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The CS Gender 3000: The Reward for Change

Editorial

Gender diversity is an important element of corporate performance and plays a central role in talent management efforts. In its second, updated report the Credit Suisse Research Institute (CSRI) reconfirms the clear link that exists between diversity and improved business performance. When it comes to structural changes and development of women talent, however, the report concludes that only limited progress has been made since the publication of the first edition.

In this second edition, the CSRI has mapped 27,000 senior managers at over 3,000 largest companies globally. Following on from the original 2014 study, the analysed sample has been increased by several hundred companies. In addition, microfinance institutions, start-ups and venture capital firms are analysed in new, dedicated chapters.

With regards to business performance, we find clear evidence that companies with a higher proportion of women in decision-making roles continue to generate higher returns on equity, while running more conservative balance sheets. In fact, where women account for the majority in the top management, the businesses show superior sales growth, high cash flow returns on investments and lower leverage.

While there is evident progress in female representation at Board of Directors level, where women occupy 14.7% of seats—a 54% increase since 2010—this positive trend does not carry over to the representation of women in senior management ranks. In fact, the CSRI study finds a growing disparity between boardroom and executive floor diversity and identifies several related challenges. For example, whereas the female "overboarding" seen in the US and European boardrooms enabled rapid achievement of diversity targets, it has also tended to reduce the pool of women available for senior management roles. This is particularly important as female CEOs—in our sample, these represent a mere 3.9%—often promote women and help shape the much needed talent pipeline.

While the progress in including women into senior management may fall short of immediate public hopes and expectations, our research reconfirms that gender diversity is a central factor influencing business differentiation, investment strategies and ultimately financial performance.

We hope this updated report provides you with valuable insights into this important topic and wish you a pleasant read.

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The Credit Suisse Research Institute is Credit Suisse's in-house think tank, established in the aftermath of the 2008 financial crisis. The Research Institute's objective is to study long-term economic and social developments, which will have a global impact within and beyond the financial services sector.

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Rewarding change in the boardroom

A key message from our 2014 study "The Credit Suisse Gender 3000: Women in Senior Management" was that gender diversity—or the greater representation of women—in senior roles was not just "nice to have" but linked to excess stock market returns and superior corporate profitability. As we re-run our dataset for 2016, we find that investors focusing on companies where gender diversity is an important strategy continue to be rewarded with excess returns running at a CAGR of 3.5%. Meanwhile, progress toward greater diversity in boardrooms is being achieved with a 16% increase in female representation since our last survey. However, the starting point is a low one and the pattern of improvement uneven. Substantial female representation is still a mark of differentiation rather than the norm.

The reward for change

In our 2014 report, the CS Gender 3000: Women in Senior Management, we found that companies with at least one female director had generated a compound excess return per annum of 3.3% for investors over the previous decade. We found that companies where women made up at least 15% of senior managers had more than 50% higher profitability than those where female representation was less than 10%. Today, we return to the correlation of diversity and corporate performance to assess whether this outperformance still holds and to measure the extent to which directors and CEOs understand the value of diversity and are enabling women to reach the top.

Updating our proprietary database of the CS Gender 3000—close to 3,400 companies across all industries in all countries—shows that the correlation between diversity and corporate performance remains just as strong. In fact, the excess compound returns have expanded to 3.5% per annum since 2005 compared to companies where the boardroom is entirely male (Figure 2). As we show later, this premium return continued to be underpinned by superior corporate performance.

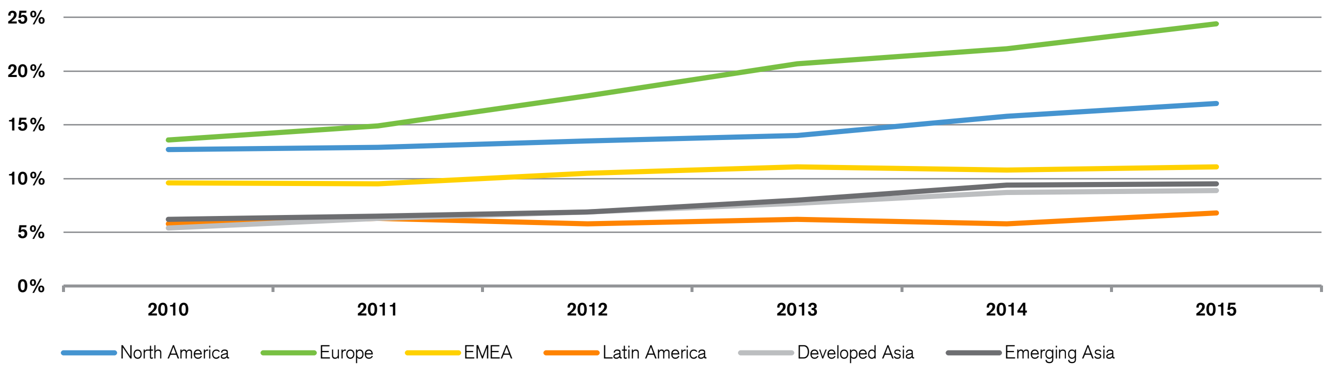
Progress in the boardroom

Based on our CS Gender 3000 data, diversity in the boardroom has reached 14.7% at year end 2015, a 16% increase since our last survey two years ago and a 54% increase since 2010. We see a broad sweep of improvement across our data as the economic and performance benefits from diversity and inclusion begin to be recognized more generally. The specific driver of boardroom numbers has been Europe with the introduction of quotas and targets in recent years, so that the average representation of women in the boardroom in the region stood at 24.4% at year-end 2015, an 80% increase over the previous six years. This 80% improvement in Europe is a unique achievement, though the pattern of improvement holds across the globe.

The 24.4% representation of women in European boardroom today is of course a significant positive, a long overdue recognition of the benefits that diversity in its many guises brings to the decision-making process and stewardship of companies. Given that women have been appointed with relative ease in Europe, it must give us confidence that further progress will be made globally.

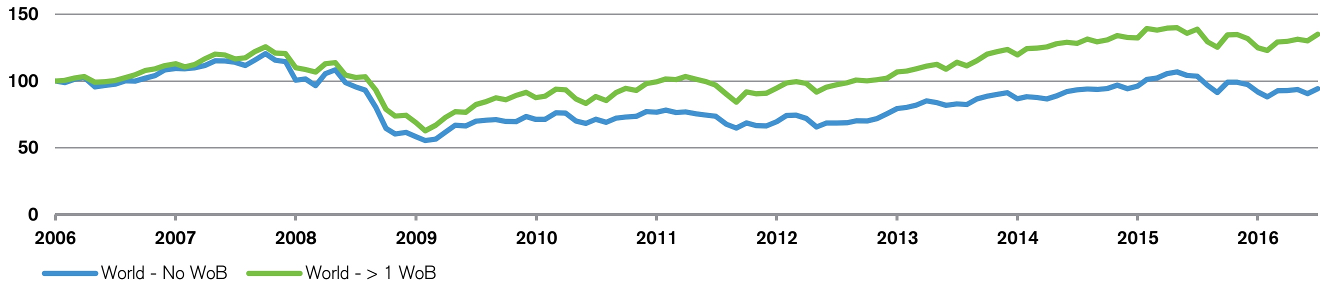
Figure 1

Diversity in the boardroom by region – The percentage of female directors



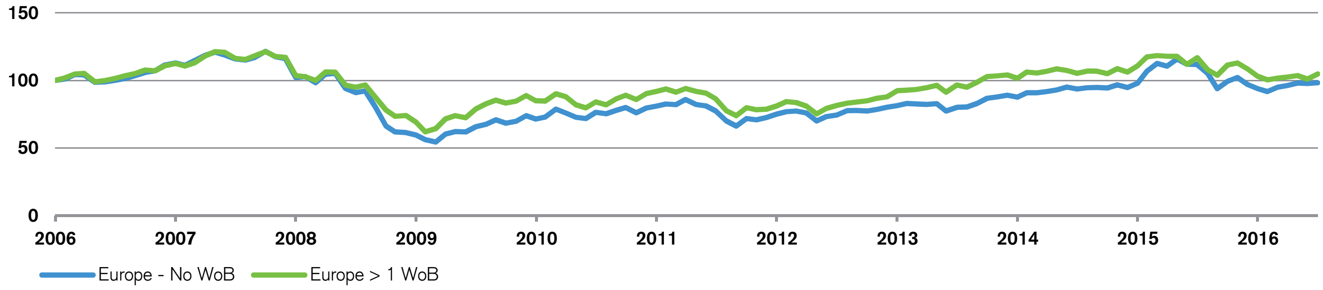
Source: Bloomberg, Credit Suisse Research

Figure 2
Global performance: companies market cap >USD 10 billion



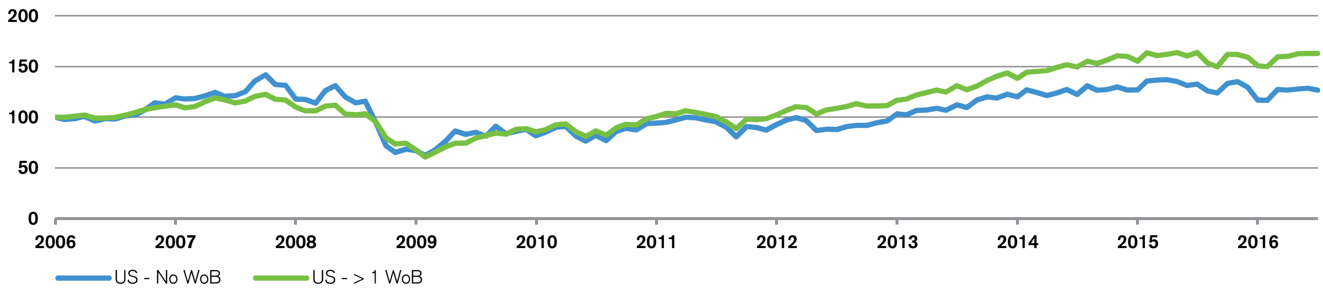
Source: Bloomberg, Credit Suisse Research

Figure 3
European performance: companies market cap >USD 10 billion



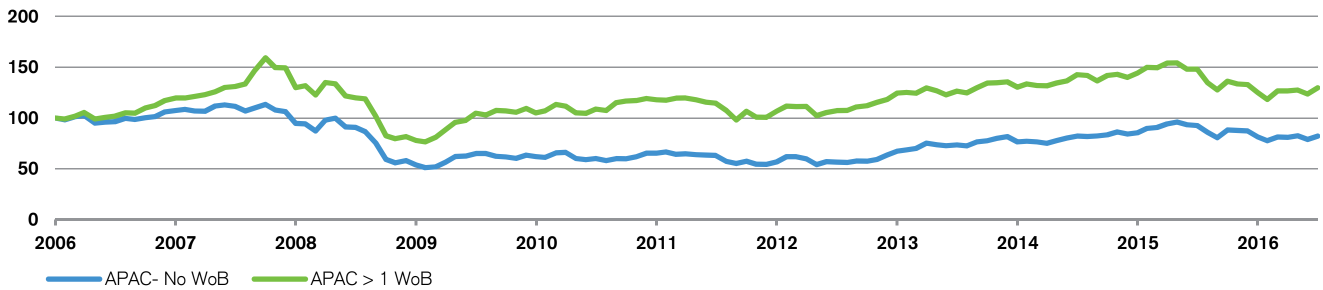
Source: Bloomberg, Credit Suisse Research

Figure 4
US performance: companies market cap >USD 10 billion



Source: Bloomberg, Credit Suisse Research

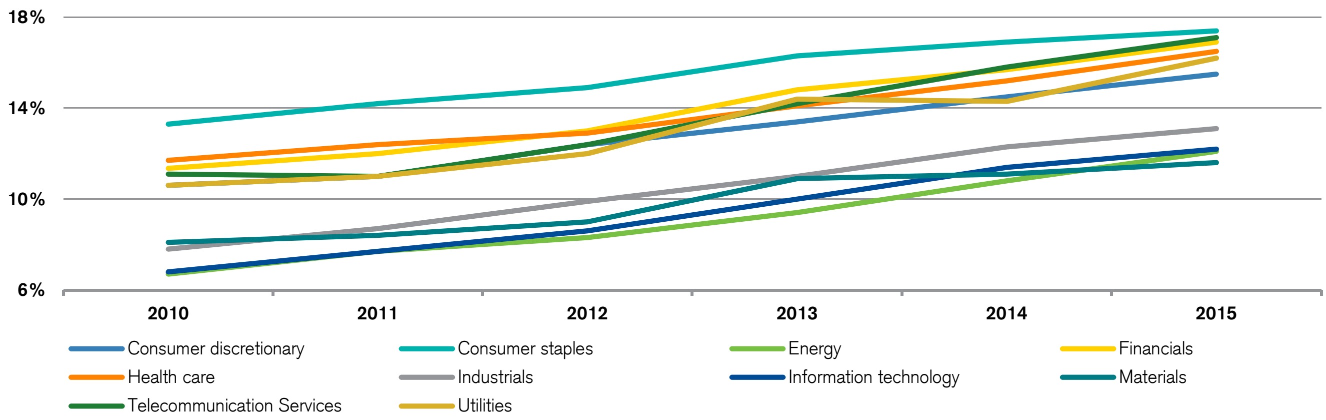
Figure 5
APAC performance: companies market cap >USD 10 billion



Source: Bloomberg, Credit Suisse Research

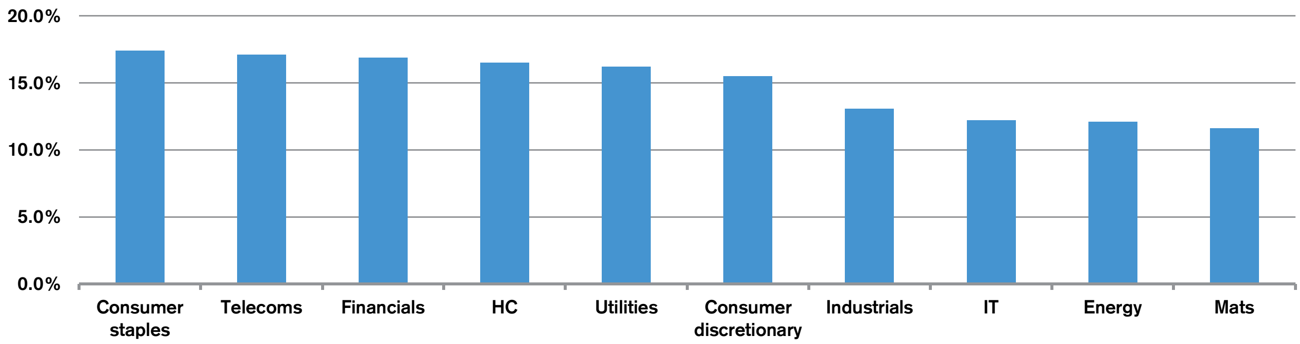
Indeed, we witness an improvement of at least 15% in all regions since 2010. In North America, diversity has increased by more than a third, both at the behest of shareholders, public bodies and a growing and healthy debate on the more general topic of women's participation in the corporate world globally. Contrary to Europe, Canada and the U.S. have not set any quotas or targets. While we believe quotas fail to address more fundamental pipeline issues outside the boardroom, we recognize that the spill-over effect of the debate around quotas in Europe has had probably a beneficial impact on boardrooms globally.

Figure 6
Diversity in the boardroom by sector



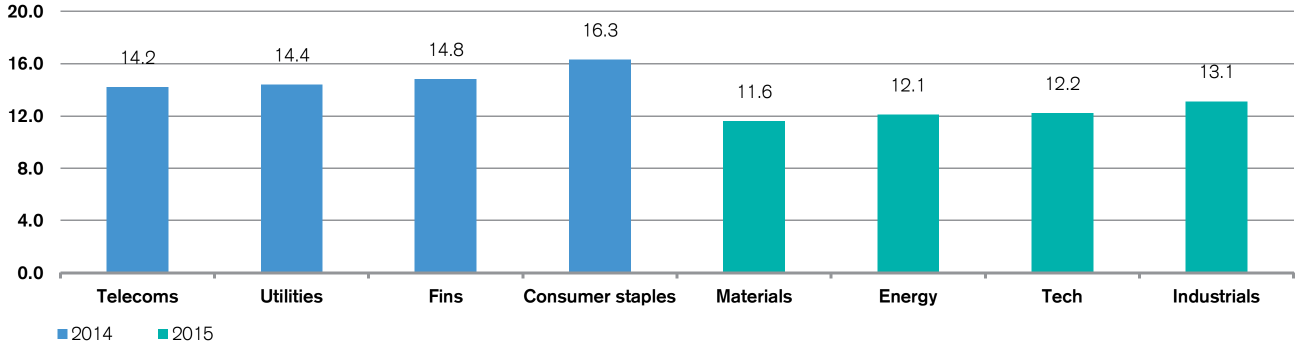
Source: Bloomberg, Credit Suisse research

Figure 7
Diversity in the boardroom by sector – YE15



Source: Bloomberg, Credit Suisse Research

Figure 8
Leaders and laggards



Source: Bloomberg, Credit Suisse Research

Asia has shown considerable improvements with a 60% rise in gender diversity at the boardroom level over the intervening period. However, this comes from a low base making strong headline figures more easily achieved and even with this scale of improvement, female representation in Asia is still less than 10%.

Yet while we acknowledge the progress that has been made, we are nonetheless not without reservations. Some of the ground gained has been made through increased overboarding rates of female directors which we witness in US and European boardrooms and which we have researched separately in our reports Overboarding in the US and Overboarding in Europe. This has helped companies achieve quotas and targets numerically, but it has not necessarily met the broader purpose of benefiting women and companies generally. We have also seen several examples of companies cutting the number of directors on their board in order to achieve quota levels rather than recruit additional female directors. This obviously does nothing to promote women into very senior positions. In more than 40% of instances where women were recruited to boardrooms around the globe between year-end 2013 and 2016, they were introduced as an additional director rather than as a replacement. Companies were 35% more likely to drop a male director than add a female director to improve diversity numbers.

As for where women are better represented, industry-wise, there is no structural change. Table 2 shows that diversity in all sectors has gained broadly but we find the bottom four sectors in our

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previous survey—energy, materials, industrials and technology—still comprise the laggards two years later. And equally, consumer staples, financials, telecoms and utilities still retain the top four spots. Indeed, we see that the bottom four sectors have not yet caught up with the diversity rates of the top four sectors of two years ago and the structural diversity gap between sectors remains very evident.

