

Sustainable investing

Investing with a gender lens - update 12 | 31 January 2019

Chief Investment Office GWM

Laura Kane, CFA, CPA, Head Thematic Research Americas, laura.kane@ubs.com; Michelle Laliberte, michelle.laliberte@ubs.com

- Women's role in the workplace is undergoing a dramatic shift. More women are working, and the breadth of knowledge and skills that they are bringing to market is evolving as well.
- Companies that best utilize female talent stand to benefit.
- Available evidence is supportive of a positive relationship between greater gender diversity and company profitability and stock price performance.
- We provide a list of companies that were screened based on a minimum level of female participation in corporate leadership and that our equity sector strategists view as being fundamentally attractive.
- In this update, we removed **Home Depot (HD)** and added **Lowe's Companies, Inc. (LOW).**

Theme update

In our last update, we replaced securities that no longer met our criteria, and brought the stock list more in line with CIO's sector preferences. We also discussed the progress we saw in both legislation and corporate activism. More recently, we've seen progress in the government sector as well. Following the 2018 midterm elections, there are now more than 100 women in the US Congress, a record high. With women making up roughly 24%, Congress is still far from parity, but we see this as a positive sign in the right direction nonetheless. We continue to believe that companies that recognize the benefits of gender diversity in leadership positions will outperform their peers.

Ticker Company Price Accenture ACN \$154.09 American International Group AIG \$42.81 AT&T т \$29.37 RΔ Boeing \$387.72 CenturyLink CTL \$14.98 Chevron CVX \$113.01 Cisco Systems CSCO \$46.71 Colgate-Palmolive \$63.95 CL DowDuPont DWDP \$59.28 Duke Realty DRE \$29.93 Estee Lauder EL \$134.38

HON

JPM

KEY

\$143.28

\$104.41

\$16.64

Investing with a gender lens stock list

Honeywell

KeyCorp

J.P. Morgan Chase

Lowe's Companies Inc.	LOW	\$95.75
Mastercard Incorporated Class A	MA	\$204.02
McDonald's	MCD	\$181.77
Microsoft	MSFT	\$106.38
Mylan +	MYL	\$30.82
Pioneer Natural Resources	PXD	\$141.51
Salesforce.com	CRM	\$149.16
Schlumberger	SLB	\$45.00
Sempra Energy	SRE	\$114.90
Visa	V	\$137.60
Walt Disney	DIS	\$110.13
Source: UBS, Bloomberg as of 30 January 2019		
Note: Stocks that are only covered by UBS Investment Research are annotated as such		

Investment Research are annotated as such with a "+" sign. These socks have a 12-month Buy or Neutral recommendation. UBS IR is part of the UBS Investment Bank (the UBS business group that includes, among others, UBS Securities LLC).

This report has been prepared by UBS Financial Services Inc. (UBS FS). **Analyst certification and required disclosures begin on page 13.** UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Introduction

A dramatic shift in women's role in the workplace is underway. Currently, women make up 47% of the workforce in the US, up from just 38% in 1970.¹ Not only are more women working, but the breadth of knowledge and skills that they are bringing to market is evolving as well. In fact, in 2015, among 25- to 34-year-olds, there were 20% more women than men with at least a bachelor's degree.² Women now account for almost half of all students in JD, MBA, and MD programs, up from less than 10% in the 1960s.³

Despite the influx of highly skilled women into the workforce, women remain underrepresented in key leadership positions. Women occupy just 21% of S&P 500 board of directors' seats and 26.5% of executive management positions (see Fig. 1).⁴

There are many reasons why gender equality remains elusive in the workplace – ranging from discriminatory practices and cultural biases to the often disproportionate share of childcare and household responsibility that women undertake. But the changing demographics of the talent pool, along with the growing acknowledgment of the need for greater gender parity in the workplace, is starting to shift the balance.

Companies that rise to the challenge of adapting to a changing workforce not only will contribute to reducing inequality but also will best utilize female talent. This brings us to our central question as investment professionals: will those companies that more successfully incorporate women into their organizations offer better returns to shareholders than those that fail to do so?

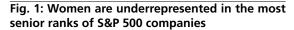
The answer is not straightforward. However, we argue that available evidence is supportive of a positive impact of greater gender diversity on performance and that investors may benefit from factoring such insights into their investment decisions.

