woman director in a single year, or even in two consecutive years, unless they elect to do so. Even our most aggressive scenario would get us to 30% without requiring that women fill a majority of all new seats that open up in a given year. For markets with very different political and cultural landscapes, these scenarios can offer levers to accelerate progress and additional paths toward achieving the 30% target.

APPENDIX I: METHODOLOGY

Current period director data was compiled as of August 15, 2015 using a representative reference universe of 4,218 global companies. The composition of this group was established in the original version of this annually updated report, published in 2009 by GMI, now part of MSCI ESG Research Inc., and carried forward in each subsequent annual update published. This reference universe was employed for purposes of historical consistency, and its use is indicated throughout this report as our “global director reference universe.” That universe includes all companies of the MSCI ACWI, World, EAFE and Emerging Markets indexes, plus an additional 1,700 large and mid-cap developed market companies, 900 of which are either incorporated or primarily traded in the United States.

Country and index constituent samples included in this report consist of:

Companies Included	Reference Name	Total Directors	Total Female Directors	2015 % Women	2014 % Women	Growth of Women on Boards
(n=4,218)	Global Director Universe	42,252	6,332	15.0%	12.4%	21%
(n=818)	MSCI EM	8,237	692	8.4%	7.1%	18%
(n=1,621)	MSCI World	17,682	3,198	18.1%	15.9%	14%
(n=591)	MSCI World (US)	6,270	1,200	19.1%	17.9%	7%
(n=2,438)	MSCI ACWI	25,907	3,890	15.0%	15.9%	-6%
(n=327)	Asia-Pacific	3,225	407	12.6%	12.4%	2%
(n=111)	France	1,401	469	33.5%	26.7%	25%
(n=459)	Japan	4,889	167	3.4%	3.4%	0%
(n=1,673)	North America	16,273	2,693	16.5%	12.4%	33%
(n=17)	Norway	167	67	40.1%	40.2%	0%
(n=284)	United Kingdom	2,578	555	21.5%	19.1%	13%
(n=831)	Western Europe	8,867	2,070	23.3%	12.4%	88%

The terms ”directorships” and ”director seats” are used interchangeably throughout this report, and refer to all active directorships at each company. The terms ”individuals” and ”individual directors” refer to the set of unique individuals who hold such seats.

In markets where companies maintain more than one board, management and audit boards are omitted, so that all director counts are focused on either “board of directors” or ”supervisory board” membership, in keeping with MSCI ESG Research’s existing standards for treating corporate governance systems that employ more than one active board.