As we found in our previous survey, female boardroom representation continues to be at its lowest at the producer end of the supply chain and at its highest at the consumer end. It comes as no surprise that this correlates with the pipeline of availability. The materials, energy, industrials and technology sectors all have below average female representation in the boardroom whereas financials, consumer staples, telecoms and utilities all show above average participation of women. The lack of a specific talent pool limits the availability of executive directors in these sectors but as boards require diverse skills, it cannot be the only answer to why boardrooms in these sectors retain

Table 1

Percentage of women on boards by country

	2010	2011	2012	2013	2014	2015
Norway	36.6%	38.7%	37.2%	39.7%	41.2%	46.7%
France	16.1%	21.6%	25.1%	29.6%	31.4%	34.0%
Sweden	28.9%	27.8%	27.3%	30.3%	28.2%	33.6%
Italy	5.5%	4.6%	9.2%	17.5%	21.7%	30.8%
Finland	26.4%	24.5%	27.0%	29.5%	28.0%	29.2%
Denmark	16.9%	18.2%	20.6%	25.0%	23.5%	28.5%
Belgium	15.2%	15.8%	18.9%	23.2%	24.5%	27.9%
Netherlands	17.2%	19.2%	22.3%	24.5%	26.4%	26.2%
UK	10.1%	11.9%	15.5%	17.9%	21.0%	22.8%
Germany	11.8%	14.0%	18.5%	23.0%	21.1%	21.1%
Canada	12.5%	13.5%	14.9%	15.9%	18.7%	20.5%
Australia	10.8%	13.7%	15.5%	17.5%	19.9%	20.1%
South Africa	18.1%	17.8%	18.8%	20.0%	19.2%	19.9%
Austria	11.4%	14.0%	14.4%	17.6%	17.0%	19.5%
Israel	18.5%	11.5%	15.4%	18.2%	15.6%	17.6%
Ireland	8.6%	7.4%	7.3%	12.3%	11.9%	17.0%
US	12.7%	12.8%	13.3%	13.7%	15.5%	16.6%
Spain	10.5%	11.1%	12.9%	13.7%	14.1%	16.1%
Switzerland	8.6%	8.9%	9.3%	11.3%	12.9%	14.6%
Malaysia	8.0%	8.6%	10.0%	10.9%	14.3%	13.9%
Thailand	11.2%	11.6%	11.7%	10.0%	10.7%	12.7%
Hong Kong SAR	8.9%	9.3%	9.7%	10.8%	10.6%	11.4%
India	5.5%	5.8%	6.2%	6.7%	10.2%	11.2%
Philippines	10.5%	9.8%	10.1%	11.9%	10.8%	10.9%
Singapore	7.9%	8.0%	8.6%	7.9%	8.4%	9.9%
China	8.8%	9.0%	9.6%	10.7%	9.1%	9.2%
Turkey	8.2%	9.2%	8.5%	6.6%	5.9%	8.6%
Chile	2.3%	3.0%	3.7%	4.7%	5.3%	8.5%
Brazil	5.6%	6.1%	5.7%	6.5%	5.9%	7.1%
Russia	6.8%	7.1%	7.7%	8.1%	6.6%	6.5%
Indonesia	5.9%	5.6%	6.1%	5.0%	7.1%	6.2%
Mexico	7.6%	7.7%	6.5%	5.3%	5.0%	5.7%
Taiwan	2.8%	2.8%	2.8%	2.8%	7.5%	4.5%
South Korea	0.7%	0.9%	0.7%	2.4%	1.6%	4.1%
Japan	0.9%	1.1%	1.2%	1.6%	3.5%	3.5%
Global average	**9.6%**	**10.3%**	**11.3%**	**12.7%**	**13.7%**	**14.7%**

Source: Credit Suisse Research – sample size 27,000 directors

their male dominance. More needs to be done to develop the executive pipeline via financial, legal and other senior management roles lower down the recruiting pipeline. As we argued in our previous report, strategies to attract and retain women over the long run need to start significantly earlier than they do at present so that there is a pipeline of female talent to promote through key business units.

The diversity data today repeat our findings in 2014 that it is culture that dictates diversity not sector. Diversity by sector is more closely clustered than the geographic range but only consumer staples and telecoms surpass North America's 17% diversity rate, the second highest level behind Europe. Equally all sectors have higher diversity levels compared to non-European and North American companies, ie the continuing divide in female representation between Developed and Emerging Markets.

Does size still matter?

The search for causality often points to the correlation between company size and diversity, highlighting the number of positions available to be filled. Bigger companies might have more sophisticated employment policies and therefore

Table 2

Percentage of women on boards by industry

	2010	2011	2012	2013	2014	2015
Consumer discretionary	10.6%	11.0%	12.4%	13.4%	14.5%	15.5%
Consumer staples	13.3%	14.2%	14.9%	16.3%	16.9%	17.4%
Energy	6.7%	7.7%	8.3%	9.4%	10.8%	12.1%
Financials	11.4%	12.0%	13.0%	14.8%	15.7%	16.9%
Health care	11.7%	12.4%	12.9%	14.1%	15.2%	16.5%
Industrials	7.8%	8.7%	9.9%	11.0%	12.3%	13.1%
Information technology	6.8%	7.7%	8.6%	10.0%	11.4%	12.2%
Materials	8.1%	8.4%	9.0%	10.9%	11.1%	11.6%
Telecoms	11.1%	11.0%	12.4%	14.2%	15.8%	17.1%
Utilities	10.6%	11.0%	12.0%	14.4%	14.3%	16.2%
Total	**9.6%**	**10.3%**	**11.3%**	**12.7%**	**13.7%**	**14.7%**

Source: Credit Suisse Research

PHOTO: ISTOCKPHOTO.COM/DANIELVFUNG

Table 3

Market capitalization and the number of women on the board – 2014 versus 2016

Dollars billions

	Number of women on the board			
	0	1	2	>=3
2014 Average market cap	9.9	14.6	12.3	34.3
2016 Average market cap	9.5	8.9	18.6	34.9

Source: Bloomberg, Credit Suisse Research

working environments that are more supportive of women. Women, therefore, choose to or prefer to work there, or so the argument goes. We would concur with many aspects of the virtuous circle assertion and found the correlation between company size and diversity in our 2014 data as shown in Table 3. We see this repeated in 2016 with companies with 3 or more female directors being twice as large in terms of market capitalization as those with two female directors and over three times the size of those with none.

But looking at absolute numbers is slightly misleading given differing board sizes, and when we consider diversity on a proportionate basis, we now find a tipping point in terms of size at the 20-30% level of representation (Tables 4 and 5). Revisiting our 2014 data, we find the same correlation between company size in terms of market capitalization and the relative level of diversity. This is no longer the case when we go beyond the 30% level. Illustrating how the push for diversity is spreading beyond those that have the scale to do so or have to be seen to do so. Again this underlines the broad improvement in the adoption of more diverse boards.

Table 4

Market capitalization and women on boards by sector 2014

($bn)

	0	<10%	10–20%	20–30%	>30%
Consumer discretionary	15.6	12.1	13.6	20.8	15.6
Consumer staples	14.8	14.1	20.9	44.1	42.4
Energy	19.3	45.8	43.2	19.8	41.2
Financials	14.7	21.6	19.2	28.2	41.2
Health care	5.5	16.9	22.2	27.3	34.6
Industrials	9.0	19.5	12.3	22.3	18.1
Information Technology	11.2	21.3	32.8	44.3	89.2
Materials	7.7	9.4	19.9	15.6	12.0
Telecommunication services	24.6	29.7	29.3	25.5	49.1
Utilities	15.1	12.1	16.7	16.9	28.9
Average	**13.8**	**20.3**	**23.0**	**26.5**	**37.2**

Source: Bloomberg, Credit Suisse Research

Table 5

Market capitalization and women on boards by sector 2016

($bn)

	0	0–10%	10–20%	20–30%	>30%
Consumer discretionary	8.6	14.6	9.5	18.3	11.8
Consumer staples	9.1	8.4	22.3	42.0	44.0
Energy	7.4	15.0	16.3	17.5	27.7
Financials	6.4	15.5	10.8	20.4	24.4
Health care	8.1	10.9	17.4	33.4	53.2
Industrials	5.6	10.1	8.8	15.4	13.7
Information technology	9.2	20.1	15.5	56.5	19.6
Materials	4.2	8.1	8.8	12.0	12.3
Telecommunication Services	29.6	28.3	9.2	40.1	24.2
Utilities	9.2	5.7	8.9	20.9	17.8
Average	**9.7**	**13.7**	**12.8**	**27.7**	**24.9**

Source: Bloomberg, Credit Suisse Research

Women in management in 2016

If numbers in the boardroom progress in gender diversity, the pipeline of talent in companies holds the key to further growth. Our unique bottom-up analysis of the profile of senior management allows us to track developments in diversity at this key level. Re-running the CS Gender 3000 survey of women in senior management (defined as CEO and those reporting to the CEO) shows a global average today of 13.8% compared to the 12.9% level seen in our 2014 report. However, an exact matched-set data comparison shows that representation has remained similar.

Revisiting the CS Gender 3000

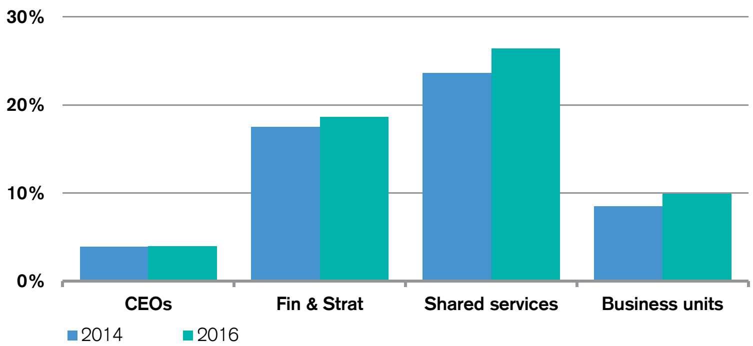
For our 2016 report, we again map senior management at the 3,400 companies our research analysts cover globally, slightly higher than the 3,150 companies in our 2014 report reflecting changes in research coverage in the interim. This dataset is unique to Credit Suisse and we include the caveat that although the data sets are not an exact match, we believe that the slight differences do not influence any results or conclusions. We also believe that the slight differences are worth the trade-off compared to a diminishing universe. We include an analysis of the 2,400 companies common to both reports on page 17.

In total, we map 27,000 CEOs and senior executives globally today. We also expand the gender of specific senior management roles for the first time, namely CFO, CTO and Human Resources manager. We also exclude the role of investor relations manager from the finance and strategy grouping unless it is specifically stated as a senior executive position.

Today, we see 130 female CEOs within our universe or 3.9%, i.e. no meaningful change over the past two years. If we look on a matched basis, the situation is less promising with a net of 19 female CEOs being replaced by male candidates during the past two years. We do not see any difference in male or female CEO turnover rates at just over 9% per annum, but with male senior executives more than twenty times as likely to become CEO at today's rates, any departing female CEO is more likely to be replaced by a male counterpart and hence we could see a natural decline in our existing matched dataset unless there is a step change in women moving into the top slot. We do not argue that parity across senior management roles is the goal or necessarily desirable. Indeed, we highlight later in this report alternative career paths and entrepreneurial opportunities that women are embracing as a preferred route to securing senior roles.

Figure 9

Progress for female senior managers over the past 2 years – Headline data



Source: Credit Suisse Research, CS Gender 3000

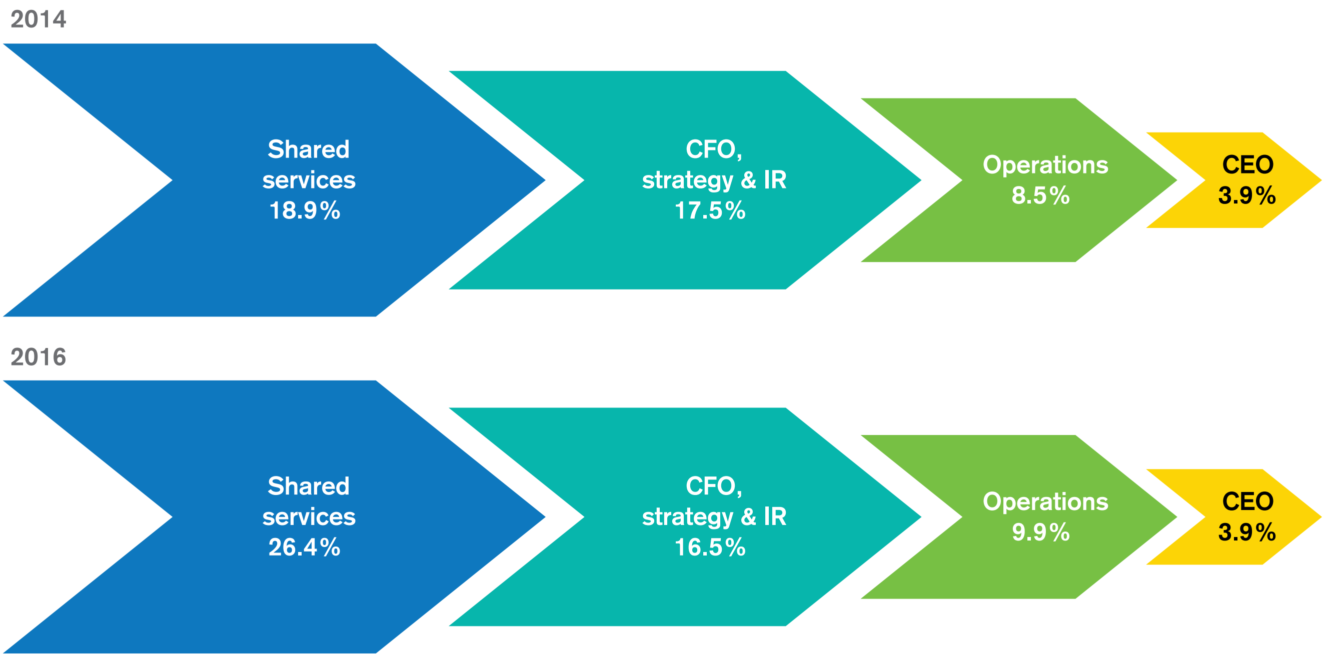
Where are women working today?

Consistent with our 2014 findings, the pattern of the areas in which women in top-management (again CEO and CEO-1) are primarily employed is universal. While the Power Line we identified in our earlier report is expanding, we are not seeing any meaningful change in structure. There is little evidence that opportunities and employment practices are changing in a fundamental way and the challenges and obstacles to female employees rising to the top of large scale corporates appear to remain well entrenched.

An equal balance of male and female CEOs seems a near impossibility in the large corporate world. The gender diversity debate, while continuing to discuss the broad social and governance aspects implied, needs to focus on the pipeline of availability and opportunity as well as other career paths outside the main-

PHOTO: ISTOCKPHOTO.COM/YURI_ARCURS

Figure 10
The Management Power Line

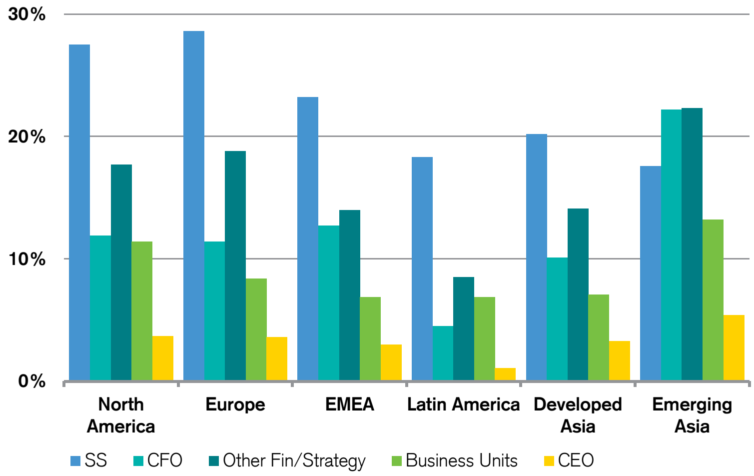


Source: Credit Suisse Research, CS Gender 3000

PHOTO: ISTOCKPHOTO.COM/MIHAI ANDRITOIU

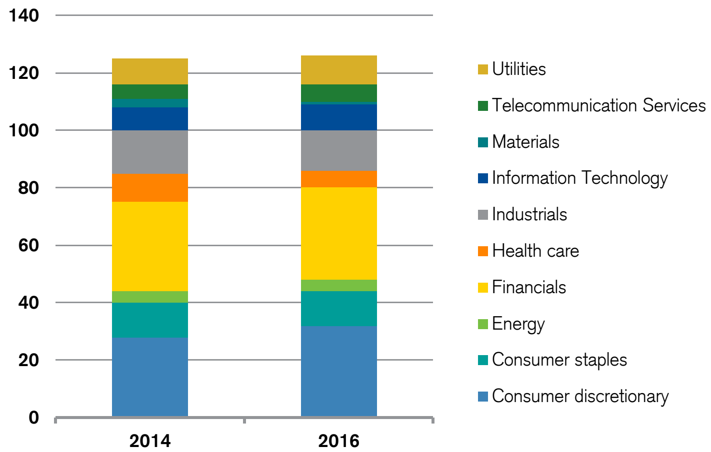
stream corporate environment that develop and enable women to build the skills necessary for the most senior roles. We believe that there is inherently a paradox in the efforts to promote diversity at the highest levels of companies, in that recruiting non-executive female directors to boards may possibly diminish the available pool of potential female executive directors. A portfolio of one or more non-executive roles may offer the flexibility that some women might prefer to a more fixed time, longer hour profile of an executive director position. If that were to be the case, it is clearly an unwelcome outcome. We would highlight that average age analysis of male directors at over 60 in Europe and 64 in the US suggests a retirement position while the average age of female directors, some five years younger at around 55 years old in Europe and 60 in the US is much more closely aligned with a full-time executive age.