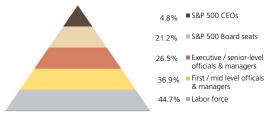
The business case

The "best" person for the job

Skeptics argue that, while they have nothing against the empowerment of women, companies that consistently choose the "best" people, regardless of gender, for management and board positions are most likely to outperform. However, the question of the best person for the job cannot be answered in isolation; instead, it must be considered within the context of the organization or group that the new member will join. What experiences, skills, and knowledge will the next board member or executive manager bring to the table that is not already represented by the incumbents?

Insights from the field of social psychology find important benefits of diversity in group decision making processes. Studies have shown that diverse groups yield superior outcomes with respect to decision making and problem-solving tasks relative to homogeneous groups, which are more vulnerable to "groupthink," the psychological phe-





Source: Catalyst, Women CEOs of the S&P 500 as of 2018, EY Center for Board Matters as of 2016, Catalyst, 2016 Catalyst Census: Women and Men Board Directors as of 2017, U.S. Equal employment Opportunity Commission (EEOC), unpublished 2015 S&P EEO-1 data.

nomenon whereby the desire for conformity and harmony overrides rational decision making.

A 2010 study of group performance found that groups exhibit a level of *collective intelligence* that can predict their ability to complete a variety of tasks, and this collective intelligence level is more than merely the sum of the people within the group. Interestingly, collective intelligence was found not to be correlated with the average or maximum individual intelligence of group members but with the average social sensitivity of group members, equality in conversational turntaking, and the number of women in a group. These factors were not mutually exclusive. Female participants scored higher on the social sensitivity measure – which partially explains the positive correlation found between women and group intelligence.⁵

Another study found that informational diversity – the differences in knowledge bases and perspectives arising from education, experience, and expertise – is positively related to group performance, and that the effect was more pronounced when tasks were complex. The same study also showed, however, that higher levels of value diversity – differences among participants' ideas of what the group's real task, goal, or mission should be – was positively and significantly related to increased conflict within the group. So, while diversity of skills and perspectives has the potential to lead to better outcomes, caution must be taken to mitigate conflict that may arise as a result.

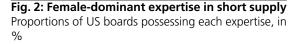
The benefits of diversity in groups can logically be applied to the question of how women may influence the performance of corporate boards and management teams. Women in leadership broaden the diversity of skillsets and perspectives, and also influence the overall functioning of the boards and teams in which they operate.

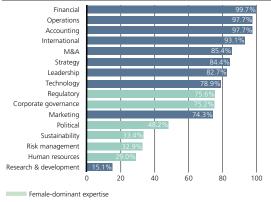
Skills: increasingly an advantage for women

The underrepresentation of women on corporate boards is often blamed on the shortage of eligible female candidates. Board seats are often filled with former chief executives, and women hold only 4.8% of CEO positions at S&P 500 companies (see Fig. 1). Despite the very small proportion of women with experience in the highest ranks, many women are qualified for board service under a broader set of selection criteria. Compared to male directors, female directors tend to have more university degrees and are more likely to hold advanced degrees. They are also more likely to have strengths in marketing and sales, and to come from international and non-business backgrounds.

Women have the potential to fill skill gaps on boards. A 2015 study examined 16 critical skillsets and found that of the 594 directors appointed to S&P 600 Small Cap boards between 2010 and 2013, the addition of new skills was larger for female than male appointments. In fact, four out of six female director-dominant traits were represented in only a small proportion of the boards studied: human resources (29%), risk management (33%), sustainability (33%), and political/government (48%) as seen in Fig. 2.⁸

Finally, women tend to possess differentiated leadership skills. McKinsey studies of female leadership qualities found that women (rel-





Source: Daehyun Kim, Laura T. Starks, *Gender Diversity and Skill Contribution to Corporate Boards*, forthcoming in American Economic Review, May 2016, UBS

ative to men) tend to more frequently exhibit five of nine leadership behaviors linked to stronger organizational performance. For example, women more frequently demonstrated participative decision making, while men were more apt to employ individualistic decision making.⁹ These differences make the case not only for having more females in managerial positions but also for having them occupy more board seats.