APPENDIX II: HISTORICAL DATA FROM GLOBAL DIRECTOR UNIVERSE

	2015.3	2015.3	2014.2	2014.2	2013.1	2013.1	2011.4	2011.4	2010.4	2010.4
Country	n=	%	n=	%	n=	%	n=	%	n=	%
Australia	105	23.1%	225	15.3%	212	14.0%	197	13.8%	194	10.2%
Austria	20	17.4%	22	16.0%	24	11.3%	23	10.8%	22	7.3%
Bailiwick of Guernsey	4	7.4%								
Belgium	25	24.3%	23	16.8%	24	9.2%	24	9.4%	24	7.7%
Bermuda	61	11.0%								
Brazil	62	6.0%	80	5.1%	80	5.1%	76	4.5%	67	4.7%
Canada	156	19.4%	254	12.7%	145	13.1%	134	13.1%	129	12.9%
Cayman Islands	53	8.6%								
Chile	20	4.7%	24	2.8%	24	2.8%	17	3.5%	16	2.2%
China	76	9.4%	128	8.4%	128	8.4%	108	8.5%	95	8.0%
Colombia	11	11.4%	10	6.0%	10	6.0%	8	6.8%	7	9.6%
Curacao	1	30.0%								
Czech Republic	2	9.5%	0	N/A	0	N/A	3	8.6%	3	8.3%
Denmark	28	25.9%	25	20.8%	24	17.2%	23	15.6%	24	14.0%
Egypt	3	4.3%	7	4.4%	7	4.4%	8	7.0%	8	6.7%
Finland	24	29.9%	28	30.0%	27	26.8%	28	26.4%	28	24.2%
France	111	33.5%	103	25.8%	101	18.3%	101	16.6%	100	12.7%
Germany	103	20.1%	93	16.7%	89	14.1%	81	12.9%	78	10.7%
Gibraltar	1	10.0%								
Greece	8	11.8%	22	8.2%	22	7.0%	22	7.3%	24	9.5%
Hong Kong	67	9.1%	69	7.8%	98	9.5%	75	9.4%	72	9.4%
Hungary	3	2.9%	4	4.5%	4	4.5%	4	5.9%	4	6.1%
India	70	11.4%	89	6.5%	89	6.5%	62	5.2%	54	4.5%
Indonesia	30	5.7%	32	6.0%	32	6.0%	23	4.6%	21	4.8%
Ireland	28	17.6%	31	15.6%	18	8.7%	18	8.5%	19	9.5%
Isle of Man	2	10.0%								
Israel	23	18.1%	16	15.7%	16	15.7%	16	14.2%	17	14.0%
Italy	68	25.3%	55	17.7%	58	8.2%	55	4.5%	51	3.6%
Japan	459	3.4%	499	1.7%	447	1.1%	392	1.1%	392	0.9%
Jersey	10	17.8%								
Korea, Republic of	102	2.1%	106	1.9%	106	1.9%	92	1.9%	88	1.7%
Luxembourg	13	16.7%								
Malaysia	42	13.8%	40	6.6%	40	6.6%	30	7.3%	26	5.9%
Malta	1	0.0%								
Mauritius	1	0.0%								
Mexico	28	5.2%	24	5.8%	24	5.8%	23	6.4%	21	6.9%
Netherlands	47	22.0%	47	17.9%	35	17.0%	34	14.8%	30	13.9%
New Zealand	13	22.5%	18	18.9%	10	15.1%	10	13.7%	10	12.2%
Norway	17	40.1%	23	38.9%	30	36.1%	28	36.3%	26	34.8%
Panama	1	22.2%								
Peru	1	0.0%	3	6.3%	3	6.3%	2	0.0%	2	0.0%
Philippines	21	8.7%	19	7.9%	19	7.9%	13	12.2%	7	14.3%
Poland	24	19.0%	21	13.6%	21	13.6%	16	13.0%	15	10.7%
Portugal	7	10.4%	10	7.5%	11	3.7%	11	2.3%	11	2.3%

Country	2015.3 n=	2015.3 %	2014.2 n=	2014.2 %	2013.1 n=	2013.1 %	2011.4 n=	2011.4 %	2010.4 n=	2010.4 %
Qatar	13	0.9%								
Russian Federation	20	5.9%	25	4.8%	25	4.8%	23	4.6%	24	5.5%
Singapore	61	9.9%	48	7.8%	58	6.9%	53	7.0%	51	7.3%
South Africa	51	19.0%	59	17.9%	59	17.9%	46	17.4%	43	16.4%
Spain	52	14.2%	44	13.3%	43	9.5%	40	10.2%	44	8.8%
Sweden	61	33.9%	46	27.1%	44	27.0%	41	26.4%	40	27.5%
Switzerland	75	13.2%	72	10.9%	56	10.0%	56	9.1%	51	9.2%
Taiwan	93	4.3%	105	4.4%	105	4.4%	96	5.8%	82	5.9%
Thailand	29	9.0%	26	9.7%	26	9.7%	18	10.8%	15	9.4%
Turkey	25	7.9%	27	12.7%	27	12.7%	18	11.2%	18	10.9%
United Arab Emirates	10	1.1%								
United Kingdom	284	21.5%	358	17.0%	410	12.6%	399	10.7%	400	8.9%
United States	1,491	16.4%	2,961	12.2%	3,009	11.7%	1,772	12.6%	1,750	12.3%
Virgin Islands (British)	1	50.0%								

APPENDIX III: GLOBAL MANDATES SUMMARY

Gender Quotas, public companies	Market	Requirement, type	Requirement, %	Requirement, other	Year Introduced	Due Date
	Belgium	Mandatory	33%		2011	2017
	Denmark	Comply or explain	40%	set targets	2013	n/a
	Finland	Comply or explain		at least one	2008	n/a
	France	Mandatory	40%		2010	2016
	Germany	Mandatory	30%		2015	2016
	Iceland	Mandatory	40%		2009	2013
	India	Mandatory		at least one	2013	2015
	Israel	Mandatory		at least one	1999	n/a
	Italy	Mandatory	33%		2011	2015
	Malaysia	Mandatory	30%	for new appointments	2011	2016
	Netherlands	Comply or explain	30%		2013	2016
	Norway	Mandatory	40%		2003	2008
	Spain	Comply or explain	40%		2007	2015
	UAE	Mandatory		at least one	2012	n/a