Figure 11
The power line by region



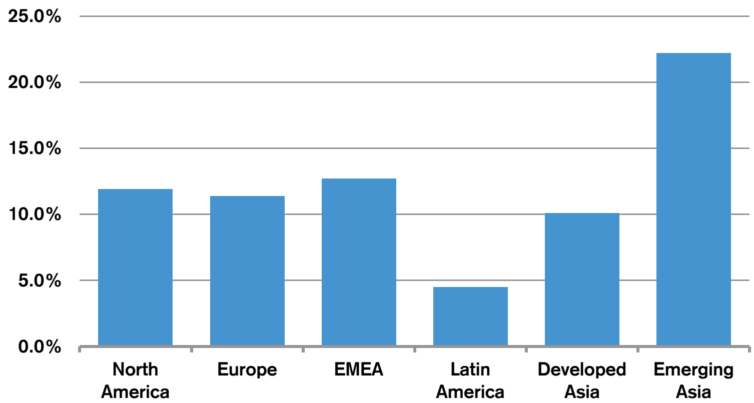
Source: Credit Suisse Research, CS Gender 3000

Figure 12
Women CEOs



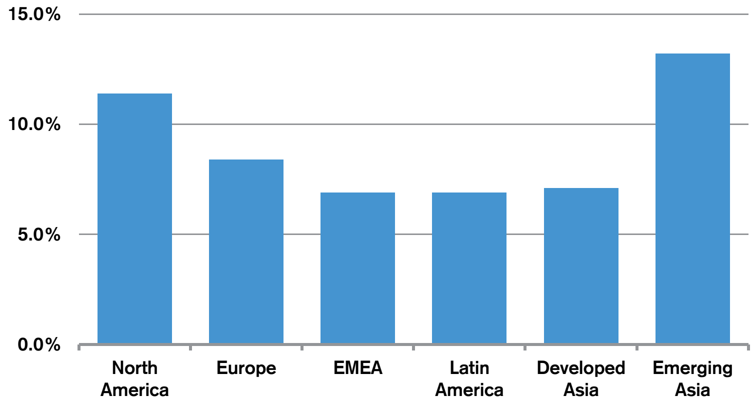
Source: Credit Suisse Research, CS Gender 3000

Figure 13
Female CFOs – Regional view



Source: Credit Suisse Research, CS Gender 3000

Figure 14
Female heads of business units

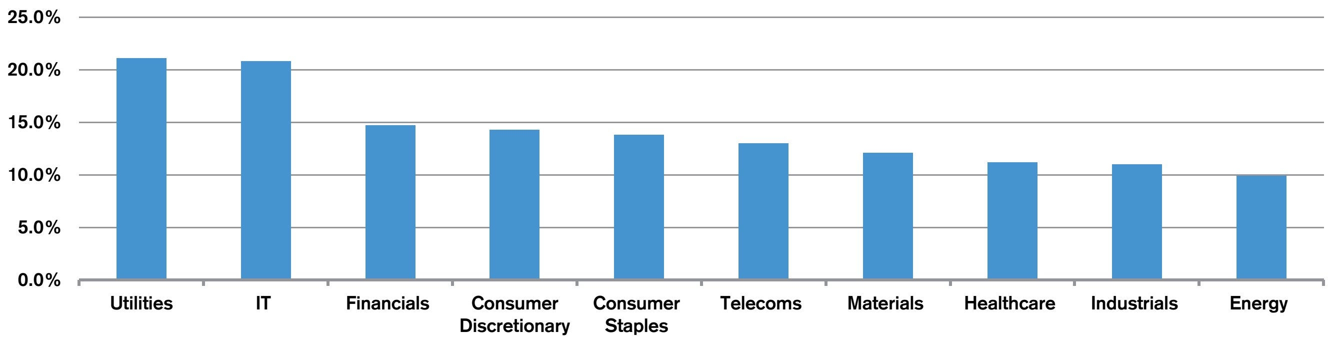


Source: Credit Suisse Research, CS Gender 3000-16

Women CFOs

Women make up 14.1% of CFOs globally, three times the number of CEOs, though this is heavily skewed towards emerging Asia, and China in particular, where they number 22%. There are local cultural reasons for women being placed in key financial roles, not least to ensure corporate governance standards. But as we also find the highest number of female business unit heads also in emerging Asia, corporate governance cannot be the only reason. We believe that the political heritage provides some explanation for the greater opportunities for women. Equal access to education under communist rule in China has helped to build skill sets more equitably compared to other emerging markets while the number of female political leaders across the region has also provided role models and served to break down stereotypes. Recent entrepreneurship has provided opportunity. In Latin America, the other extreme, they make up just 4.5% again reflecting cultural traditions. In the US and Europe, female CFO representation is identical at 11.6%, an interesting equivalence.

Figure 15
Female CFO – Sector view



Source: Credit Suisse Research, CS Gender 3000

PHOTO: ISTOCKPHOTO.COM/POBA

Table 6
Diversity in Emerging Asia
(%)

	CEO	Finance & Strategy	Shared Services	Business Units
2014	5.5	21.2	19.7	11.3
2016	5.4	22.2	17.6	13.2

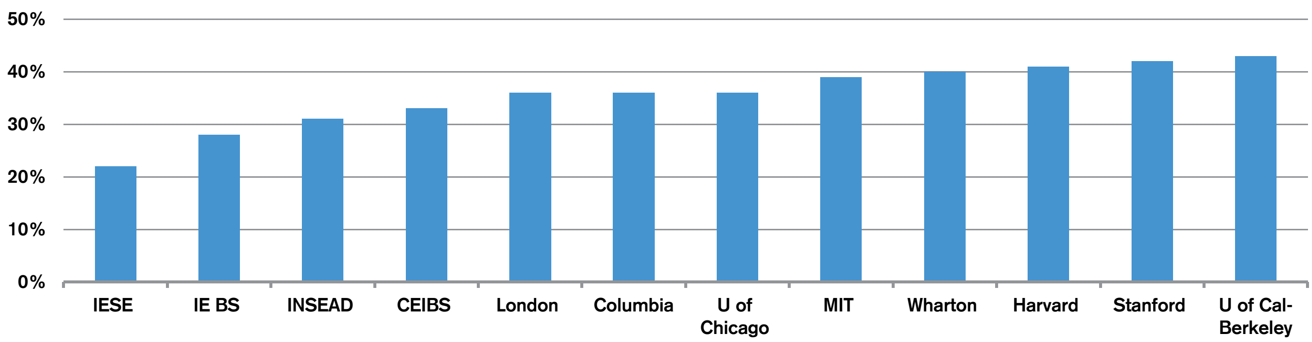
Source: Credit Suisse Research, CS Gender 3000

Women make up 16.5% of finance and strategy roles generally indicating a greater representation in strategy and secondary finance roles such as accounting, tax and reporting. This figure is not comparable directly to the 17.5% representation in 2014 as the latter includes investor relations managers which we have not specifically included this time.

Women business unit heads

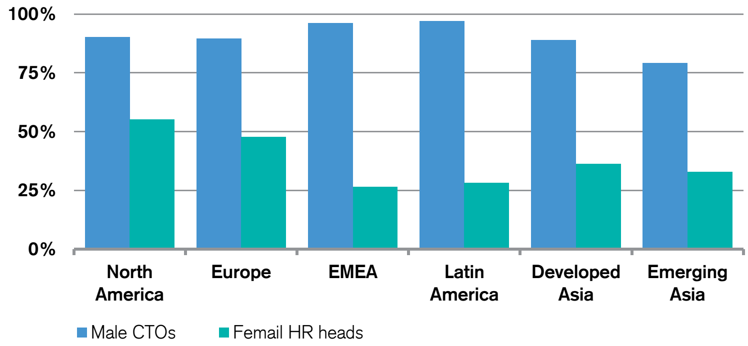
Compared to the 8.5% of business unit heads in 2014, women now make up 9.9% of these key senior positions that typically involve P&L responsibility for specific functions or geographic areas and which entail the demonstration of a considerable range of management and commercial skills. The progress is here is the fastest rate of increase among the functions included in our research. Although a notable improvement of close to 18%, we would underline that women make up just one in ten of business unit heads and that the current rate of progress implies equality in 2070. These positions are the launchpad for further progression internally and into senior management and boardrooms of other companies and it is essential for the pipeline of senior management-ready female professionals to continue to focus on these roles for diversity to become embedded and provide the role models for younger women and female millennials in the workplace.

Figure 16
Females as percent of MBA students at leading business schools



Source: US News & World Report

Figure 17
Shared services – A divided world



Source: Credit Suisse Research, CS Gender 3000

The geographic detail provides considerable food for thought and cause for encouragement in North America with 11.4% of business functions being headed by a female, 11.8% in the US itself. This is 35% higher than in Europe and further evidence for our views that North America is far more aware of the structural obstacles to diversity and at the same time that quotas in Europe serve a limited purpose. We note too that women make up around 40% of MBA students at leading US business schools (see Figure 16) compared to 30% in Europe, but this too just serves to underline the disconnect between qualifications and representation in both regions.

Women in shared services

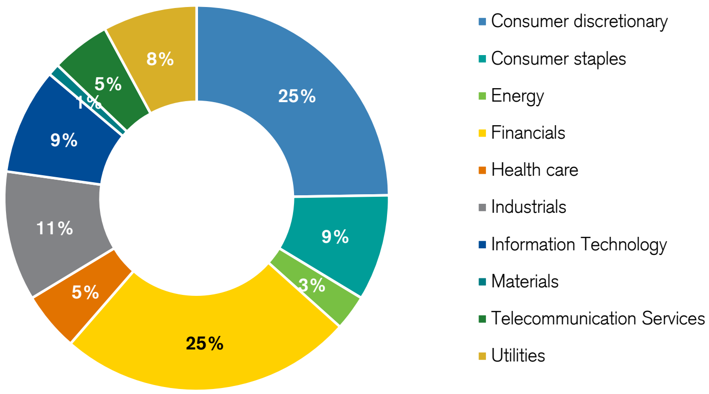
Shared services remain the main employer of women at senior levels, accounting for 33% of female management positions globally in 2016. It is particularly prevalent in countries with longer histories of corporate development and enterprise, namely Europe and North America suggesting that it is the status quo and the traditional patterns of management and participation that are particularly hard to shift.

In Emerging Asia, however, where both State ownership (China) and entrepreneurship have played defining roles in shaping management practices and expectations today, we see a marked contrast to other regions (Figure 14). This repeats the findings in 2014 and the much higher representation of women in key financial and operations positions. The lack of business opportunity broadly for previous generations plus the demand for 'new' skills at many of the technology-related and new economy companies today has led to far greater openings for women to participate in senior management teams (Figure 17) and female CTOs comprise close to 21%, almost double the closest comparator, developed Asia with 11%. We once again return to how influential role models can be. We discussed in our previous report how senior female politicians in the region had served as role models and helped promote female participation rates.

PHOTO: ISTOCKPHOTO.COM/ANSON_ISTOCK

Figure 18

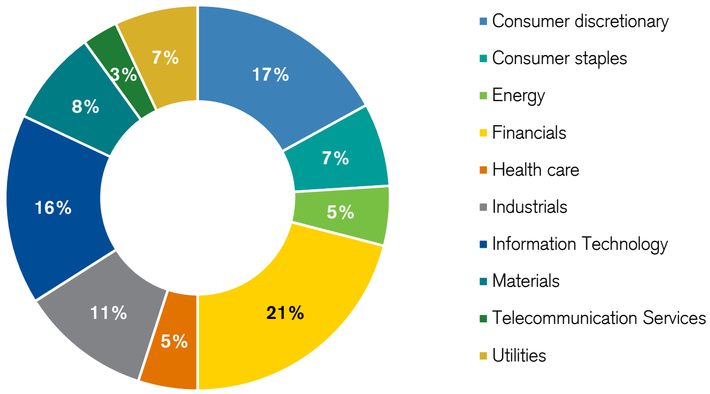
Women CEOs in 2016



Source: Credit Suisse Research, CS Gender 3000

Figure 19

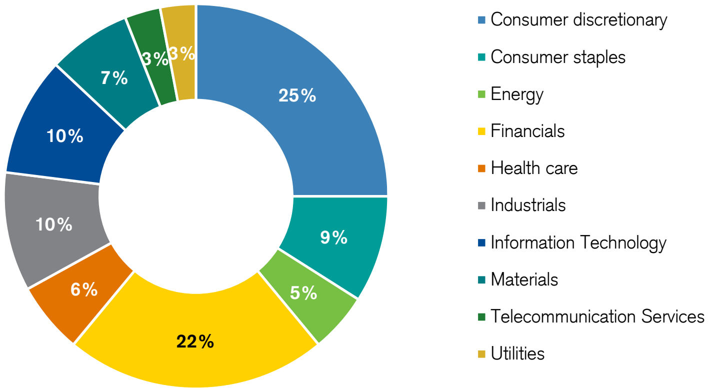
Women CFOs in 2016



Source: Credit Suisse Research, CS Gender 3000

Figure 20

Women as business heads in 2016



Source: Credit Suisse Research, CS Gender 3000

Matched dataset

We have run an analysis of the 2,400 companies common to both our 2014 and 2016 data sets.

Table 7

Female CEOs won and lost 2014-16

	New	Lost
North America	1	5
Europe	4	1
EMEA	0	0
Latin America	0	2
Developed Asia	0	1
Emerging Asia	1	3
Total	**6**	**12**

Source: Credit Suisse Research, CS Gender 3000

Table 8

Management diversity by industry

	2014	2016
Media	22.8%	21.7%
Travel & leisure	18.3%	19.5%
Utilities	19.1%	18.9%
Retailing	17.9%	18.4%
Banks	15.4%	17.6%
Real Estate	17.4%	17.4%
Healthcare services	17.9%	15.9%
Tech – software	13.8%	15.6%
Pharma & biotech	18.9%	15.5%
Business services	15.1%	14.6%
Telecoms	17.1%	14.4%
Food & beverages	13.6%	13.7%
Insurance	11.7%	13.6%
Transport	14.5%	13.5%
Building Materials & construction	12.0%	13.4%
Consumer Durables & Personal Products	12.1%	12.7%
Paper & Packaging	11.5%	12.1%
Oil & Gas	10.8%	12.1%
Diversified financials	13.6%	11.6%
Tech - hardware	15.2%	11.4%
Metals & mining	11.0%	10.3%
Capital Goods	9.1%	9.3%
Autos and components	4.7%	8.4%
Chemicals	9.8%	8.0%
Global average	**13.9%**	**13.8%**

Source: Credit Suisse Research, CS Gender 3000

The comparison is not perfect given changes in analysts covering stocks over this period and again due to methodology and the fact that we are no longer including investor relations manager data. Hence we would expect 2014 data to slightly overstate diversity levels at 17.3% relative to the 16.6% today and hence the difference between 13.9% overall in 2014 and 13.8% in 2016 not to be significant. There is an 11% and 6.5% drop in the number of women and men respectively in CFO and strategy positions between the two surveys and we believe this net difference to be a good proxy for the IR positions included in 2014. If we were to remove these figures from the 2014 data, overall diversity would increase from 13.6% to 13.8% over the intervening two years.

On a matched data basis of the 138 companies that have a female CEO in either 2014, 2016 or both, we find that six new female CEOs have been appointed in the past two years while twelve female CEOs have been lost (Table 7).

Both our complete 2016 sample and matched data show increases in the presence of women in shared services and business heads. Women in shared services are 26% of total managers today. On a matched basis, representation has increased from 22% to 26% an underlines how women's paths to the top remain concentrated in these areas. The obstacles to women's participation in the workforce which we discussed in our 2014 report will take time, energy and ongoing commitment to shift and structurally change.

Changes by region and sector

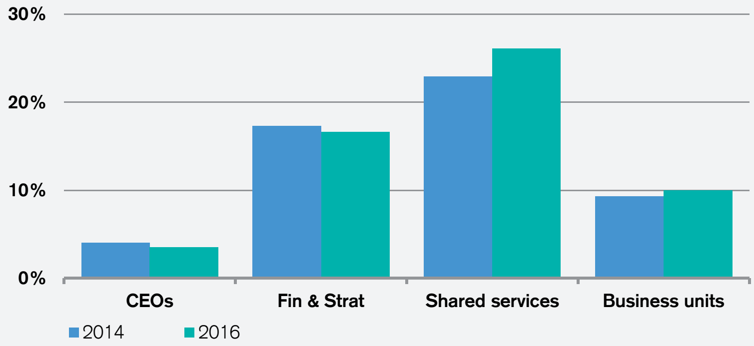
Some of the moves are exaggerated by relatively small sample sizes but the data continues to tell us the same story with Europe leading the way in terms of female participation, especially the Nordics. We observe again the very high levels of diversity in management in emerging Asia. Likewise, Latin America, Japan, South Korea, India and EMEA have made limited headway as cultural dictates remain well entrenched with an insufficient pipeline of and opportunity for female talent to make any meaningful changes over the short or even medium term.

The caveats regarding analyst coverage and different data points for the finance and strategy roles apply equally when we consider the data on a sector basis. Prizes for the "most improved" go of course where diversity levels were relatively low – insurance, oil and gas, software – while companies which had already established good diversity practices – media most notably – have seen figures slip. We would also highlight good improvements seen in banking where 17.6% of senior positions are now held by women, even better than the 16.9% of women now in the boardroom. The inclusion of more women in decision-making roles has been a notable outcome of the 2008 financial crisis and the recognition of the downside risk management focus of women. We discuss diversity in different areas of finance in more detail later in this report.

Oil and gas companies have also boosted the representation of women from 10.8% to 12.1% in senior management roles, exactly the same percentages as in boardroom seats in both 2014 and 2016 and encouraging progress in one of the traditionally more male industries where the location of assets and resources have often acted as an obstacle for women on logistical or cultural grounds. Healthcare and pharma companies are notable for the retrenchment in diversity although we do not see any structural reason why this cannot be reversed.

However, there is no consistency in progress nor any correlation between higher diversity in the boardroom and an impact on the participation of women in senior management. There may be many reasons for this, not least the absence of directly available female talent and it might take time for female directors to affect change. Insurance had one of the highest levels of boardroom diversity in our 2014 data at 21% and first impressions may suggest that this has been a factor behind the 16% increase in women in senior roles over the past two years. But this interpretation is counterweighted by developments in the telecoms sector where the number of directors has increased by close to 9% to 17.1% while the proportion of senior female managers has reversed by 19%. We believe that a global view on a sector basis collects a lot of noise and two years might be too short a time span to assess if increased gender diversity at the board level has a direct influence on diversity at the senior management level. Indeed, Matsa and Miller in their 2011 paper "Chipping Away at the Glass Ceiling" suggest some level of correlation. They looked at data for the S&P 1500 companies between 1997 and 2009. They found that a 10% increase in diversity at the board level leads to a 1.4% increase in top-management with a 12-month lag. Their definition of top management is restricted to the top-5 senior executives at each company. This effect increases the larger is the percentage of women already on the board.

Figure 21
Progress for female senior managers over the past 2 years



Source: Credit Suisse Research, CS Gender 3000-16

Table 9
Management diversity by country

	2014	2016
Thailand	25.1%	27.8%
Philippines	24.6%	25.0%
Norway	23.8%	25.0%
Singapore	26.7%	23.8%
Taiwan	23.7%	22.2%
Netherlands	15.1%	20.6%
Sweden	25.3%	19.9%
Malaysia	24.3%	17.8%
Finland	19.1%	17.7%
China	15.0%	17.2%
Australia	18.9%	17.1%
Hong Kong	14.8%	16.8%
Indonesia	13.9%	16.4%
Spain	12.0%	16.4%
Belgium	14.6%	16.3%
United States	15.4%	16.0%
Canada	16.7%	15.5%
United Kingdom	15.4%	15.0%
South Africa	12.8%	14.7%
France	12.8%	12.0%
Italy	8.2%	11.0%
Russian Federation	11.7%	9.9%
Brazil	8.3%	8.6%
Germany	10.9%	7.6%
Mexico	9.0%	7.5%
India	7.8%	7.2%
Switzerland	5.8%	6.8%
Turkey	7.7%	5.4%
Chile	8.1%	5.0%
Poland	3.7%	4.3%
Japan	2.6%	2.3%
South Korea	1.3%	2.3%
Global average	**13.9%**	**13.8%**

Source: Credit Suisse Research, CS Gender 3000

“The 50% Club”

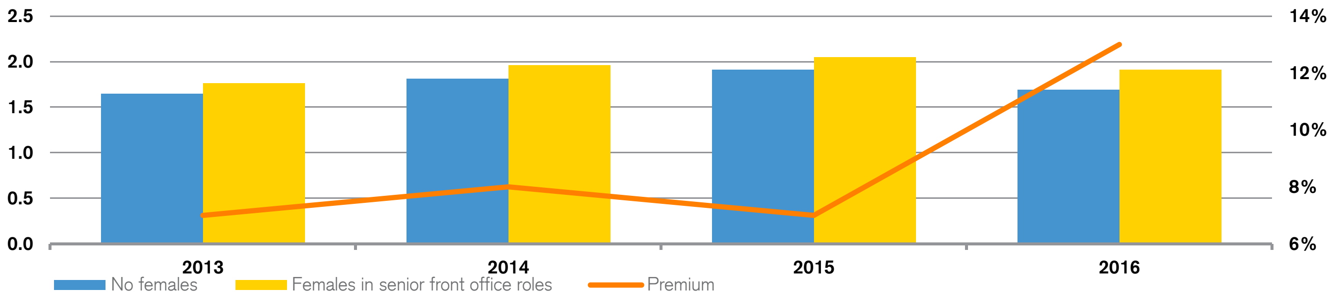
The central hypothesis behind the analysis in this report is that management manage companies and that boards supervise them. Seeing greater diversity in the former rather than purely the latter is the genuine sign of corporate change and a delivery of enhanced corporate performance just as we find in the boardroom. Superior stock price performance has pointed to this. Do hard metrics of financial performance justify this stock market perception? We find they do. Moreover, we also find there is a “dose” response: the higher the percentage of women in top management, the greater the excess returns for shareholders.