Women bring diversity of experience

Women's life experiences outside of the office are another factor that serves to differentiate their perspective. As more women enter the workforce and earn more income, they are becoming increasingly important players in the economy. It is estimated that women drive over 70% of consumer purchase decisions in the US.¹⁰ As a result, female leaders and board members are likely to be more attuned to consumer spending decisions. It is not surprising that female board representation is highest in consumer-facing sectors.

Strengthening of board functioning and oversight activities

The presence of female directors has been found to positively influence the way boards operate. For example, one study found US firms with a higher representation of women on their boards hold more meetings, have higher attendance rates (not only do women have higher attendance rates, male directors have fewer absences on gender-balanced boards), experience greater participation in decision making, engage in tougher monitoring, and are more likely to replace a CEO when a stock performs poorly.^{11, 12}

The finding that gender-balanced boards engage in more diligent monitoring has been corroborated by a number of other studies. MSCI ESG Research found that developed market companies with gender-balanced boards had fewer cases of bribery, corruption, and fraud.^{13, 14} Further, a study of US companies found that those with a higher representation of women in the top management team faced fewer lawsuits overall, particularly lawsuits related to product liability, environment, medical liability, labor and contracts.¹⁵

The extent to which female directors are able to influence board efficacy is dependent on a number of variables. For example, the failure to include a *critical mass* of women may reduce the benefits of diversity. A study of US companies found that once a board includes at least three women directors, the women directors no longer represent the "woman's point of view," and directors notice the women directors' opinions rather than their gender.¹⁶ At this threshold of female representation, women are no longer viewed as outsiders and their opinions are given equal consideration in boardroom discussions.

The investment case

Our analysis so far is supportive of the business case for having a greater representation of women in leadership positions, whether at the board or senior executive level. And the notion that it is fair for women to be better represented on corporate boards and in executive management is no longer controversial. But, should investors expect higher returns from companies with greater gender parity in their upper echelons?

The bottom line: Does gender diversity improve profitability?

A key consideration in assessing whether gender-balanced companies will outperform over the long term is the potential link between gender diversity and firm profitability. The positive effects of diversity on board operations (such as increased monitoring and wider skill variety) have the potential to increase profitability through loss prevention and enhanced strategic decision making. In fact, a 2016 study from the Peterson Institute for International Economics found a substantial correlation between the presence of women on corporate boards and in the C-suite and firm performance. For profitable firms, a move from no female leaders to 30% representation is associated with a 15% increase in the net revenue.¹⁷

Other studies have found a similarly positive relationship between gender diversity and firm profitability. For example, a 2011 Catalyst study found that US companies with three or more women on their boards delivered a higher return on sales, return on invested capital, and return on equity compared to those companies with zero women on their boards.¹⁸ Our own research yielded a similar result: We found that, in the US, Russell 1000 companies with women making up at least 20% of the board and senior management had higher profitability across various metrics relative to their less gender-diverse peers (see Fig. 4).

But there is a chicken and egg problem at work here. Isolating women as the cause of outperformance is a difficult task that involves disentangling the "female factor" from a host of other variables that may lead to financial outperformance. Studies that attempted to correct for this problem have yielded inconclusive results. What we can state with some degree of confidence is that greater female representation in corporate leadership is *associated* with higher profitability.

Gender balance: an indicator of future returns?

Regardless of causal links, at the end of the day, what matters for investors is whether gender balance is an indicator of future stock returns. Fortunately, considerable research has addressed this question.

A greater proportion of female executives and directors has generally been found to correlate with higher returns. While women in leadership may not necessarily be the direct cause of outperformance, gender balance may be a reliable proxy indicator for better-performing companies. For example, it may be that female leaders are effective at choosing to work for more successful companies. Or a strong and inclusive corporate culture may lead to better results and better

Fig. 3: How gender diversity may influence investment returns

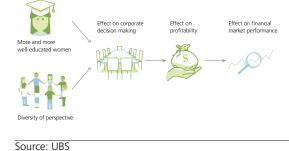
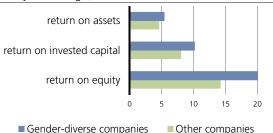


Fig 4: Gender-diverse companies exhibit higher profitability





Note: Based on Russell 1000 companies. Gender-diverse companies defined as at least 20% women on the board and in senior management. Source: UBS, Bloomberg as of 15 October 2018 female representation in senior leadership. Finally, the causality may even be reversed with well-performing companies having more flexibility to focus on diversity initiatives.