State-owned (if different than above)	Market	Requirement, %
	Austria	35%
	Columbia	30%
	Denmark	50%
	Finland	40%
	Greece	33%
	Iceland	50%
	Ireland	40%
	Israel	50%
	Kenya	33%
	Quebec	50%
	Slovenia	40%
	South Africa	30%
	Switzerland	30%
	Taiwan	33%

	Market	Requirement
Pending	EU	40%
	Canada	40%
	South Africa	50%
	Brazil	40% by 2022
	Korea	state-owned
	Switzerland	state-owned
Possible	Australia	
	Finland	
	Sweden	
	UK	

APPENDIX IV: FEMALE LEADERSHIP DATA

MSCI Index	Female CEOs	Female CFOs	% Women on Boards	CEO%	CFO%	CEO/CFO%	Dirs	WOB
MSCI World (n=1618)	60	132	18.3%	3.6%	7.9%	11.4%	17,669	3,235
US (n=589)	25	71	19.1%	4.7%	12.1%	16.9%	6,264	1,198
UK (n=111)	6	13	24.9%	4.6%	11.0%	15.6%	1,174	292
France (n=71)	1	3	34.5%	1.4%	4.2%	5.6%	950	328
Norway (n=7)	0	1	37.1%	0.0%	14.3%	14.3%	89	33

MSCI Index	% with 3+ WOB	% with 3+ WOB	WOB%	WOB%	at least 1 WOB	at least 1 WOB
	With Female CEOs	With Male CEOs	Female CEOs	Male CEOs	Female CEOs	Male CEOs
MSCI ACWI	47.3%	23.7%	24.8%	17.5%	95.0%	72.8%
MSCI EM	15.8%	8.5%	15.3%	8.4%	79.0%	51.7%
MSCI World	56.7%	29.3%	27.5%	17.5%	100.0%	80.8%
MSCI World US	73.1%	26.5%	29.4%	18.7%	100.0%	95.9%

APPENDIX V: DIRECTOR QUALIFICATIONS METHODOLOGY AND DATA

We collected English language director biographic data as disclosed by companies for 17,676 directors. Using these biographies, we used natural language search terms to approximate director experience characteristics. The terms used, categories, and total hits are listed in the table below.

Category	Search Term	Total Hits
C-Suite	CEO	3,166
C-Suite	C.E.O.	5
C-Suite	Chief Executive	5,729
C-Suite	CFO	532
C-Suite	C.F.O.	1
C-Suite	Chief Financial	1,614
C-Suite	Chief	7,760
C-Suite	COO	217
C-Suite	C.O.O.	0
C-Suite	Chief Operating	1,820
Non C-Suite	Managing Director	2,206
Non C-Suite	Senior Vice President	1,620
Non C-Suite	Executive Vice President	2,484
Non C-Suite	SVP	15
Non C-Suite	EVP	37
Non C-Suite	Partner	2,096
Education	PhD	242
Education	Ph.D	423
Education	Doctor	600
Education	MBA	1,014
Education	M.B.A	731
Education	Master	1,803
Education	Law	1,065
Education	JD	55
Education	J.D	197

The limitations to this approach include language and cultural limitations (where certain keywords don't accurately reflect cultural norms for director experience and language terms for experience differed from traditional North American-centric terms) and sample bias (where certain regions or companies are not mandated to disclose biographies, or biographies were only disclosed in foreign languages). We recognize these limitations, though also note these limitations had no discernable bias between male and female companies.

APPENDIX VI: INCHING TOWARD 30% METHODOLOGY AND ASSUMPTIONS

MSCI ESG Research conducted a scenario analysis based on two key factors that determine the overall percentage of women on boards:

- the number of board seats that open up each year ('new seats'); and
- the share of those new seats filled by women ('female share').

We used trends derived from our global directors reference universe for the period from December 15, 2009 to August 15, 2015 to establish our baseline assumptions. This reference universe is comprised of 4,218 companies, with a total of 42,344 board seats. During this period an average of 3,343 "new seats" opened up each year, and the average percentage of "new seats" filled by a woman director was 16.0%. While the actual number of new seats filled by women each year varied, the percentage of new seats grew at an average rate of 1.26%, resulting in an overall increase in the percentage of women on holding boards seats within this universe from 9.3% in 2009 to 15.3% in 2015.