Rewarding diversity

Revisiting our analysis of 2014 which looked at four factors (ROE, price to book valuations, leverage and dividend payout ratios) that showed premiums for 15%+ female participation in senior management compared to less than 10% participation in 34 out of 40 factors across 10 industries, we find again premium valuations for women in management and female CEOs (Figure 22). Now that we have established a time series, albeit short, we find that this premium has held consistently over our four year time horizon.

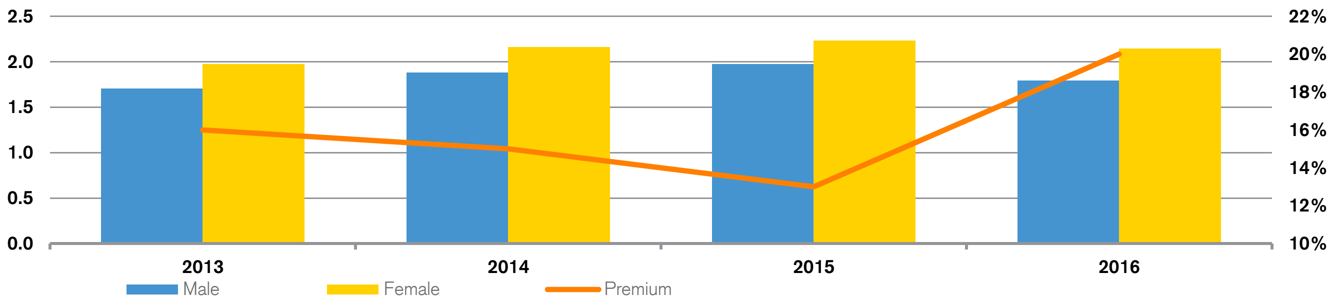
So why is the market granting this premium? If we look at Figure 23, we find that the market is willing to pay a 19% premium price to book multiple for companies with a female CEO. Also these companies show ROEs 19% higher on average and a 9% higher dividend payout. The talents of the CEO incumbent are far easier to assess and appreciate, and therefore price. Not causality, but solid correlation.

Figure 22
IBES 12 month forward P/B (x) – women in senior front office roles



Source: IBES, Credit Suisse Research

Figure 23
IBES 12 month forward P/B (x) – female CEOs



Source: IBES, Credit Suisse Research

Table 10

Comparative returns for women in senior management

	ROE (%)	Net debt/equity (%)	Price/book (x)	Payout ratio (%)
CEO				
– male	12.8	1.39	1.84	43.0
– female	15.2	1.34	2.18	46.9
Premium	19%	-4%	19%	9%
Senior management				
– women <10%	13.0	1.35	2.03	47.7
– women > 15%	15.3	1.21	2.09	41.7
Premium	18%	-10%	3%	-13%
Senior management by sector				
Consumer discretionary				
– women <10%	22.8	0.62	4.57	34.6
– women >15%	19.2	0.93	3.16	37.0
Premium	-16%	50%	-31%	7%
Consumer Staples				
– women <10%	24.7	1.33	4.83	64.4
– women >15%	19.3	1.33	3.90	51.2
Premium	-22%	0%	-19%	-21%
Energy				
– women <10%	4.0	1.60	1.22	133.2
– women >15%	4.5	2.28	1.51	128.1
Premium	13%	42%	24%	-4%
Financials				
– women <10%	9.5	NA	0.89	39.7
– women >15%	12.6	NA	0.96	38.9
Premium	33%	NA	8%	-2%
Healthcare				
– women <10%	17.6	1.00	3.59	23.8
– women >15%	29.1	0.62	4.54	36.3
Premium	66%	-38%	26%	53%
Industrials				
– women <10%	18.9	1.27	2.70	42.4
– women >15%	15.5	1.64	2.61	45.2
Premium	-18%	29%	-3%	7%
Materials				
– women <10%	14.4	1.84	2.24	44.3
– women >15%	10.0	2.02	1.54	41.9
Premium	-31%	10%	-31%	-5%
Technology				
– women <10%	20.9	-1.16	3.92	39.2
– women >15%	25.1	-0.63	3.95	25.5
Premium	20%	-45%	1%	-35%
Telecoms				
– women <10%	9.9	2.20	1.76	79.3
– women >15%	15.7	1.86	2.53	67.4
Premium	59%	-15%	44%	-15%
Utilities				
– women <10%	9.5	3.88	1.61	68.7
– women >15%	11.9	3.82	1.69	59.9
Premium	24%	-1%	5%	-13%

Source: Bloomberg, CS Gender 3000

PHOTO: ISTOCKPHOTO.COM/YURI_ARCURS

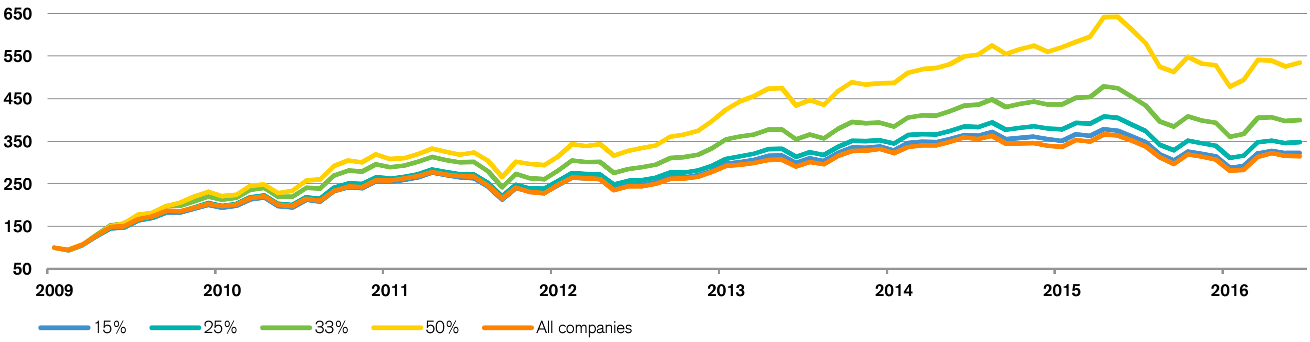
At the senior management level, comparing companies with less than 10% women in top management with those with more than 15% of female top managers on a sector neutral basis, we find that the price to book value premium is just 3%; but the ROE premium is still 18%. In 2014, we found that investors paid a 33% price to book premium, ROEs were 52% higher and the payout ratio was 22% higher. There is still a clear opportunity for investors who understand the value creation of diversity.

Does greater female participation make for greater impact?

We now have three years of management data, which while not a significant time series, does allow us to consider a more thorough view of the data than the snapshot we were able to present in 2014. Adjusting our baskets at YE to reflect changes in female management participation since YE13, we are able to measure performance by differing levels of diversity. Our original 2014 snapshot, albeit with a survivorship bias due to the lack of a time series, showed an interesting pattern of higher participation correlating with higher share price returns. Excluding shared services roles, we found that companies with

Figure 24

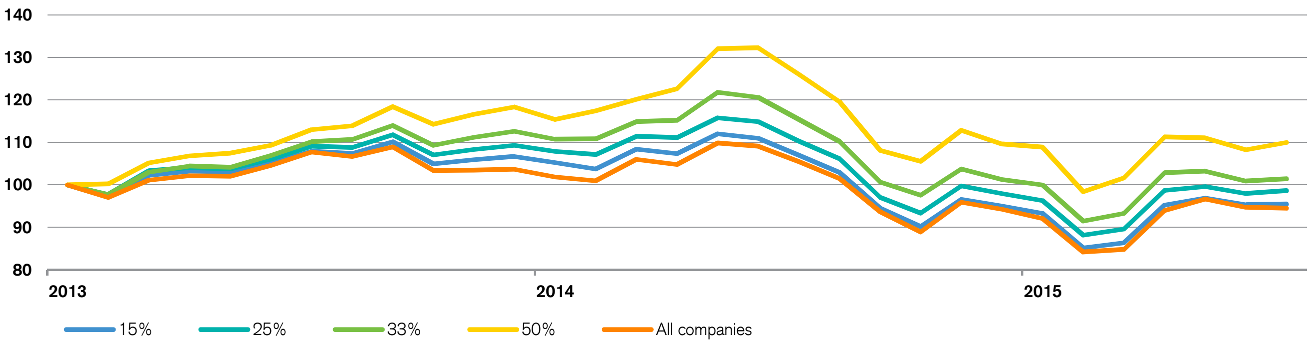
Share price performance for baskets with different tiers of female participation in senior management



Source: Bloomberg, CS Gender 3000

Figure 25

Share price performance for baskets with different tiers of female participation in senior management (since 2013)



Source: Bloomberg, CS Gender 3000

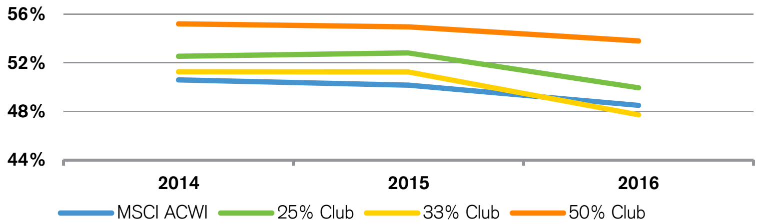
Table 11

The 50% club

	CEO	CFO	All financial & strategy roles	Shared services	Business units	Number of companies
50% women	34.4%	54.8%	59.4%	60.2%	58.1%	61
CS Gender 3000	3.9%	14.1%	16.5%	26.4%	9.9%	3,380

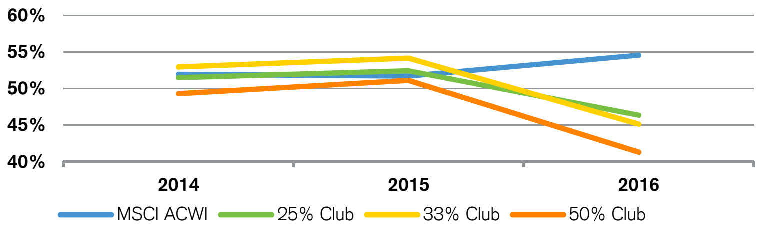
Source: CS Gender 3000

Figure 26
CFROI – average percentile score



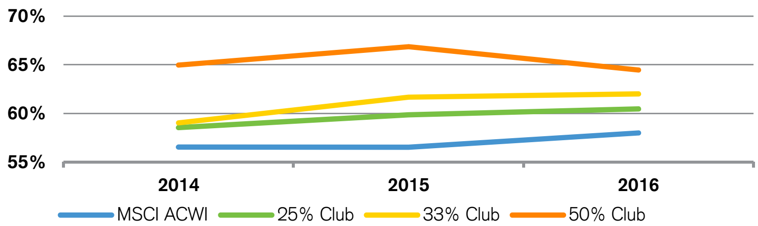
Source: Credit Suisse HOLT

Figure 27
HOLT leverage



Source: Credit Suisse HOLT

Figure 28
Dividend payout ratio



Source: Credit Suisse HOLT

25% female participation had a 22.8% annualized average return over 5 years, those with over 33% had a 25.6% annualized average return and those with more than 50%, a 28.7% annualized average return. Note that the MSCI in the same period has a 11.7% annualized rate or return. These high numbers are explained by the starting point of our analysis, 2008 which experienced a particularly depressed stock market.

Also all baskets with more than 25% female participation in top management outperformed the Credit Suisse HOLT All Company Benchmark. This simplistic view implied that as female participation increased in senior management, so did performance, providing more quantitative evidence of the enhanced decision-making and governance that diversity enables within an organization.

We have re-run this analysis combining the 2014 and our latest data and again find that the outperformance increases with broader diversity levels. This also holds if we consider the shorter period year end 2013 to mid-2016. In our sample, we have 1,116 companies with more than 15% female top managers; 631 with more than 25%, 317 with more than 33% and 61 with more than 50%. For both periods YE09-mid-16 and YE13-mid16, we see excess annual returns for companies with 15% women in senior roles of 40bps and 60bps respectively compared to companies with fewer than 15% or all male teams. This is an equal weighted index so does not adjust for sector and market effects but inherently underpins our fundamental tenet that investment in diversity generates excess returns. For the period YE13-16 where we have no survivorship bias but just an equal weighted index, the outperformance of companies with 25% senior women is a CAGR of 2.8% rising to 4.7% for 33% and a not insignificant 10.3% for those over 50%.

Using Credit Suisse HOLT, we measure the performance of companies with these differing thresholds to capture the underlying fundamentals rather than just look at market price trends. We again tend to see that the greater the number of women, the better the results. Our first look is at cash flow returns on investment (CFROI) which shows that while there is not a linear correlation, companies with more than 33% women in senior management in fact underperform those over the 25% threshold, but all companies with higher than 15% women in top management outperform the MSCI ACWI. On average, companies with 25% women generate 4% higher CFROI and companies with more than 50% females show an outperformance of 10% annually relative to the MSCI ACWI. Our HOLT analysis is conducted on both a sector and region-relative basis.

If we turn to HOLT's definition of leverage which adjusts tangible assets and equity to reflect the amount of permanent capital supporting risky assets, we see that all three thresholds show lower leverage than the broader MSCI ACWI benchmark. This supports research that women manage for downside risk rather than the absolute return focus of male managers.[1] The lower the leverage multiple – as we see in Figure 27—the lower the proportional impact of asset losses on equity.

Consistent with our 2014 research, we find that companies with higher female top managers show a higher dividend payout. Here we see a consistently higher payout with the greater number of women in management. The interpretation in our previous report was that women seek to run a tighter balance sheet with less of a cash war chest to fund potential

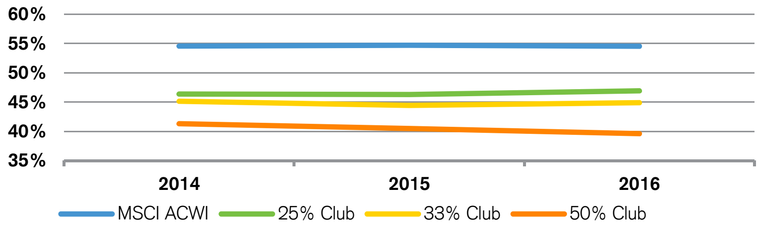
1 Coats JM and Herbert J: Endogenous steroids and financial risk taking on a London trading floor. Proceedings of the National Academy of Sciences, 105 (16), 2008. Coats JM and Herbert J: Endogenous steroids and financial risk taking on a London trading floor. Proceedings of the National Academy of Sciences, 105 (16), 2008.

M&A and to avoid empire building practices of past cycles. According to Figure 28, companies with 25% plus women in management pay a 4.6% higher dividend annually than the MSCI ACWI average, for companies with more than 33% it is 6.8% higher and for companies where there are over 50% females in the top echelons, the dividend payout is 14.8% higher.

Lower leverage, higher payouts and higher return on capital employed lend support to the idea that diversity implies better returns for lower risk. In addition, our HOLT analysis shows that companies with a number of female top managers hold meaningfully lower excess cash on their balance sheets. Figure 29 again shows a linear relationship as we see for the dividend payout ratio, 15% lower for companies with 25% women, 18% for those with 33% and 26% for those with 50%. While we still do not argue causality, there is a consistency in our findings that demonstrates that greater gender diversity at senior levels leads to greater returns for a company and alpha generation for investors. And alpha generation at lower risk.

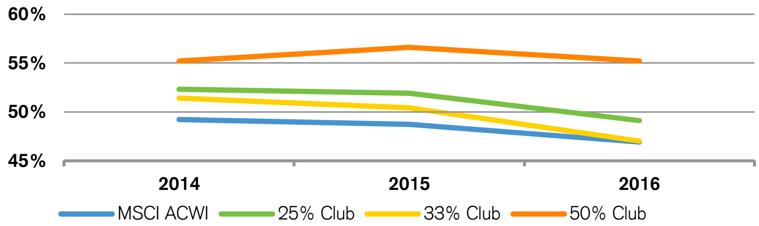
As an additionally reality check on the impact higher diversity at the top management level, we evaluate these four baskets on accounting quality to double check that there is consistency in term of prudent standards and high management quality. HOLT's accounting quality model identifies accounting anomalies to help investors assess the quality and predictability of earnings. The model takes into account 16 categories such as revenue recognition, stock options, special items and off-balance sheet debt, proxies for potentially aggressive accounting treatments and areas which capture shifts in a business model that might otherwise not be apparent. As we see in Figure 30, we again see better reporting standards for companies with increasingly higher female executives. This is confirmed also by several academic research papers.

Figure 29
Excess cash



Source: Credit Suisse HOLT

Figure 30
Quality score



Source: Credit Suisse HOLT

The 50% Club = Gender Parity

Taking the 61companies where women account for 50% and above of senior management, we can analyze performance on a fully sector-neutral basis. The results here yet again confirm the underlying business case for diversity that we see in our various studies.

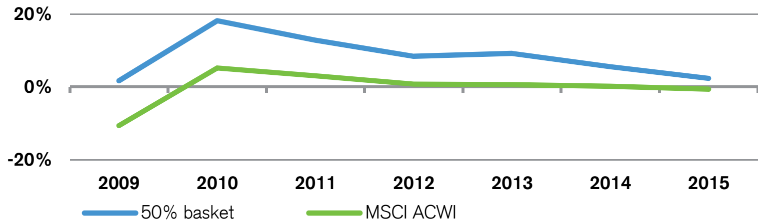
Sectors

In the "The 50% club," greater diversity is clustered in consumer discretionary and financials (Figure 35), no surprise given the much quoted examples of women accounting for 70% of spending decisions and the more cautionary stance and regulation in the post-2008 financial world. If we delve deeper, we see that half of the financial companies with 50% or more women in senior management are in fact real estate companies, a sub-sector that combines both the necessity of financial prudence in management and the need to appeal to female consumers given their widely recognized involvement in such lifestyle decision-making purchases. For 55% of these real estate companies with more than 50% women in top management, the CEO is male so there is an active choice for a diverse workforce in this sector. In these companies, women make up 60% of financial, strategy and business head roles.