UBS CIO conducted a regression analysis of returns over a six-year period to independently assess whether more gender-balanced S&P 500 companies outperformed the broader market. We attempted to control for size, style, and sector biases, since larger companies and consumer-facing businesses, for example, tend to have more female directors.

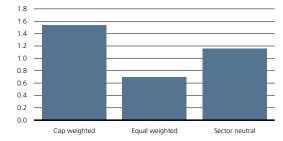
Gender-balanced companies yielded positive outperformance after controlling for company size and style. This holds true across different stock weighting schemes. In particular, when taking sector effects into account, results were also positive. While the results were not statistically significant, they seem to suggest at least some positive relationship between gender-balanced companies and financial returns (see Fig. 5).

Such results are quite common. A Credit Suisse study of 2,360 companies globally found that companies with at least one female director outperformed those with none. However, the overwhelming majority of the outperformance was in the post-2008 crisis period, meaning that stocks with a greater degree of gender diversification appear to be more defensive and may not outperform in cyclical upturns.¹⁹ This suggests that the time period under study may influence findings as the performance of different companies varies throughout the business and financial market cycle.

While a causal relationship between women in leadership and higher returns is difficult to establish, some indications do exist. For instance, studies focused on dividend payout policy lend some credibility to the claim that diversity at the board level can enhance total returns. Unlike studies of firm performance which may be influenced by a number of external factors, dividend payout policy is a directly measurable corporate decision that is approved by the board of directors. A 2013 study found that firms with diverse boards are more likely to pay dividends and tend to pay larger dividends than those with non-diverse boards, even after taking other relevant explanatory variables into account.²⁰ Similarly, our own analysis of Russell 1000 companies found that gender-balanced companies have higher dividend yields, on average.

Fig. 5: Gender lens investing strategy outperformed

Annual outperformance vs. broad US equity market, 2010-2015, in %



Note: Tested S&P 500 companies with at least 3 women on board or 30% women in executive management Source: UBS, as of 17 February 2016

Investing with a gender lens

We distinguish between three different approaches that investors can rely on to invest with a gender lens within listed financial markets. In practice, these are not mutually exclusive but rather can be combined.

1) Screening for companies based on their gender diversity performance.

First, investors can construct a portfolio consisting of corporate securities (stocks or bonds) that meet certain minimum criteria with respect to female participation in leadership positions. Such screens may be based on female participation on the board of directors and/or executive management. They may be expressed as a minimum percentage or a minimum number. With available tools and databases, such numeric screens have become quite straightforward to run. Investors wishing to incorporate additional qualitative factors, such as femalefriendly human resource policies and corporate culture, may have to rely on greater knowledge of the underlying companies, often through a professional investment manager.

The **list of gender-based screened companies** included in this report relies on such an approach. To derive this list, we start from the universe of stocks that are ranked Most Preferred or Bellwether by CIO WM equity sector strategists (see Fig. 6). If a sector is not covered by a CIO WM equity sector strategist, we will include stocks that are rated Buy by UBS Investment Research. In a second step, we applied a screen to this universe that selected companies with at least three women on their board or at least 30% women in their executive management team. In a third step, we made adjustments to the list to align with our equity sector strategy views.

We would like to point out that given its construction methodology, the relative performance of this stock list is likely to be influenced at least as much by the quality of the equity selection conducted by our sector strategists as by the mere application of the gender lens screen.

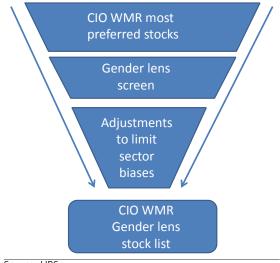
2) Shareholder engagement on gender diversity.

Investors may find that companies that they deem attractive on other grounds do not meet their standards as far as gender diversity is concerned. Rather than eliminating such companies from their portfolios, an alternative approach involves remaining invested but seeking to effect change through shareholder engagement.

Female representation in boards and senior management is in fact a significant area of engagement activities. The Interfaith Center on Corporate Responsibility (ICCR) estimates that in 2018, diversity and inclusiveness resolutions became the second most popular proxy filing category. Twenty of the filings dealt with workplace diversity, while another eleven addressed the lack of diversity in boardrooms. For the second consecutive year, investors filed on the gender and racial pay gap prevalent in most US workplaces.