Scenario 1: "Business As Usual"
Under this scenario we assume the continuation of existing trends, that the average number of new seats that open up would remain approximately the same, and also that the female share of new seats filled by women would continue to rise at an average rate of 1.26% each year.

Scenario 2: "Accelerated Conversion"
In the "Accelerated Conversion" scenario we assume that policy and stakeholder initiatives are successful in extending recent achievements in female share growth rates, achieving year on year increases in the growth rate from 2016 onwards. Between December 2009 and August 2015, the percentage of new seats filled by women grew each year by an average of 1.54%, which we then applied as the rate of increase in female share but still assuming that the average number of new seats that open up would remain approximately the same.

Scenario 3: "Accelerated Turnover"
In the 'Accelerated Turnover' scenario we assume that the female share of new seats continues to average 16.0%, similar to the past six years, but that the opportunity set of new seats that open up each year is expanded. On average, between December 2009 and August 2015, 7.9% of board seats turned over. If this number were to increase to 10.0% then an additional 890 seats would open each year, thus expanding the annual opportunity set from an average of 3343 new seats to an average of 4233.

APPENDIX VII: INCHING TO 30% ADVOCACY GROUPS

THIRTY PERCENT COALITION

Both CalSTRS and CalPERS support the Thirty Percent Coalition, which aims to gain female representation for 30% of board seats by 2015. The Coalition's fall 2014 "Adopt a Company" letter campaign targeting approximately 160 companies in the S&P 500 and Russell 1000 with no women on their boards has, as of August 15, 2015, resulted in 22 new companies with women on their boards. The Thirty Percent Coalition is a group of industry thought leaders, including senior business executives, national women's organizations, institutional investors, corporate governance experts and board members who believe in the power of collaborative effort to achieve gender diversity in public company boardrooms, and in the necessity of attaining at least 30% female representation across public company boards.

30% CLUB

The 30% Club was launched in the UK in 2010 with a goal of achieving 30% women on FTSE-100 boards by the end of 2015, based on the principle that, "gender balance on boards not only encourages better leadership and governance, but diversity further contributes to better all-round board performance, and ultimately increased corporate performance for both companies and their shareholders." The group supports voluntary efforts over quotas. Additional local chapters have been launched in the U.S., Ireland, Southern Africa, Australia, Malaysia and Canada, with future launches planned for Italy, the Gulf Cooperation Countries, Portugal and Chile.

WOMEN ON BOARDS DAVIES REPORT

Lord Mervyn Davies published his Women on Boards review in early 2011, which recommended that companies mount a voluntary effort to improve gender diversity among its leadership, including both executives and directors. The report call for the FTSE 100 to target 25% of board positions to be filled by women by 2015, a goal that was attained six months ahead of schedule, "with representation of women more than doubling since 2011… there have also been 550 new female appointments in just over 4 years". In a recently updated review, released in late October, 2015, Davies called for all FTSE 350 boards to have 33% female representation by 2020, which would require, "around 350 more women in top positions".

EUROPEAN COMMISSION

In March, 2011, EU Justice Commissioner Viviane Reding challenged all publicly listed companies in Europe to sign up to the "Women on the Board Pledge for Europe" and commit voluntarily to increasing women's participation on corporate boards to 30% by 2015 and to 40% by 2020. In November 2012 the Commission proposed legislation that would seek to increase the percentage of women filling non-executive board-member positions in publicly listed companies to 40%, with the exception of small and medium enterprises, but the proposal has been opposed by the British government and others.

AUSTRALIAN COUNCIL OF SUPERANNUATION INVESTORS

In October of this year the Australian Council of Superannuation Investors (ACSI) released new governance guidelines which consider recommending against the re-election of directors in companies with limited gender diversity at the board level, in follow-up to an ACSI policy released in 2014 that targeted 30% women on each ASX 200 board by the end of 2017.

2020 WOMEN ON BOARDS

2020 Women on Boards is a U.S. national advocacy group launched in 2010 with the goal of increasing the percentage of women on U.S. company boards to 20% or greater by the year 2020. In June 2015, the group was instrumental in passing a non-binding resolution in the state of Illinois that urges publicly held corporations to have a minimum of three women directors on boards of nine or more and a minimum of two women directors on boards with fewer than nine directors, within the next three years. With no movement at the federal level for gender quotas of this kind, advocacy groups are currently targeting state governments; Illinois is the second U.S. state to pass such a resolution after the state of California. A similar resolution to encourage corporate gender diversity is making its way through the Massachusetts state legislature but has not yet been officially passed.

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