The second largest category is consumer discretionary with a broad range of luxury goods, apparel, consumer durable retailing, DIY, media and travel and leisure. Here the focus seems to be on sales, sectors largely dependent on advertising to promote lifestyle and the resultant purchase choices. These are also sectors focusing on innovation and customer knowledge to drive repeat sales, so again the concept of women being better placed to understand their target market. In this grouping, female CEOs are 43% with female business unit heads just over 60%—a far more female focus business.

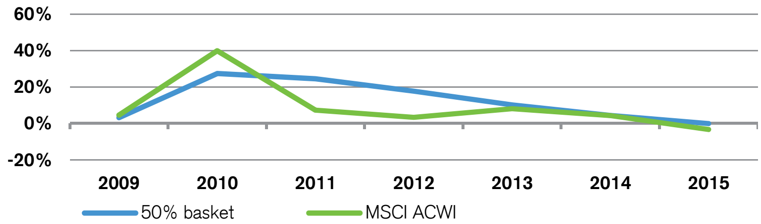
In consumer staples interestingly, we find that despite the broad embrace of diversity, there are no female CEOs. Here the concentration is in females in CFO functions, accounting for 72%. Female business heads are 54%, lower than we are seeing generally in this 50% grouping. One explanation, as we deduced in 2014 too, is that many staples companies are more focused on logistics and the delivery of more commoditized products, less perhaps on customer-specific marketing and product development and design.

Figure 31
Sales growth, non-financials



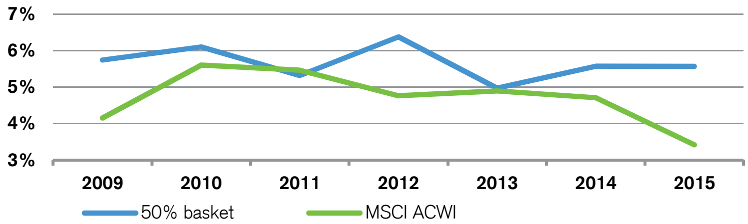
Source: Credit Suisse HOLT

Figure 32
EPS growth



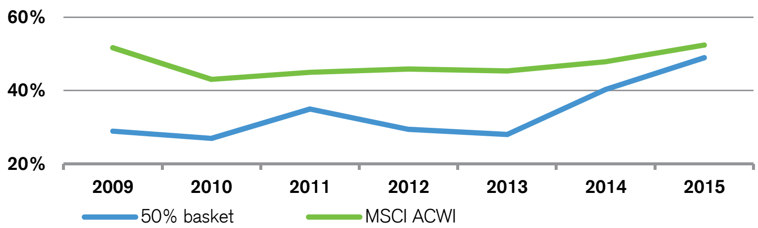
Source: Credit Suisse HOLT

Figure 33
RoA, non-financials



Source: Credit Suisse HOLT

Figure 34
Net debt/equity, non-financials



Source: Credit Suisse HOLT

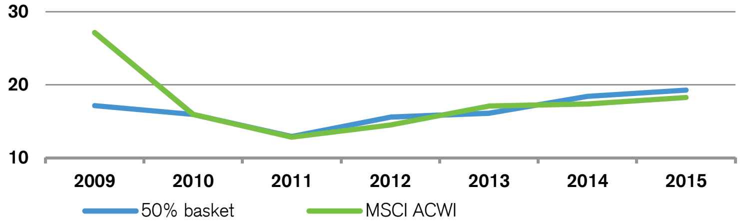
Financial Performance

To understand the drivers of the superior returns, we consider first sales growth, albeit through a relatively short time horizon. Our 2012 and 2014 diversity reports illustrated the very superior returns for companies with greater diversity through the financial crisis of 2008 and if anything, we would have expected to see less of a rebound in 2009-10 and more limited differentiation post-2008. However looking at sales growth since 2008, we find that companies where women are 50% or more of the decision makers have outperformed in each and every subsequent year. Average sales growth for these companies has averaged 8% per annum vs a slowdown of 20bps for MSCI ACWI on a fully adjusted basis.

PHOTO: SHUTTERSTOCK.COM/PHOVOIR

Figure 35

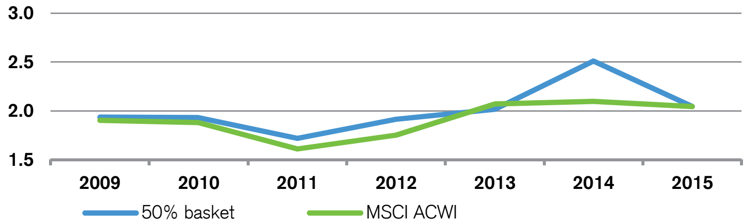
P/E



Source: Credit Suisse HOLT

Figure 36

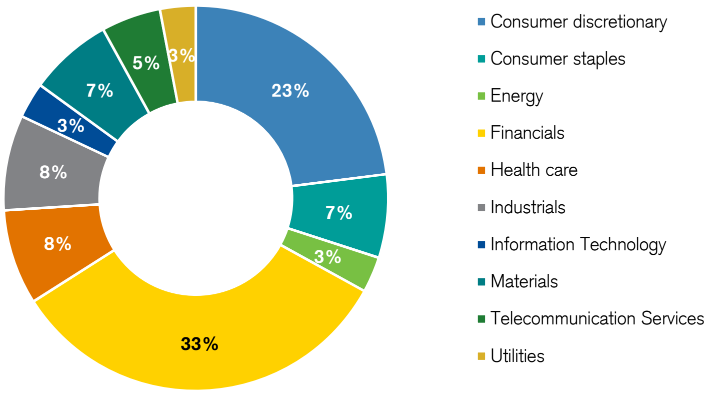
P/B



Source: Credit Suisse HOLT

Figure 37

Where are the companies with 50% or more women?



Source: CS Gender 3000

On an EPS growth basis, the outperformance is less pronounced, 12% annually vs 9% for MSCI ACWI and here we see the 2009-10 rebound being more pronounced for the broader universe. Again we note that our 50% basket outperforms in each year apart from 2010 and over the past 5 years, this basket has averaged EPS growth of 11% vs 4% for MSCI ACWI.

On a fully sector-neutral basis, the higher profitability and lower risk style of these companies is self-evident. We consider return on assets and leverage, having discussed the higher returns on equity above. Figure 33 show that RoAs average 5.7% for the 50% companies, a 20% premium to the 4.7% average RoA for MSCI ACWI constituents; while leverage (net debt/equity) at 34% is 28% lower.

Valuation

Belying expectations of market efficiency, a pleasant surprise is that despite superior returns and less risk, these stocks trade in line with the broader market. This is a 2% discount when considering PE (Figure 35) and a 5% premium looking at P/B. This implies that there is an investment opportunity for those looking to capture any re-rating of these companies from their excess returns. It is, on the other hand, disappointing that this is the same investment opportunity case that we were arguing following our 2014 report.

The female CEO: the "Glass Cliff," the "Queen Bee" and other myths

There are many behavioural pre-conceptions of the management styles of a female versus male CEO. In this section we tackle a few. First, are female CEOs in a sense set up to fail by being appointed to a position when a male CEO has exhausted all options to address the problems of an ailing company? They essentially take riskier roles as a result. Second, is there a "Queen Bee" syndrome whereby a woman who has strived hard to achieve the top role then pulls the ladder up and reduces the opportunities for women to succeed her? Our analysis suggests there is more fiction than fact in these suppositions.

The Glass Cliff

The Glass Cliff, a concept first identified by Professor Michelle Ryan and Professor Alex Haslam of the University of Exeter, posits that certain groups of individuals are more likely to be put into positions of leadership when those positions have an inherently greater risk of failure.[1] Their research suggests that the "glass cliff" is to be found in many environments and that it is not isolated to particular events but a constant bias—unconscious bias—that continues to contribute to inequalities of gender and minorities' representation. In the context of management, research suggests that female CEOs are appointed at a time of last resort when the opportunities to revive a company's fortunes are lower than they are when a male CEO is appointed. Equally it might mean that women accept riskier jobs that male counterparts.

In an experiment testing the glass cliff hypothesis, How women end up on the "Glass Cliff," by Professor Nyla Branscombe of the University of Kansas and Susanne Bruckmüller, a research associate at the University of Erlangen-Nuremberg, the authors also highlighted a status quo bias in appointments. Students were asked to choose between two equally qualified candidates, one male, one female to replace an incumbent CEO. They were also asked to choose in scenarios when the company was growing and when it was failing. If the incumbent CEO was male and the company doing well, 62% of respondents chose the male candidate as the new CEO, but when the company was run by a male and doing very badly, the female candidate was picked by 69%. There was no difference in selection when the incumbent CEO was female and the company doing well or badly. So no glass cliff scenario when a female CEO is being replaced, but a clear status quo bias favoring male applicants to replace an outgoing male CEO in a "positive" environment.

In a second experiment, Branscombe and Bruckmüller asked students to rate a male and a female CEO candidate in 10 areas reflecting perceived male and female attributes. When a company was doing well, the students picked a CEO with stereotypically male strengths, but when a company was in crisis, they picked stereotypically female skills.

We have tested our data for evidence of the glass cliff at the hiring stage, looking at the performance of companies in our universe from three years prior to the appointment of a female CEO to three years after and comparing that to the equivalent time frame around the appointment of the male CEOs. The data are adjusted to remove any sector bias. We find clear evidence of a difference in the share price performance from eight months prior to a female CEO taking over and then again from seven months after she starts, i.e. when the second set of quarterly results under the new CEO's stewardship is released. The share price underperforms between T-8 months and T-3 months, which would correspond to the announcement of the appointment of the new female CEO. The start date is T in the chart below and the line defined as "female" shows male CEOs being replaced by females at time T, the male line showing a male CEO replacing another male CEO. The underperformance is almost 10% (annualized) up to T-3 months and the outperformance between T+8 and T+12 is 14.4% annualized.

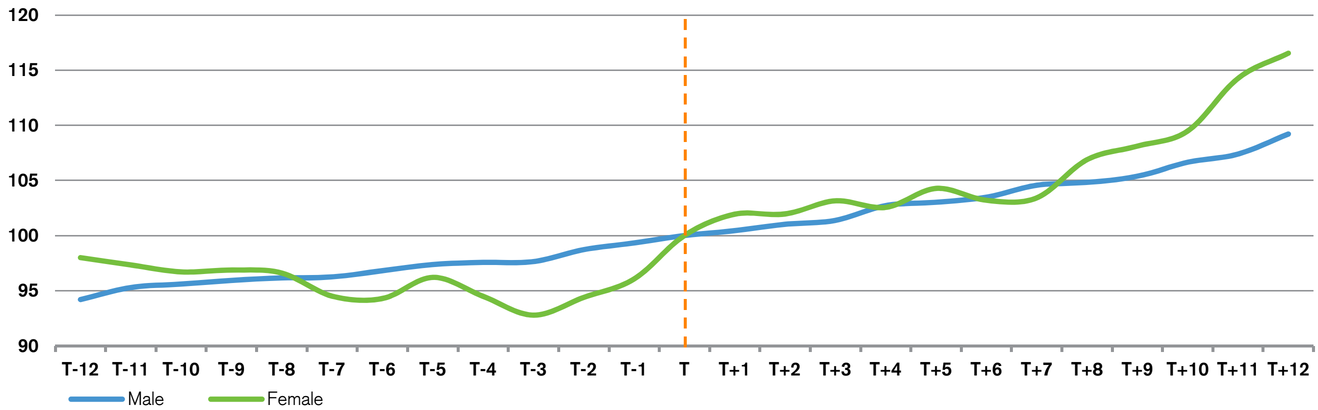
If we test the company's actual financial performance rather than what the stock market is pricing, however, we find mixed evidence of a glass cliff. In Figure 39, we show the ROEs over the three years prior to a female or a male CEO taking over and three years after. As we see, there is no difference in the pattern of returns other than that female CEOs are appointed to structurally higher ROE companies – sectors such as consumer staples, technology, health care and consumer discretionary.

1 Ryan, M. K., & Haslam, S. A. (2005). The glass cliff: Evidence that women that women are over-represented in precarious leadership positions. British Journal of Management, 16, 81-90

PHOTO: ISTOCKPHOTO.COM/FRANCKREPORTER

Figure 38

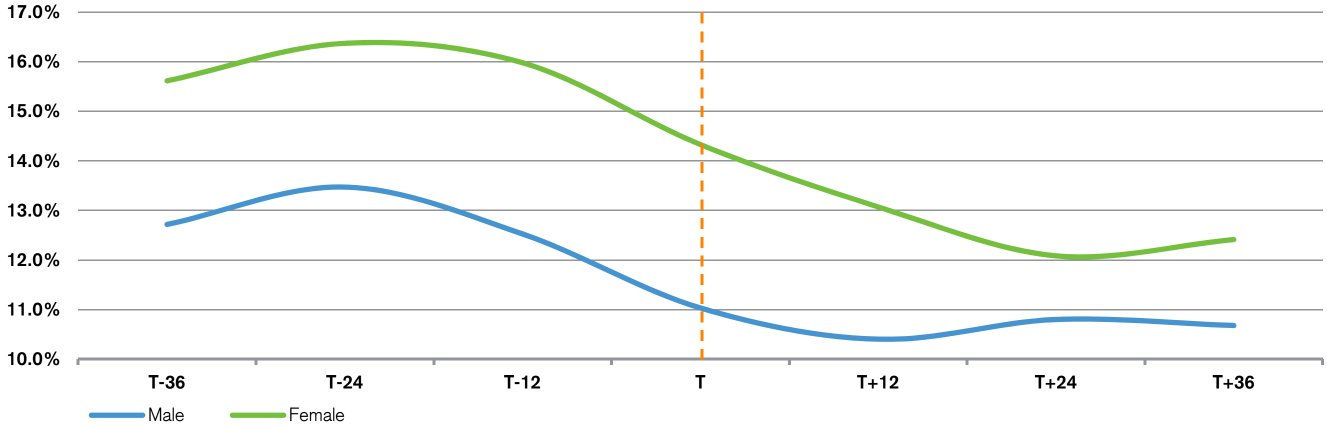
Relative share price movements around the hiring of a CEO (12 months prior to appointment to 12 months after)



Source: CS Gender 3000

Figure 39

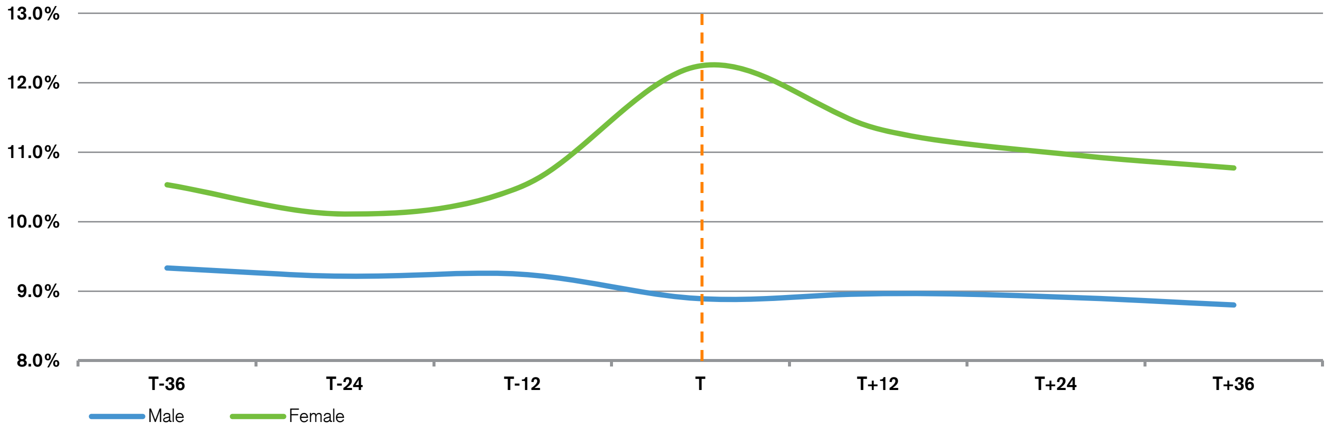
ROE around the appointment of a new CEO (months)



Source: CS Gender 3000

Figure 40

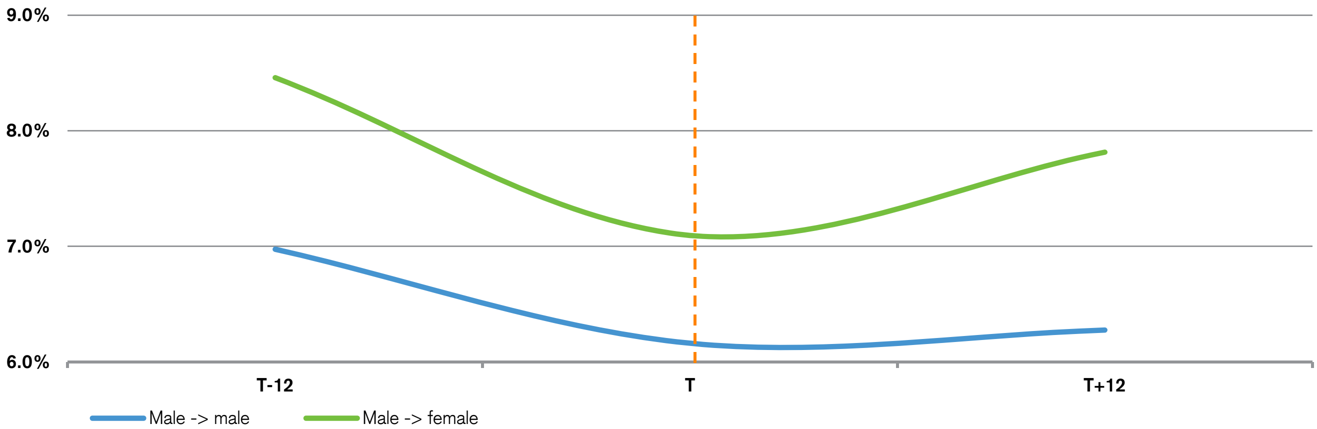
CFROI around the appointment of a female CEO



Source: CS Gender 3000

Figure 41

ROA around the appointment of a new CEO



Source: CS Gender 3000

When we turn to cash flow return on investments (CFROI) as a measure (Figure 40) we in fact see that women are appointed to run companies where CFROI has been improving significantly over the previous 12 month period and in fact peaks at the time of her arrival. Again we see the structurally higher CFROI of the sectors where women are appointed.

Only when we consider ROA do we see anything that might account for the stock market moves. On a sector adjusted basis, we see ROAs fall 12% at companies where the replacement CEO is also male but the ROA compression is 16% over the preceding 12 months when the reins are handed to a female CEO. The most obvious explanation is that the glass cliff is created when boards and investors are considering a very narrow range of performance criteria.

It could be argued that boards pay more attention to share price movements, a narrow company-specific range of criteria or perhaps PR issues rather than the underlying relative performance. Taking the decision to replace a CEO would appear on our findings to be a short-term decision driven by directors rather than a response to the longer term fundamental health of a company.