For private investors, shareholder engagement is typically delegated to the investment managers represented in the individual's portfolio.

Fig 6: Gender lens investing list Creation process



Source: UBS

3) Integrating gender diversity into a broader sustainable investing framework.

Rather than focusing exclusively on gender diversity, sustainability-oriented investors may instead decide to incorporate diversity alongside other environmental, social and governance (ESG) criteria as part of their investment framework. This holistic approach is the hallmark of specialized ESG or sustainable investment managers, but increasingly also of traditional managers who see value in integrating sustainability factors into their security selection.

Stock List

Laura Kane, CFA, CPA, Head of Investment Themes Americas, UBS FS

Accenture is a leading professional and IT services company, providing management consulting, technology and outsourcing services to clients across a broad range of industries. The company has a broadly diversified client base across all major economic sectors. Consulting services account for approximately 52% of revenue and outsourcing accounts for approximately 48%.

American International Group engages in the provision of a range of property casualty insurance, life insurance, retirement products, and other financial services to commercial and individual customers. It operates through the following segments: General Insurance, Life and Retirement, Other Operations, and Legacy Portfolio.

AT&T provides DSL and broadband services, local and long-distance voice services and data services. Its main segments include business, consumer wireline, and wireless.

Boeing is an aerospace company, which engages in the manufacture of commercial jetliners and defense, space and security systems. It operates through the following segments: Commercial Airplanes; Defense, Space and Security; Global Services; and Boeing Capital.

CenturyLink is an investment holding company, which engages in the provision of integrated communications to residential and business customers. It operates through the Business and Consumer segment. The Business segment offers local and long-distance voice, VPN data network, private line, Ethernet, information technology, wavelength, broadband, colocation and data center services, managed services, professional and other services provided in connection with selling equipment, network security, and various other ancillary services to small, medium and enterprise business, wholesale and government customers, and other communication providers. The Consumer segment provides broadband, local and long-distance voice, video, and other ancillary services to residential customers.

Chevron is an integrated energy company with operations in countries located around the world. The company produces and transports crude oil and natural gas. Chevron also refines, markets, and distributes fuels, as well as is involved in chemical and mining operations, power generation, and energy services.

Cisco Systems is the leader in data networking equipment sold to Enterprise, telecom and cable service providers, and Web 2.0 companies. Switching remains the majority of Cisco revenue at ~30%, followed by routing (~15%), collaboration products and services (~10%), data center (~8%), wireless (~5%), cable equipment (~5%), security (~5%), and services (~24%).

Colgate-Palmolive is a consumer products company that markets its products throughout the world. The company's products include toothpaste, toothbrushes, shampoos, deodorants, bar and liquid soaps, dishwashing liquid, and laundry products, as well as pet nutrition products for cats and dogs.

DowDuPont operates as a holding company. The company, through its subsidiaries, produces agricultural chemicals, material science, and specialty chemical products. DowDuPont serves clients globally.

Duke Realty owns interests in industrial, office, and medical office properties across the Southeastern, Midwestern, and Southern United States. The company provides leasing, property and asset management, acquisition, development, construction, build-to-suit, and other related services.

Estée Lauder manufactures and markets skin care, makeup, fragrance, and hair care products. Its brands include Estée Lauder, Clinique, Aramis, Lab Series, Prescriptives, Origins, and numerous acquired and licensed brands. The company distributes its products through department stores, specialty retailers, perfumeries, pharmacies, salons, and spas in 140 countries and territories.

Honeywell is a worldwide diversified technology and manufacturing company. The company provides aerospace products and services, control, sensing and security technologies, turbochargers, automotive products, specialty chemicals, electronic and advanced materials, process technology for refining and petrochemicals, and energy efficient products and solutions.

JP Morgan Chase provides global financial services and retail banking. The company provides services such as investment banking, treasury and securities services, asset management, private banking, card member services, commercial banking, and home finance. JP Morgan Chase serves business enterprises, institutions, and individuals. JPMorgan Chase Bank operates 5,385 retail branches in 23 states. The majority of its revenue comes from the US, but it offers its financial services to customers across the globe.

KeyCorp provides a wide range of retail and commercial banking, commercial leasing, investment management, consumer finance, and investment banking products and services to individual, corporate, and institutional clients.

Lowe's engages in the retail sale of home improvement products. It offers products for maintenance, repair, remodeling, home decorating, and property maintenance. It also provides home improvement products in the following categories: appliances, bathroom, building supply, electrical, flooring, hardware, paint, kitchen, plumbing, lighting & fans, outdoor living, windows, and doors. The company was founded in 1946 and is headquartered in Mooresville, NC.

Mastercard is a technology company, which engages in the payments industry that connects consumers, financial institutions, merchants, governments, and business. It operates through United States and Other countries geographical segments. It offers payment solutions that enables the development and implementation of credit, debit, prepaid, commercial, and payment programs and solutions.

McDonald's operates and franchises a food restaurant chain. Its food products include World Famous French Fries, Big Mac, Quarter Pounder, Chicken McNuggets and Egg McMuffin. McDonald's is a food-service retailer with local restaurants serving nearly 50 million people in more than 118 countries each day.

Microsoft is the well-known provider of the Windows operating system and Office productivity suite, and is a leading provider of enterprise software. The company has continued to expand into the hardware market through its development of the Xbox franchise, its Surface offerings, and the acquired Nokia Devices and Services handset business. Facing secular challenges in its Windows client franchise, Microsoft is doing a better job than most, in our view, in transitioning its commercial products to the cloud. It is now the No. 2 provider of cloud services behind Amazon.

Mylan has recently redomiciled in the Netherlands. It is a global generic drug manufacturer, with half its sales in North America. The company also markets some specialty branded products, namely EpiPen for emergency allergic reactions. Mylan has made an acquisition bid for Abbott's developed markets branded generics business.

Pioneer Natural Resources is an independent oil and gas exploration and production company. The company engages in onshore oil and gas drilling, exploration, and production in the United States. Pioneer Natural Resource operations are primarily the liquid-rich West Panhandle fields Wolfcamp/Spraberry) in Texas; the Raton gas field in Colorado; and the Edwards gas field in South Texas. It also has assets in the Texas Panhandle.

Salesforce.com provides software on demand. The company supplies a customer relationship management service to businesses worldwide providing a technology platform for customers and developers to build and run business applications. Clients use salesforce.com to manage their customer, sales and operational data. The geographic spread of Salesforce's revenue has remained fairly consistent in recent years, with 72% coming from customers in the Americas, about 18% from European customers, and those in the Asia/Pacific region accounting for about 10%.

Schlumberger is an oilfield services company that supplies technology, project management and information solutions for the oil and gas industry. The company's services include seismic surveys, drilling, wireline logging, well construction and completion, and project management.

Sempra Energy is an energy-service holding company, whose operating units invests in, developing and operating energy infrastructure, and provide gas and electricity services to their customers in North and South America.

Visa is the largest provider of payment and network services for transactions connecting consumers, businesses, banks, governments and territories to one-another. V provides the payments backbone that connect consumers, financial institutions and merchants enabling convenient plastic and electronic forms of payments instead of cash and checks. The company also offers a wide range of solutions that support the development and implementation of credit, debit, prepaid and commercial payments programs for consumers and merchants.

Walt Disney produces entertainment experiences based on creative content and storytelling. DIS has four business segments: 1) media networks; 2) parks and resorts; 3) studio entertainment; and 4) consumer products and interactive media. The company also engages in retail and online distribution of products through The Disney Store and Disney Shopping.com.

References

1. U.S. Bureau of Labor Statistics, Current Population Survey, 2018, annual averages.

2. UBS calculations based on United States Census, Current Population Survey, 2015.

3. American Bar Association; Association of American Medical Colleges; U.S. Department of Education, as of 2010.

4. Catalyst, Women in S&P 500 companies, 2016.

5. Woolley, A.W., Chabris, C. F., Pentland, A., Hashmi, N. andMalone, T. W., "Evidence for a collective intelligence factor in the performance of human groups," *Science*, 330, pp. 686–688.

6. Karen A. Jehn, Gregory B. Northcraft, Margaret A. Neale, "Why Differences Make a Difference: A Field Study of Diversity, Conflict, and Performance in Workgroups," *Administrative Science Quarterly*, Vol. 44, No. 4, 1999.