Mergers and Acquisitions

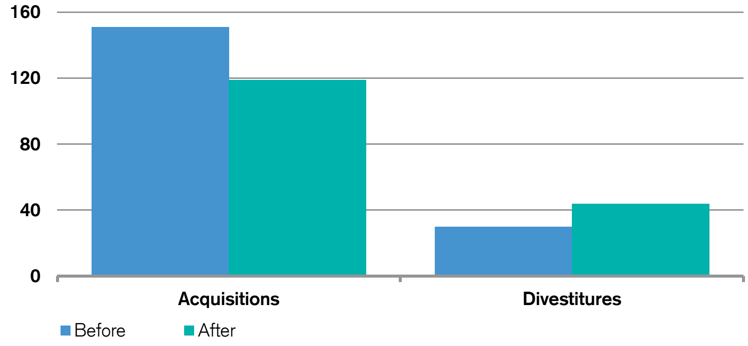
We view M&A activity as a good proxy for decision-making and the setting of strategy priorities. Do female and male CEOs behave differently in setting their companies' M&A strategy? To analyze this, we created a database of transactions announced in the three years prior to the appointment of a new CEO and the corresponding level of activity in the first three years of a CEO's tenure. We found that the level of M&A differs according to gender. In our 2014 report, we included the following chart to illustrate the difference in behavior between outgoing male CEOs during the three years before their departure and the first three years that a female CEO takes over: acquisitions down, divestitures up. If we compare this with Figure 43, that shows in the same format the transition from a male CEO to another male CEO, we see that the main "gender" difference is on the divestiture front.

In order to understand better the full extent of these difference in M&A strategies, we need to go one level deeper. and assess the "merit" of these M&A strategies. We leverage Credit Suisse HOLT's analysis of the operational success score for the acquisition or divestment, the ability of the acquirer or divested to improve growth and the pricing skill, ie the premium paid or received. Although the number of M&A transactions by new female CEOs are limited—136 versus 2,114 for male to male CEOs—they show considerably better operational success and growth relative to their male counterparts, and importantly for investors, better pricing skill.

While we consider a relatively short time horizon of three years in this analysis and acknowledge that there could be some lifecycle bias, we consider this to be an interesting indication of different decision making strategies between male and female CEOs in their early days.

Figure 42

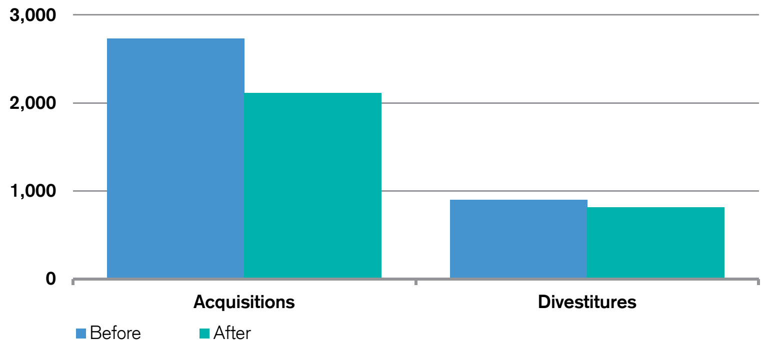
M&A transactions during the three years prior and 3 years after male to female CEO transition



Source: CS Gender 3000

Figure 43

M&A transactions during the three years prior and 3 years after male to male CEO transition



Source: CS Gender 3000

Table 12

HOLT Operational Success Metrics

	Operations	Growth Ability	Pricing Skill
New male CEO			
Before CEO Change	51.3	54.4	45.0
After CEO Change	54.6	55.1	51.0
New female CEO			
Before CEO Change	53.6	51.6	50.0
After CEO Change	75.5	72.5	58.6

Note: Best score is 100 in the HOLT Operational Success Metrics
Source: CS HOLT

Queen Bees: Do women promote women?

Another important question is whether female CEOs lead to increased gender diversity in the top management? This is a much debated paradox that has not yet had a conclusive answer with many arguing there is a 'Queen Bee' syndrome still in effect whereby a woman senior executive, having strived so hard to achieve her position actively seeks to exclude other women from promotion. However, the message from the data within the CS Gender 3000 is that female CEOs are significantly more likely to surround themselves with other women in senior positions than their male counterparts. This is true in virtually all positions in all regions suggesting that female CEOs are far more open to and effective in bringing women executives up through the pipeline. The data does not reveal if female CEOs are hiring these female senior executives identifying them as the best candidates, but the difference to male run management teams is very striking.

Overall, we find that female CEOs are 50% more likely to have a female CFO and 55% more likely to have women running business units (Table 13). This is particularly pertinent in terms of the senior management 'Power Line', indicating that female CEOs are not promoting women simply by increasing their presence in positions that are typically back office functions that offer flexibility. Female CEOs are promoting women to functions that offer a platform for further development and promotion, using their own opportunities to create openings for other women.

We find that this is particularly true in Europe regarding business unit head roles and can be interpreted not just as the support of women by women, but reflecting the more conservative views that still prevail among European male executives as to the potential and role of women in the workforce. This provides a key explanation of the disparity between boardroom and executive diversity. In the US, it is notable that women CEOs have fewer women in HR, the function that accounts for a third of female executive positions globally. This would support our anecdotal evidence and discussions that indicate that North American professionals have a longer track record in appreciating some of the obstacles to female progression in the workplace and have made conscious efforts to address this. It would seem that US female CEOs are helping to push other female professionals into CFO and business head seats rather than into HR management.

We also see the support of female CEOs being particularly effective across all functions in Asia. With Asia enjoying the highest level of female CEOs at 4.6% across the continent, this would appear to be having a significant compounding effect at improving diversity at the senior level and below. This may also lie behind the notably higher levels of gender diversity in finance and strategy roles seen in Asia in our 2014 results. The high relative levels of diversity in shared services roles in Asia may be skewed by the different level of importance attached to these positions by male CEOs compared to female CEOs, i.e. that IT, HR or legal heads may be considered senior executives roles in female-led companies whereas they may not be included in the senior management team for male-led companies.

We have also tested our 2014 data for this argument and find a consistency in results that supports our view that women are more aware of the barriers to female progression within an organization and are therefore more active in addressing this. For 2014, companies with female CEOs were also 56% more likely to have women in finance and strategy management roles, though we would reiterate our caveat that 2014 data included IR functions. Hence we believe that further progress has been made by female CEOs in the intervening two years. In 2014, female CEOs had 37% more women in shared services functions compared to 39% in 2016, but the number of women in business head positions was 50% higher. Again, we witness the significantly higher proportion of females as business heads in Europe when companies are run by female rather than male CEOs, the difference being more than twofold. This underlines some of the inherent cultural obstacles to gender diversity that remain masked by the adoption of quotas. We have seen improvement in diversity at male-led companies in Europe, but our concern about quotas is that a focus on the boardroom diversity does not necessarily help change culture and gender diversity practices in a meaningful, day-to-day manner inside a company.

Table 13

How much more likely are female CEOs to have senior female managers vs male CEOs?

	CFOs	Total finance/ strategy	IT	HR	Total shared services	Business unit heads
Americas	15.8%	34.4%	60.7%	-3.8%	7%	50.0%
US	24.7%	28.5%	53.2%	-3.1%	10%	41.2%
Europe	61.6%	28.4%	nm	32.2%	59%	106.4%
Asia	50.6%	64.8%	141.3%	80.3%	111%	36.2%
Total	48.7%	52.3%	75.6%	22.0%	39%	55.1%

Source: CS Gender 3000

PHOTO: ISTOCKPHOTO.COM/GEORGIJEVIC

Gender in microfinance: Women rule

Venture capital and micro-financing have much in common but on a different scale. In microfinance, women play a leading role: the percentage of female CEOs is close to 30%, female lending officers represent 35-65% of the total and 60-70% of clients are women. Let us understand why and what we can learn from this.

The growth of microfinance

Modern microfinance is an industry that started in Asia forty years ago and has experienced strong growth globally since then. It started technically as microcredit—extending loans to poor communities and low-income individuals—and evolved as a more wide-ranging provision of financial services for those unable to access traditional banking services: individuals, groups of people and small businesses. Average loan range from $200-300 for individuals to $5,000 for small businesses.

The stated goal of most microfinance institutions is to help poor people out of poverty by providing access to credit and financial services (insurance, transfers, etc.). By supporting small entrepreneurs and small businesses, microfinance promotes economic development and employment. In more recent years, microfinance has been seen as an important tool to increase the empowerment of women in poor communities and developing countries. Recent data show that close to 70% of the clients of microfinance institutions are women—63% according to the MIX database sample of 1,019 institutions and 73% based on the Rating Fund of CGAP of 379 institutions and used by Espallier et. al in several of their research papers. Today over 40% of microfinance institutions have a declared goal to lend mostly to women.

This is particularly interesting because microfinance did not start with the objective of lending mostly to women. The increase in female clients was gradual from an initial 20-25% to the current 70%. In 1983, for example, 44% of the clients of Grameen Bank in Bangladesh—one the pioneers of modern microfinance—were women; by 2001 women accounted for 95% of all clients. What triggered the rapid growth of female clients in microfinance? According to most of the research on the topic, three main factors:

1. Women tend to be much better than men at repaying the loans and so the quality of the banks' portfolio is much better (less defaults and less provisions)
2. Women tend to invest the money they borrow in improving the wellbeing of their families. As women enter microfinance programs family savings rise in most instances, and households tend to invest in home durable goods rather than leisure or consumer staples.
3. In some cases, it is an effective tool to promote women's empowerment and gender equality, particularly in poorer societies. However, a few recent reports (e.g., Banerjee et Al. "The Miracle of Microfinance? Evidence from a randomized evaluation") show that the positive impact on the empowerment front and on most families' health and education has been quite limited.

Two more data points make microfinance an interesting case study for our report on gender diversity. According to several databases which track microfinance institutions, 25-30% of the CEOs are women and around 50% of the lending officers—key managers in this type of institutions—are women. In other words, microfinance provides an interesting test case of what happens when the number of women in the management exceeds the current 13% we see in the companies we cover. In the context of microfinance, we will focus on women as CEOs, women as lending officers and women as clients.

Table 14
Gender differences – Microfinance CEOs

	Female CEO	Male CEO
Board size (number of members	7.6	7.0
Percentage of women on the board	44%	23%
Female Board Chair	42%	16%
Assets ($ in mn)	5.8	8.8
Loan Portfolio ($ in mn)	4.5	6.2
MFIs serving rural markets (percent)	21%	79%
Women clients (percent)	76%	70%
ROA (percent)	3.9%	2.9%
ROE (percent)	10.6%	13.0%
Portfolio at Risk (>30days, percent)	6.0%	6.0%
Debt-to-equity ratio	3.2	4.3
Average loan size ($)	957	1,215

Source: Are Women Better Bankers to the Poor? Evidence from Rural Microfinance Institutes, 2013 Valentina Hartarska, et. al

PHOTO: ISTOCKPHOTO.COM/EDDIE HERNANDEZ PHOTOGRAPHY

The Microfinance CEOs

While in our coverage universe, only 3.9% of the stocks have female CEOs, in microfinance institutions the percentage is seven times higher. Of the financial institutions in the CS Gender 3000, just 3.5% have female CEOs. Hartaska et al. report that in a sample of 250 microfinance institutions globally, female CEOs account for 27% of the total. We will leverage this dataset collected between 1998 and 2009. What differentiates these female CEOs from their male counterparts? How effective are they in their role as CEOs?

To answer these questions we need to define the metrics we want to use. We believe that outreach (number of active clients) and costs of servicing this clients are the key ones. As many microfinance institutions are NGO (non-profit) using returns on capital employed or assets as a success metric might be shortsighted.

When measuring efficiency as the outreach relative to costs, the data show that female CEOs are 14% more efficient than male CEOs in rural markets and 13% more efficient in urban markets. For those institutions that serve both rural and urban markets there is not statistical difference between the performance of male and female CEOs.

What it is also interesting is that female-led microfinance institutions tend to be more focused on women (59% openly target women versus 43% for male CEOs); have an explicit social orientation (85% versus 64%); tend to have a 22% smaller loan portfolio and the average loan is just below $1,000, and 21% smaller than for male CEOs.

But there is more. Female-led institutions have more females in their boards (44% versus 23%); are more likely to have a female as chair of the board (43% versus 16%) and have more female clients (76% versus 70% for men lead) More female-led institutions attract more females in management and more female clients. Part of this success in attracting

Table 15

Key factors for loan approval for male and female loan officers

Male loan officers	Female loan officers
Investment purpose	Married status
External income	Number of dependents
Business profit	Number of employees
	Loan repayment terms

Source: Microfinance and Gender: Is there a glass ceiling in Loan size? 2010 Isabelle Agier and Ariane Szafarz women, can be attributed also to the "social" mission of microfinance which strikes a positive chord in motivating those who care about matching a job with a higher social meaning (doctors, social workers, etc).

Loan officers

Are female loan officers better than their male colleagues when there is a gender balance? Again we need to define what metric we want to use. In this case, we think that level of past dues or default rates might be the most appropriate criteria.

A 2009 paper by Beck et al.— leveraging data collected between 1996 and 2006 from an Albanian microfinance institution—focuses on lending officers which represented 50-66% of all lending officers in the period considered. The data show that loans managed by female loan officers have lower default rates than those handled by male officers. More specifically, loans managed by female officers command a 4.7% lower probability of default versus male officers.

The study also points that the default rate of female borrowers is 4.2% lower than that of male borrowers, which is consistent with most papers on the topic. Do we have a better outcome independently from the gender of the borrower? The answer is "yes."

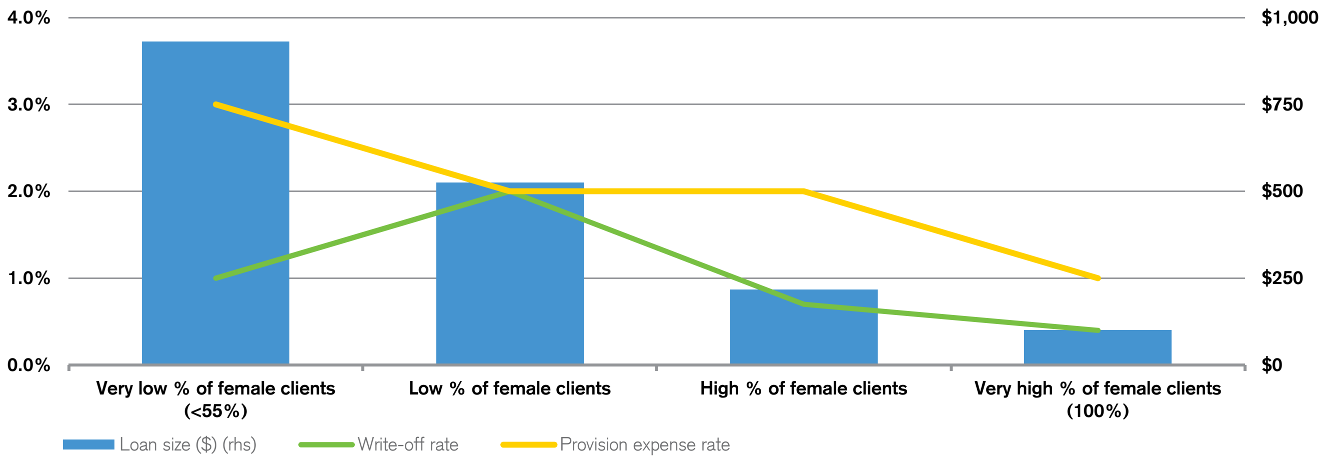
- Female borrowers monitored by female loan officers have a 4.3% lower probability of default than female borrowers monitored by male officers;
- Male borrowers monitored by female loan officers have a 4.8% lower probability of default than male borrowers monitored by male officers.

In this case, the result is independent from the relative experience of the loan officers; in other studies, though, experience shows up as an important factor. It is also interesting to notice that the lower default rates tied to female loan officers are the result of their superior ability to prevent loan defaults not of a better performance in the approval process. Male and female officers perform the same—in terms of loan defaults—if we focus only on their ability to approve "good" loans.

So what makes female officers better at their jobs? Our hypothesis is that they are better at reading the social context and recognizing potential "alarm" signals surrounding the loan. They might be also better at soliciting and convincing clients to pay. This is

Figure 44

Loan loss and provision rates vs. percentage of female clients



Source: Women and Repayment in Microfinance: A Global Analysis, 2010, Bertrand D'Espallier, et. al

Table 16

Gender loan approval dynamics

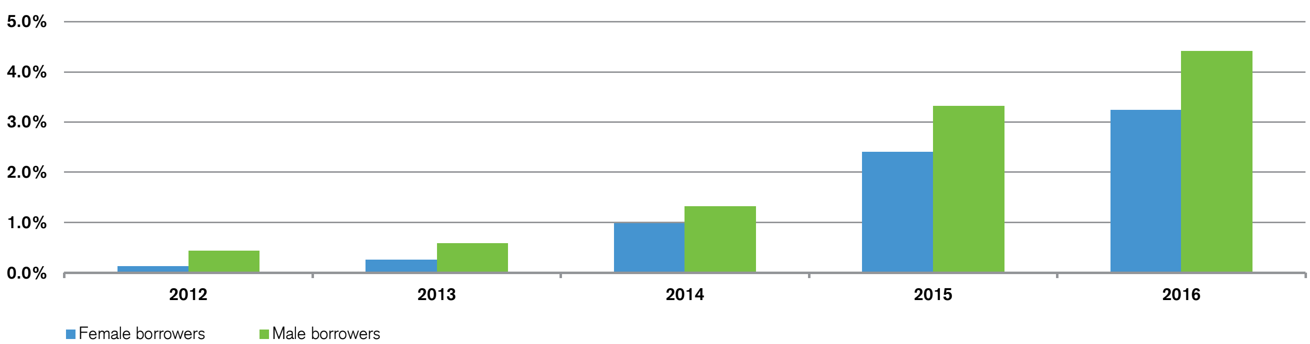
	Female Credit Officer		Male Credit Officer	
	Approval Rate	Approved Amount	Approval Rate	Approved Amount
Female Clients	92.8%	70.0%	94.8%	76.0%
Male Clients	92.7%	72.0%	94.5%	78.0%

Source: Vivacred - database 1997-2007; Agier and Sarafaz Microfinance and Gender: Is there a Glass Ceiling in Loan Size?

PHOTO: ISTOCKPHOTO.COM/RYHOR BRUYEU

Figure 45

Non-performing loans to total Loans



Source: Arvand MDO – Tajikistan

interesting as women certainly can exert less "threatening" pressure on problematic borrowers.

Another interesting analysis by Agier and Szafarz in 2010 uses on loan application data between 1997 and 2007 at Vivacred, a microfinance institution based in Rio, Brazil. In the case of Vivacred, around 50% of clients in 2007 were female—they grew from 32% in 1997 to 53% in 2007—and female loan officers accounted for 48% of the total.