7. Corinne Post, Kris Byron, "Women on Boards and Firm Financial Performance: A Meta-analysis," Academy of Management Journal, 2013.

8. Daehyun Kim, Laura T. Starks, "Gender Diversity and Skill Contribution to Corporate Boards," forthcoming in American Economic Review, May 2016.

9. McKinsey & Company, Women Matter 2: Female leadership, a competitive edge for the future, 2008.

10. Michael J. Silverstein and Kate Sayre, "The Female Economy," Harvard Business Review, 2009.

11. Renee B. Adams and Daniel Ferreira, "Women in the Boardroom and Their Impact on Governance and Performance," *Journal of Financial Economics*, 94, 2009.

12. For another example involving Israeli government business companies, see Miriam Schwartz-Ziv, Gender and Board Activeness: The Role of Critical Mass, Working Paper, Michigan State University, 2015.

13. Linda-Eling Lee, Ric Marshall, Damion Rallis, Matt Moscardi, *Women on Boards: Global Trends in Gender Diversity on Corporate Boards*, MSCI, 2015.

14. For another example involving Chinese companies, see Cummings, Leung, Rui, "Gender Diversity and Securities Fraud," *Academy of Management Journal*, 2015.

15. Binay K. Adhikari, Anup Agrawal, James Malm, *Do Women Stay Out of Trouble? Evidence from Corporate Litigation*, Social Science Research Network (ID2627846), 2015.

16. Vicki W. Kramer, Alison M. Konrad, Sumru Erkut, *Critical Mass on Corporate Boards: Why Three or More Women Enhance Governance*, Wellesley Centers for Women, 2006.

17. Marcus Noland, Tyler Moran, Barbara Kotschwar, *Is Gender Diversity Profitable? Evidence from a Global Survey*, Peterson Institute for International Economics, 2016.

18. Catalyst, The Bottom Line: Corporate Performance and Women's Representation on Boards (2004-2008), 2011.

19. Credit Suisse, Gender diversity and corporate performance, 2012.

20. Soku Byoun, Kiyoung Chang, Young Sang Kim, *Does Corporate Board Diversity Affect Corporate Payout Policy?*, Social Science Research Network (ID1786510), 2013.

20. Klaus Schwab, Richard Samans, Saadia Zahidi, Till Alexander Leopold, Vesselina Racheva, Richardo Hausmann, Laura D'Andrea Tyson, *The Global Gender Gap Report,* World Economic Forum, 2016.

Statement of Risk

Equities - Stock market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables.

Required Disclosures

Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers; and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Companies mentioned in this report (31 January 2019):

Accenture Plc (ACN - Most Preferred, \$154.09), American Int'l. Group Inc. (AIG - Most Preferred, \$42.81), Ameriprise Financial (AMP - Most Preferred, \$120.18), American Express (AXP - Most Preferred, \$102.67), Boeing Co. (BA - Most Preferred, \$387.72), Colgate-Palmolive Co. (CL - Bellwether, \$63.95), Salesforce.com (CRM - Most Preferred, \$149.16), Cisco Systems Inc. (CSCO - Most Preferred, \$46.71), CenturyLink Inc. (CTL - Most Preferred, \$14.98), Chevron (CVX - Most Preferred, \$113.01), Discover Financial Services (DFS - Bellwether, \$67.72), Walt Disney Co. (DIS - Most Preferred, \$110.13), Duke Realty (DRE - Not Rated, \$29.93), DowDuPont (DWDP - Most Preferred, \$59.28), Estee Lauder Cos. (CI A) (EL - Most Preferred, \$1134.38), FedEx Corp. (FDX - Most Preferred, \$177.47), General Dynamics Corp. (GD - Bellwether, \$170.91), Alphabet Inc. Class A (GOOGL - Most Preferred, \$14.328), JPMorgan (JPM - Most Preferred, \$104.41), KeyCorp (KEY - Bellwether, \$16.64), Lowe's Cos. (LOW - Most Preferred, \$95.75), MasterCard (MA - Most Preferred, \$204.02), McDonald's Corp. (MCD - Most Preferred, \$181.77), Microsoft Corp. (MSFT - Most Preferred, \$106.38), Mylan Inc. (MYL - Not Rated, \$30.82), Pioneer Natural Resources (PXD - Most Preferred, \$141.51), Schlumberger (SLB - Most Preferred, \$45.00), Sempra Energy (SRE - Most Preferred, \$114.90), Synchrony Financial (SYF - Bellwether, \$30.07), AT&T Inc. (T - Most Preferred, \$29.37), Union Pacific (UNP - Most Preferred, \$160.82), Visa Inc. (V - Most Preferred, \$137.60)