What is interesting and different in this study is the analysis of loan approvals. Again we find there is no gender bias in this process, but female loan officers consistently propose smaller loans than male officers and they tend to approve lower amounts than the original request relative to male officers (72% versus 78%) (see Table 16). But even more remarkable is the different weights female and male loan officers place on the different factors influencing their decision:

- For male officers the investment purpose, external income, and business profit are statistically more important than for female officers;
- For female officers married status, numbers of dependents, number of employees and loan repayment terms are statistically more important.

Clients

We mentioned earlier that the large majority of microfinance clients—60-70% on average are women. This evolved over time and has been tied to a better repayment experience when lending to women and a higher social impact of the loan. We will focus first on the repayment experience.

There is extensive research done on how women are much better at repaying loans extended by microfinance institutions. The World Bank is pretty explicit: "experience has shown that repayment is higher among female borrowers, mostly due to more conservative investments and lower moral hazard". What are the numbers?

In the case of Grameen bank a few years ago—when the client base was more balance between men and women—15% of male borrowers had repayment problems versus 1% for women. Other data show that 90-95% of women have no problems repaying versus 70-80% for men. Espallier et Al. in their 2009 paper "Women and Repayment in Microfinance"—which looks at 350 institutions globally and where women account for 73% of the client base—show clearly that there is a significant negative correlation between the percentage of women as clients and non-performing loans. The same applies to write-offs. More specifically, for microfinance institutions with low levels of women as clients—around 50% on average— 3% of loans are 30 or more days in arrears versus 1% for those institutions lending exclusively to women. Write-offs are 1% and 0.4% of the loan portfolio respectively. Individual cases illustrating this point abound.

One example is the loan default experience at Arvand, a microfinance institution in Tajikistan (see Figure 45). While non-performing loans as a percentage of loans have increased steadily due to a difficult macro climate, women borrowers—45% of Arvand client base—show consistently better numbers than male borrowers.

What can we learn?

In general, we can conclude from the microfinance experience that in this business area a higher participation of women—to levels 3-4 times those seen in the companies we cover—has led to several positive outcomes around the world, both when we look at the performance and success of the female managers of these institutions (CEOs and Loan Officers) and that of their female clients. It is worth highlighting that several of the leading microfinance institutions are in countries where the percentage of women in the top management of large companies is well below the global average. Cultural stereotypes can be defeated.

There are several reasons behind different dynamics we observe in microfinance:

- Women are more conservative in their investment strategies;
- Loan size is usually smaller and the number of installments is less;
- Women are more sensitive to the pressure of a loan officer; social pressure is much higher in group lending (solidarity loans);
- Female borrowers tend to stay closer to their home and so are easier to track and monitor;
- Women have less access to credit, so they have a higher incentive to repay the loans in order to continue to have access to credit;
- Business success leads to higher empowerment, which could be lost if the loan is not repaid

The improved status and increased empowerment of women in the society in which they live, as a result of microfinance loans, is more difficult to measure, as it mostly qualitative. Corsi et al. in a 2006 study tried to quantify the positive effect of microfinance on women empowerment in Mediterranean countries through a questionnaire that was answered by 4,323 female clients. The most positive effects were in order: mobility outside the family home; ability to undertake purchases; participation to investment decisions and bargaining power. All positive dimensions of female empowerment.

On the other hand, most recent studies (Banerjee et Al " Six Randomized Evaluations of Microcredit" and Duflo's "Women Empowerment and Economic Development") show that there is a positive impact on women's empowerment, albeit limited. In most instances, microfinance lending has helped alleviate poverty, but has not been able to bring a major transformation of the social status of women in their communities.

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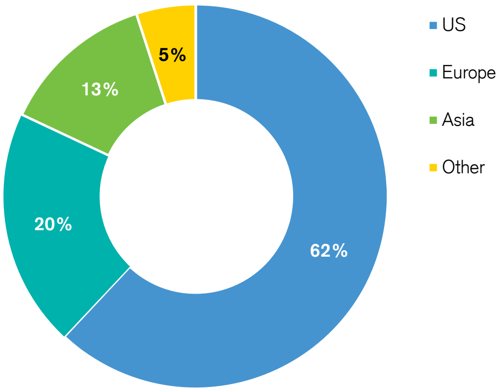
Venture capital and entrepreneurs: Women investing in women?

Another business area where we think it is interesting to consider gender diversity is Venture Capital (VC). How well represented are women in the top management of VCs globally? Are female entrepreneurs capturing a fair share of the funding provided by VCs? Are VC firms with more women as partners investing more in companies founded by women?

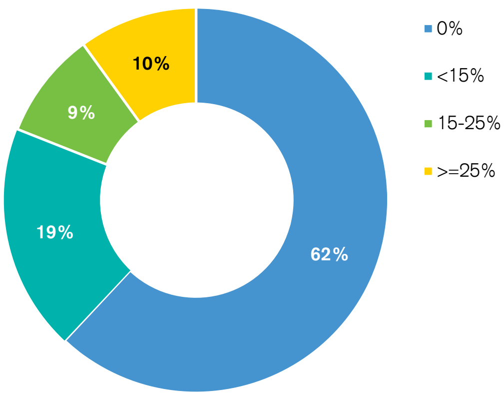
Our analysis suggests that women are not well represented at the top levels of VCs, except when the firm has a woman as founder. VCs with female founders tend to invest more in start-ups with female founders relative to the general average. On the startup front, we discovered that the number of new firms founded by women is growing much faster than those founded by men and these firms are capturing a growing share of the VC money.

Figure 46
Venture capital investments (2011 – 2016)



Source: PitchBook

Figure 47
Female diversity among investment partners in the top 100 US VC firms



Source: CrunchBase

Venture Capital firms

With U.S.-based VC firms accounting for the majority of global fundraising and with 62% of venture capital deployed over the past five years being concentrated in the U.S. (Figure 46), we focus on U.S. VC firms. However, with deal flow increasingly routed toward Asia—with VC investments rising by nearly 90% in 2015 after more than doubling in 2014—these findings need to be considered in a global context too.

How gender diverse are venture capital firms? Generally speaking, the answer is not very. Using CrunchBase as our main data source we find that, among the top-100 VC firms globally in terms of deal flow and size of funds, just 7% of the partners are women and only 38% have at least one female partner (Figure 47). Among senior managers and investment partners, the 7% becomes 11%. Similarly, if we then go beyond the top-100 and look at the whole universe of 2,350 VCs (VCs and micro-venture firms), we find that only 8% of the partners are women.

While these numbers are pretty low, we believe that the outlook, in terms of increased participation of women in the partnership structure, appears better. There are two main reasons:

- The percentage of female associates, vice-presidents and principals at the 826 VCs with at least a few employees in those roles is 22%. It might take time for these women to become partners, but the pipeline appears solid. The key issue is now retention of this growing talent.
- There are more and more VCs started by women. In the last 5 years there were 37 new VC firms with at least one female founder; these accounted for 15% of all new VC launches. Currently, VC and microventure firms with at least one female founder account for just 7.5% of the total.

If we focus on the top-100 firms, among the top-5 firms with the highest percentage of women partners, three were started by women: Floodgate where 50% of the partners are female and Scale Venture Partner and Greycroft Partners with 33%. Women attract more women in.

In the CrunchBase database, there are now 119 firms where at least one of the founding partners is a woman. At these firms, the average percentage of

PHOTO: ISTOCKPHOTO.COM/JOHNNY GREIG

female partners is 43%, a stark contrast to the industry average of 7-8%. Nevertheless, we believe that in the near future we will see more new VCs where the majority of the partners are women. This is set to be the biggest driver behind the rising numbers of female investment partners in the industry, rather than a gradual increase in the number of female partners in male-dominated firms. Among the 13 firms with female founders that were launched in the last two and a half years, the percentage of female partners is 67%.

The New Entrepreneurs

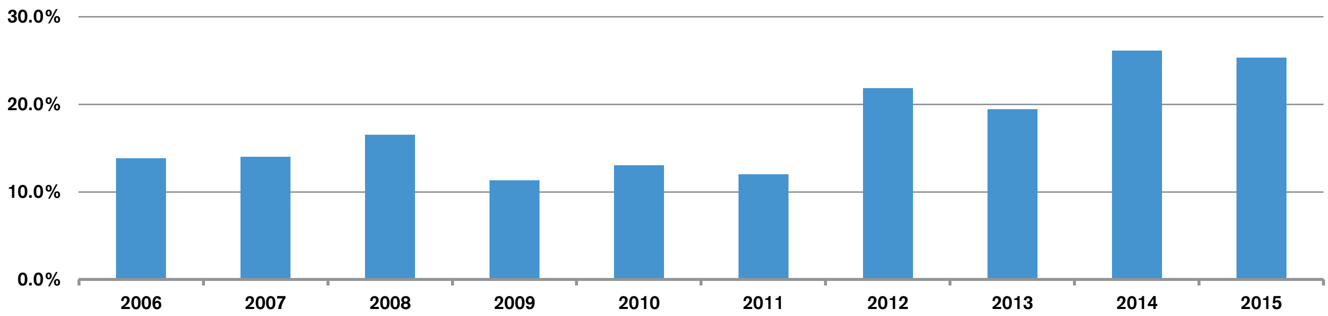
Are women entrepreneurs getting more of a share of the investments coming from VCs?

In the VC world, it is important to distinguish between three investment stages: seeding or angel funding, early stage and later stage. Using data from Pitchbook, we see that (Figure 51) the number of investments globally in 1H16 by VCs in companies with at least one women as a founder is 16%: 18%

Figure 48

Women angel or early stage investors – US

(%)

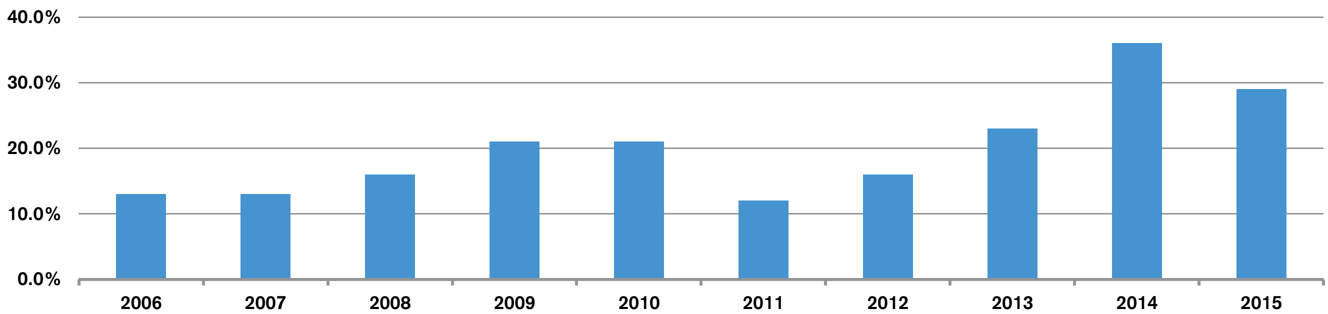


Source: Center for Venture Research – Peter T. Paul College of Business and Economics, University of New Hampshire, Credit Suisse analysis

Figure 49

Women start-ups presented – US

(%)

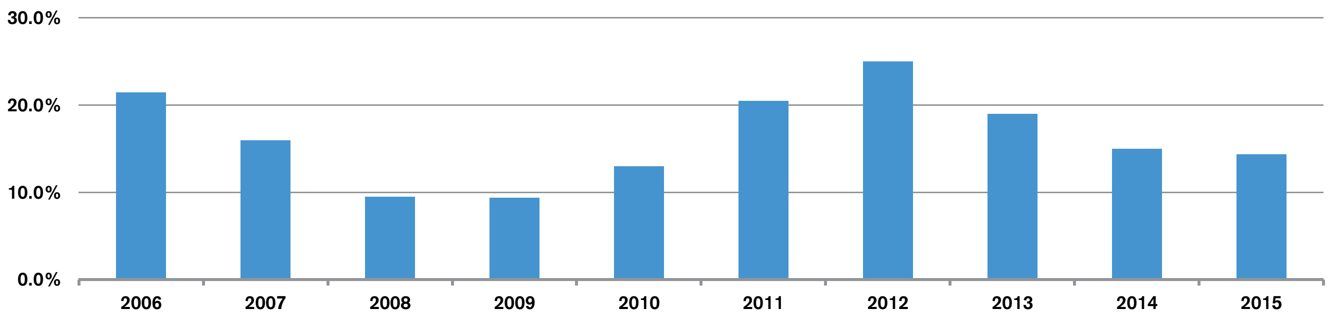


Source: Center for Venture Research – Peter T. Paul College of Business and Economics, University of New Hampshire, Credit Suisse analysis

Figure 50

Women start-ups funded – US

(%)



Source: Center for Venture Research – Peter T. Paul College of Business and Economics, University of New Hampshire, Credit Suisse analysis of the total for angel companies, 19% for early stage and 12% for late stage ones. It is interesting to see that women entrepreneurs are more successful in getting VC funding in start-ups than in more developed companies.

These figures compare very favorably with data from 2005 in both absolute and relative terms. VC investments in firms founded by women rose from just 5% of the total in 2005 to 16% in 2015, a CAGR of close to 30%. The same growth rate for the number of companies founded by men that received VC funding was just 11%.

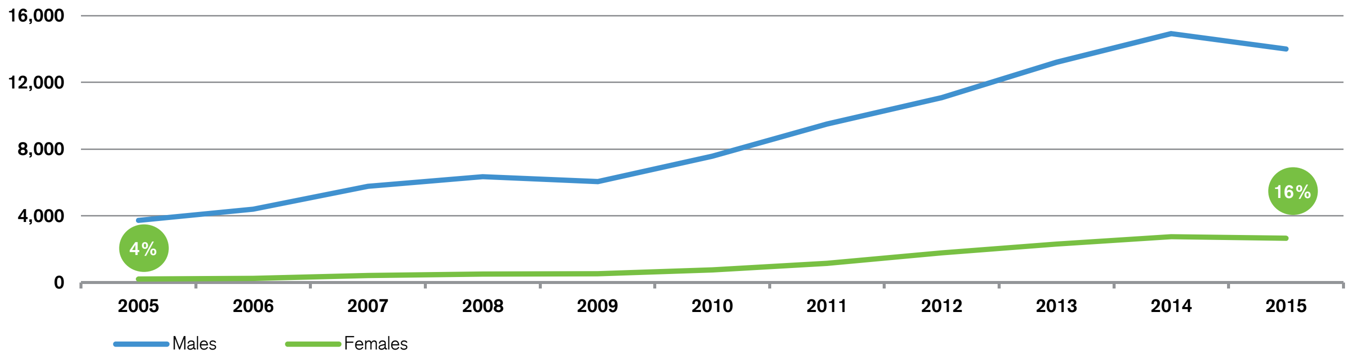
Leveraging the data collected by Professor Jeffrey Sohl at the Center for Venture Research at the University of New Hampshire—which covers U.S.-based Angel investors (see Figures 48–50)—we focus on the beneficiaries of the US$26bn annual investment by Angel funds and individuals in new start-ups. A few observations:

- The number of start-ups launched by women that applied for external equity funding rose from 32,731 in 2006 to 115,356 in 2015, a CAGR of 15% versus 3% for male-owned start-ups.
- The number of start-ups launched by women that received external equity funding over the same period rose from 7,037 in 2006 to 16,661 in 2015, a compounded annual growth of 10% versus 2% for male-owned start-ups.
- In 2015, only 14% of the start-ups with at least a woman as an owner were successful in raising funding. This compares to an overall rate of 18% for all companies. Over the past decade, the "funding success rate" for women averaged 16%, ranging between 9% and 25%.
- In 2015 women's share of all start-ups with external funding was 23%; this compares well with the much lower 13% share in 2006.

Why do we see such a stronger growth in new businesses launched by women than in those launched by men? In our view, women at all levels are increasingly leaving the traditional corporate world as entrepreneurship becomes relatively more attractive. The new female entrepreneurs cite potentially greater financial gains, independence, and a decrease in corporate politics as reasons at times to strike out on

Figure 51

VC deal count by founder gender – Global

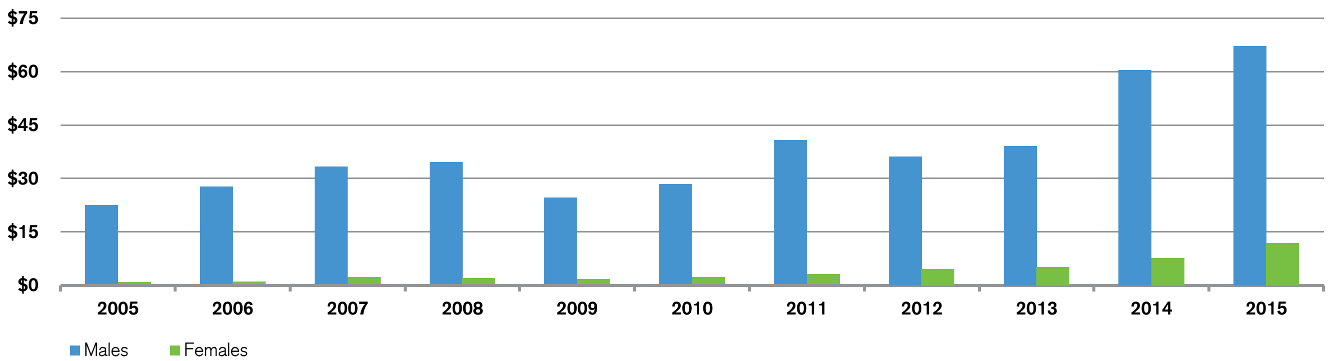


Source Pitchbook

Figure 52

VC capital invested by founder gender – Global

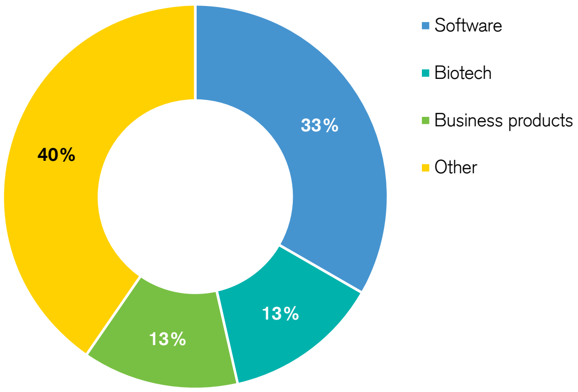
Dollars billions



Source Pitchbook

Figure 53

VC funding of female entrepreneurs by sector

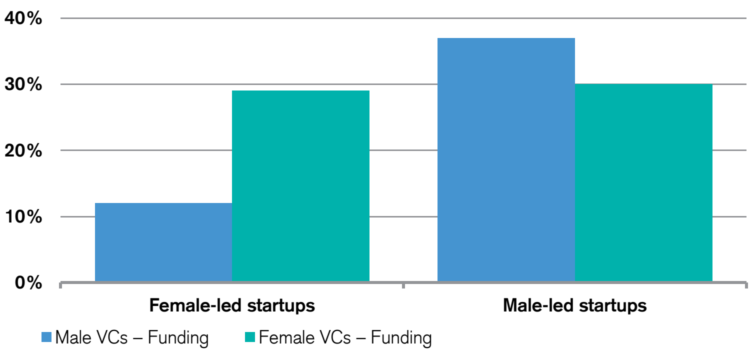


Source: The Diana Project, Arthur M. Blank Center for Entrepreneurship, Babson College

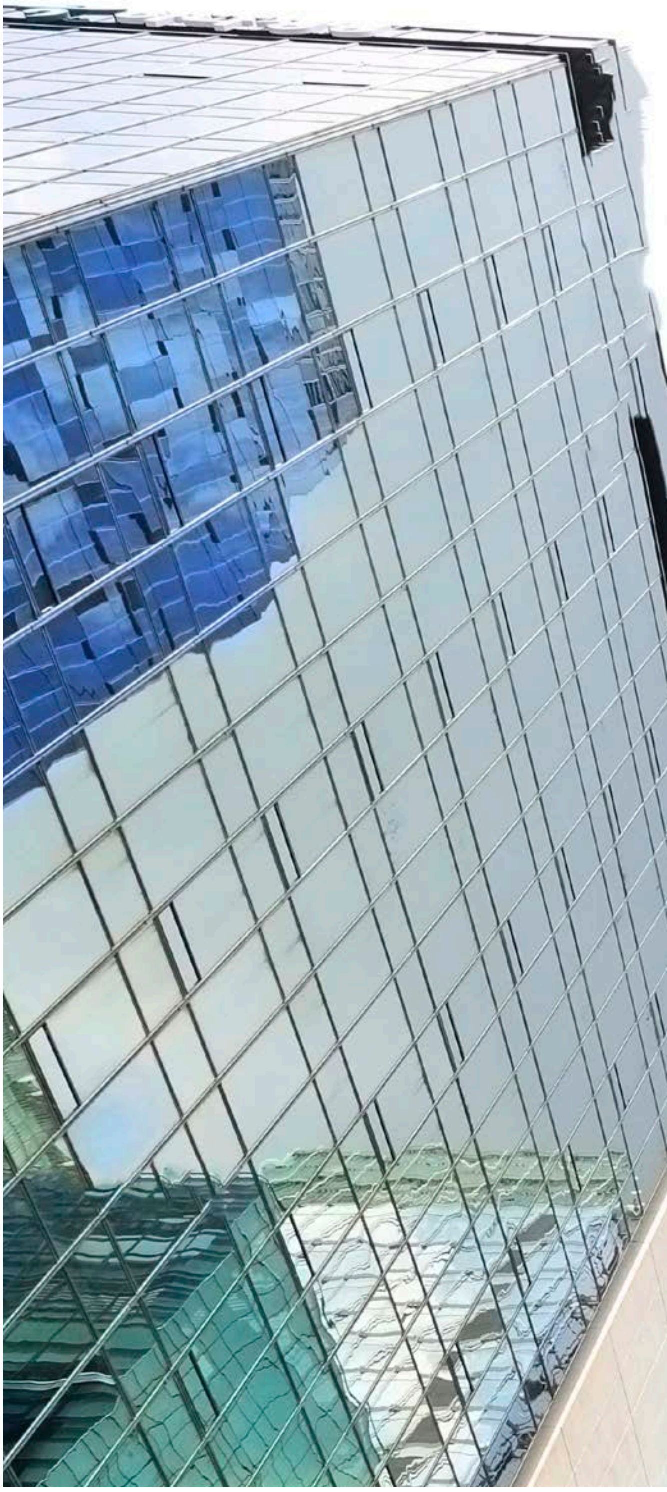
Figure 54

Gender gap

Percentage of successful outcomes



Source: Sahil Raina, University of Michigan, Ross School of Business, 2016



their own. It would appear that middle-managers often resent "face-time" and seek a work-life balance as they build their families. And Millennials, raised in "The Social Network" era of glorified entrepreneurship, having witnessed their parents suffering through the up and downs of the corporate world, look to prioritize personal fulfillment, meaning, and social impact in their work, which is more aligned with a which is more aligned with an entrepreneurial path.

High-growth, tech-related entrepreneurship is also more accessible, particularly to women, than it was even a decade ago. Venture capitalists say the pipeline for female entrepreneurs has been growing in part because technology has become cheaper and easier to replicate. Less capital is required to start a business, which lowers the bar for all. Today, software, biotech and business products are the three sectors with the highest concentration of new female entrepreneurs funded by VCs (Figure 53).

In summary, the trend of the last ten years is upward. The growth in start-ups led by women is increasing rapidly and women who start new companies are getting a bigger share of the available VC funding. Yet, individuals are doing a lot more than the VC industry to promote female entrepreneurs.

In 2015, women in the U.S. received 23% of all Angel funding (institutional and individuals); but only 18% of those funded by the VC industry—assuming we can compare numbers across two different databases[1]. In addition, women as individuals are investing more in female-led very early start-ups: women investing in very early start-ups account for 25% of all angel investors in 2016 compared to 14% in 2006; and their number—77,000—is now double the level in 2006.

1 The CVR database focuses on all very early start-ups funded externally (VC and individual funding); Pitchbook focuses only on those which received VC funding.

PHOTO: ISTOCKPHOTO.COM/TANJALAGICA

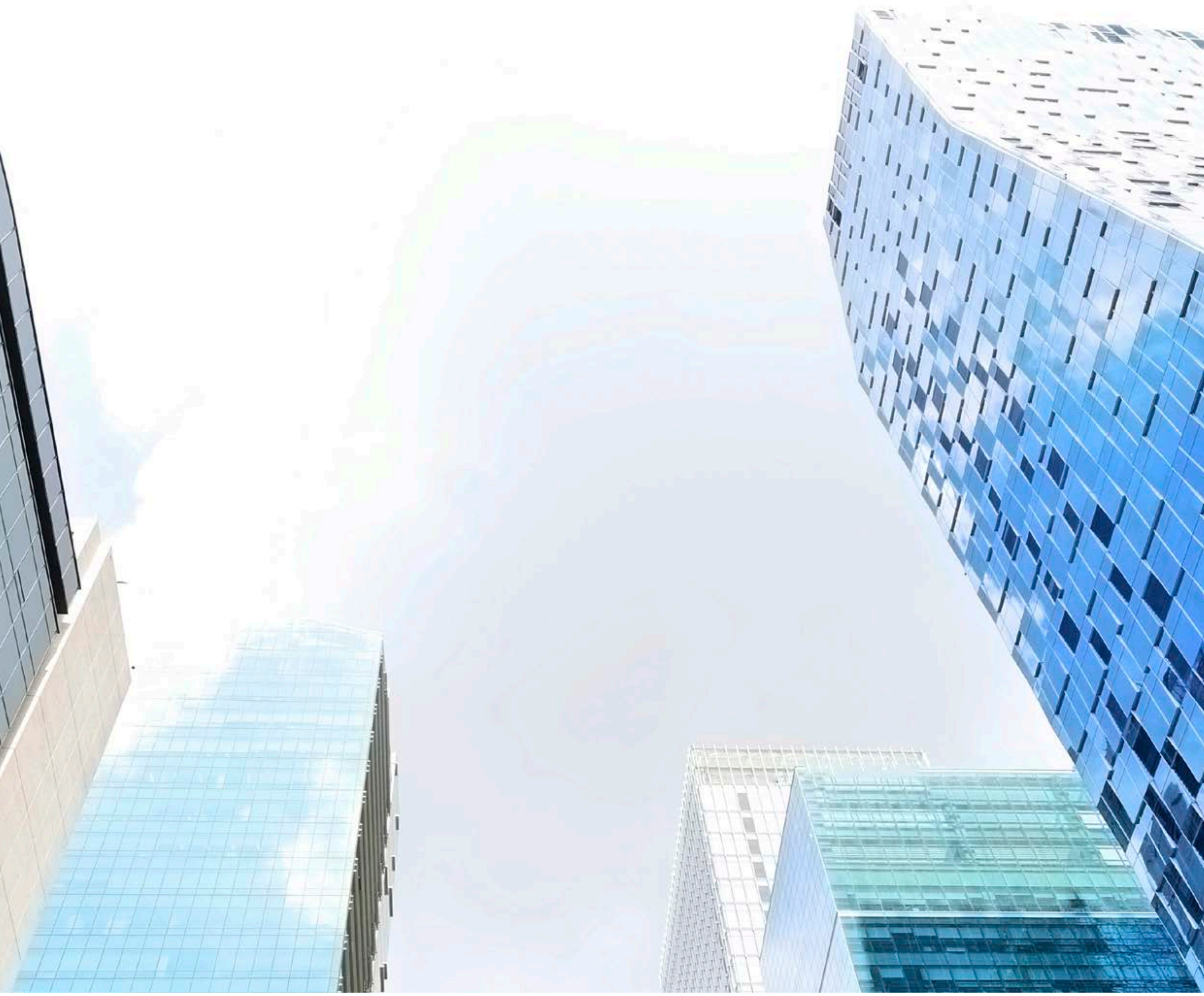
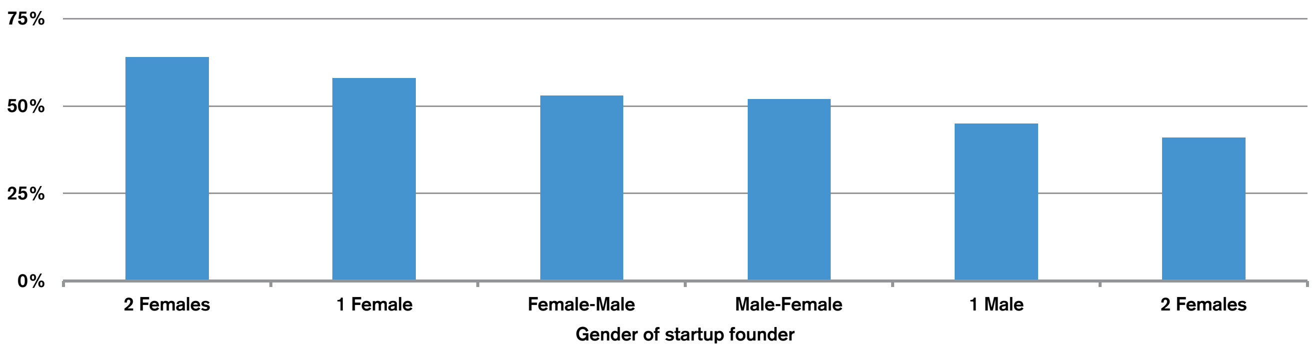


Figure 55

Percentage of female investors in start-ups by gender of founder(s)

Mean share of female investors



Source : Kickstart Data; Analysis by Marom, Robb and Sade

Women investing in women

The third question we want to address is whether having more women as partners makes VCs invest more in companies founded by women on a relative basis? The Diana Project led by Dr. Candida Brush leveraging PitchBook data for 2011-2013 concluded in their report "Women Entrepreneurs 2014. Bridging the Gender Gap in Venture Capital" that in the U.S. VCs with women partners are more than twice as likely to invest in companies with a woman in the executive management team—34% for firms with at least a female partner versus 13% for those with only male partners. Also, VCs with a female partner are almost four times as likely to invest in companies with a female CEO—58% for firms with a female partner versus 15% for those with no female partners.

Using CrunchBase data, we have sought to test this analysis on a global basis. As female partners account for only 7-8% of total partners and female entrepreneurs account for only 18% of total deal flow, relevance due to the small sample is a key issue. On the other hand, 38% of the top-100 firms and 18% of the total sample of 2,350 VC and micro ventures firms have at least one female partner.

The bar is pretty low. In the period 2010-2015, only 12% on average of the funding rounds went to companies launched by female entrepreneurs globally. There were 409 VC firms that had at least 45 investment rounds of their own in that period. Out of this sample, only 54 firms or 13% have invested more than 12% of their rounds in female-owned start-ups. Only 44% of them 54 firms have at least one female investing partner, a pretty neutral outcome

The conclusion is quite different if we focus on VC firms where women are founding partners:

- If we narrow our focus to the 119 VC firms with at least one female founder founded by women globally, where female partners account for over 40% of partners, what can we conclude? The data in our analysis are very telling. On average these firms had 17.4% funding rounds going to female-owned start-ups. This is significantly higher than the 12% outlined above and supports again our hypothesis that women tend to help other women succeed.
- In her 2016 paper "VC Financing and the Entrepreneurship Gender Gap", Sahil Raina reaches a parallel conclusion. Using the CrunchBase data, she finds that female led startup have a success rate of 17%—measured as the ability of the VC to exit their investment via sale or IPO—versus 27% for male led start-ups. Sahil Raina was able to show that when the VCs have female partners there is no difference in the exit rate of female and male start-ups; but when the VC has only male partners, the exit rate for female startup is 25 percentage points less than that for male start-ups (see Figure 54). Clearly, female start-ups do a lot better when there is at least one woman in the investing VC team.
- Finally, Marom et Al. in their 2015 "Gender Dynamics in Crowdfunding" paper, show that the proportion of projects funded by female investors is higher for start-ups led by two females than those led by one female and even more for those led by one male—64% versus, 58% and 45%, respectively (see Figure 55). They use a different data set—Kickstarter which is focused mostly on crowd funding—which encompasses companies with much smaller funding requirements (US$7,200 on average) than the typical VC-funded company.

Several reasons might support this set of behaviors: a higher comfort level due to higher affinity; a better understanding of the business opportunity; or the simple desire to promote business where women are the target market. Let us illustrate these ideas with some anecdotal evidence.

Cultural affinity

In the VC world, gender diversity remains difficult to achieve or enforce at the organizational level, and many believe there is unconscious bias, rather than a concerted effort to exclude women and minorities. People naturally tend to surround themselves, hire, and invest in those with similar traits. "Like likes like," said Holly Liu, who launched Kabam, a $1.5 billion mobile gaming company, in 2006 with three male co-founders and backing from Maha Ibrahim, a partner at Canaan Partners. Liu now serves as the company's Chief Development Officer and is one of Fortune magazine's "10 Most Powerful Women in Gaming." "Our founding team was all Asians out of Berkeley, and as a result in our early years we were heavily Asian in our investment targets. We've also always skewed 20-25% women," she said.

Same culture—Asian or female—allows teams to leverage the "same culture" networks. Dayna Grayson, a partner at New Enterprise Associates (NEA), which invests in technology and healthcare, says that half of her investments originated directly from her network, and 30% of her portfolio companies are led by female entrepreneurs. VCs allow more flexibility for cultural affinities to develop relative to the corporate world we analyzed in the earlier sections of this report. Not suprisinly we see a more polarized world. Men investing more in men's business and women investing more in female led businesses.

Women entrepreneurs say women investors are often more likely to intuitively understand their business concepts, particularly when they target female consumers or, as with Facebook, women are primary users. Julie Wainwright, founder and CEO of The RealReal, a luxury consignment marketplace, said that female venture capitalists understood her concept immediately, while their male counterparts were

PHOTO: ISTOCKPHOTO.COM/PEOPLEIMAGES

slower to warm. "If I'd come to them with a man sitting next to me or a service focused on men, I'd have had an easier route," she said. "The women VCs got it immediately." The RealReal has raised nearly $123 million in four rounds and has an equal number of men and women (three of each) on its board.

Sahil Raina in her research shows that the positive effect of VCs with at least one woman on the investment team is much higher during the first round of financing than in the subsequent ones. This might be tied to increased sensitivity among female investment partners to understand and price correctly the potential of businesses led by women.

Differences in style

Likewise, female venture capitalists are less likely to disqualify a woman because of the way she presents, which may be different from a man. Annie Kadavy, the only female partner—and, at age 30, one of the youngest—at Charles River Ventures, led her firm's Series A investment in Laurel & Wolf, an interior design firm co-founded by Laura Fine, who is also CEO. "There's a reason I took a second meeting when other people may not have. The CEO's non-traditional background [for a tech founder] as an interior designer and language she used to describe her company did not phase me. She understood her users so deeply. It was up to me to ask the right questions to validate the size of the opportunity that she already knew was there," Kadavy—who invests primarily in consumer-facing businesses—told us. "I view my role partly as interpreter and translator. I'll ask questions I know my team is thinking and help entrepreneurs with untraditional tech backgrounds phrase answers in a language this group understands."

Targeting a female market

Similarly, Fran Hauser, the first and only woman partner at Rothenberg Ventures, which invests primarily in late seed/Series A rounds, said her investing team initially passed on female-founded Hello Giggles, a content site for Millennial women, in which Hauser was already an angel investor. "As a woman and as an operator, I saw huge value in what they were creating," said Hauser, who before becoming a venture capitalist was President of Digital for Time Inc.'s Style and Entertainment Group. "They were reaching millions of Millennial women every month, which is hard to do for traditional media companies. They were also priced much more attractively than their peers." So, three months later, when her founding partner asked what deal she thought got away, Hauser again promoted Hello Giggles.

By then, the Hello Giggles team had been rejected by a number of VCs. "We had higher engagements than competitive sites and could prove this quantitatively, but we kept getting the feedback, 'We don't get this content'. Isn't there a problem if you don't have a female partner who can look at this?" said Penelope Linge, the company's General Manager who left a career in investment banking to join Hello Giggles. "If you're a female entrepreneur creating a business that targets a female demographic, you're going to come up against bias. But Fran got it." RV invested and Hello Giggles sold to Time, Inc. in 2015, reportedly for $30 million.

More and more, women are launching profitable companies aimed at female buyers who now control over 70% of household spending. Carley Roney, who in 1996 launched XO Group, a life-stage media company focusing on weddings, marriage, and pregnancy, said that her gender gave her particular insight into the wedding market, a $72 billion industry that was ripe for disruption. "Our competitors that started at the same time were male-founded. They saw no direct ROI on personal connections, wanting to talk and create community, so they just built service platforms. They lost as a result," Roney said. "Our community became the secret fuel that powered our brand and business for the next ten years."

Hummer Winblad, one of the few (if not the only) venture capital firm in the 1990s to have a female founding partner, invested. "They were intrigued by our zero customer acquisition cost, which was directly attributable to word-of-mouth, to women having a passionate experience around our brand," Roney told us.

Male diversity

Female venture capitalists are quick to assert that they are investors first, equally interested in male-founded companies, and would never lower standards to push an equality agenda. As evidence, insiders point to the recent acquisition of Dollar Shave Club (DSC), a direct-to-consumer razor retailer, by Unilever for $1 billion cash, reported to be one of if not the largest M&A deal for a private e-commerce company. Seed investors for the male grooming brand included Kirsten Green, founder of Forerunner Ventures, and Renata Quintini, Managing Director of Felicis.

"The rapport is to the entrepreneur, not typically to the product, especially a 'woman's goods or services' market. We're not going to put our fund's returns on the line to back a woman because she's a woman, but we're more likely to see deal flow from the growing ranks of very capable women entrepreneurs," Amanda Reed, co-founder of Authentic Partners, said. "That a firm has female partners is an indication that they already see women as peers and leaders. I and my new partners have a total of 68 investments between us, 27% of which have a woman founder or CEO. That's almost three times the national average—not because we're pro-women, but because we're gender-blind."

In summary, VC firms show a new path and new options for females in top management roles. The ability to start their own firms and the ability to positively impact other women, supporting their business ventures, are major drivers behind a growing trend.

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