CIO Americas, Wealth Management equity selection system

Equity sector strategists provide three equity selections: Most Preferred (MP), Least Preferred (LP) and Bellwether designation.

Rating definitions

Most Preferred*: The equity sector strategist expects the stock to outperform the relevant benchmark in the next 12 months.

Least Preferred*: The equity sector strategist expects the stock to underperform the relevant benchmark in the next 12 months.

Bellwether: Stocks that are of high importance or relevance to the sector and which the equity sector strategist expects the stock to perform broadly in line with the sector benchmark in the next 12 months.

*A stock cannot be selected as Most Preferred if UBS Investment Research rates it a Sell, while a UBS Investment Research Buy rated stock cannot be selected as Least Preferred.

Restricted: Issuing of research on a company by CIO Americas, WM can be restricted due to legal, regulatory, contractual or best business practice obligations which are normally caused by UBS Investment Bank's involvement in an investment banking transaction in regard to the concerned company.

Equity selection: An assessment relative to a benchmark

Equity selections in Equity Preferences lists (EPLs) are relative assessments versus a sector/industry, country/regional or thematic benchmark. The chosen benchmark is disclosed on the front page of each EPL.

Stocks can be selected for several EPLs. To keep consistency, a stock can only be selected as either Most Preferred or Least Preferred, but not both simultaneously. As benchmarks differ between lists, stocks need not be included on every list to which they could theoretically be added.

For a complete set of required disclosures relating to the companies that are the subject of this report, please mail a request to UBS CIO Global Wealth Management Business Management, 1285 Avenue of the Americas, 20th Floor, Avenue of the Americas, New York, NY 10019.

UBS Investment Research: Global Equity Rating Definitions

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures.

Global Equity 12-Month Rating Definitions

Buy: FSR is > 6% above the MRA. **Neutral:** FSR is between -6% and 6% of the MRA. **Sell**: FSR is > 6% below the MRA. **Key Definitions**

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.

Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).

Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.

Exceptions and Special Cases

Core Banding Exceptions (CBE): Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified the Companies Mentioned or Company Disclosure table in the relevant research piece.

Disclosures (31 January 2019)

Accenture Plc 1, 2, 3, 4, 5, Alphabet Inc. Class A 2, 6, 8, 13, 16, American Express 2, 3, 4, 6, 8, American Int'l. Group Inc. 2, 3, 4, 6, 7, 8, Ameriprise Financial 1, 2, 5, 6, 7, 8, 9, AT&T Inc. 2, 3, 4, 6, 10, 11, 14, 15, Boeing Co. 2, 3, 4, 6, CenturyLink Inc. 2, 10, 11, 12, Chevron 2, 3, 4, 6, 8, 13, Cisco Systems Inc. 2, 3, 4, 6, 8, 10, 11, Colgate-Palmolive Co. 2, 3, 4, 5, Discover Financial Services 2, 3, 4, DowDuPont 2, 3, 4, 6, 7, 8, 9, Duke Realty 2, 6, 10, 11, 14, 15, Estee Lauder Cos. (Cl A) 2, 3, 4, 13, FedEx Corp. 2, 6, General Dynamics Corp. 2, 3, 4, Home Depot Inc. 2, 3, 4, 5, Honeywell International Inc. 2, 3, 4, 5, 16, JPMorgan 2, 3, 4, 6, 7, 8, 10, 11, 14, 15, 16, KeyCorp 2, 6, 7, 8, 10, 11, 14, Lowe's Cos. 2, 3, 4, 5, MasterCard 2, 3, 4, McDonald's Corp. 2, 3, 4, 5, 9, 15, Microsoft Corp. 2, 3, 4, 6, 7, 8, 10, 11, 12, 16, Mylan Inc. 2, Pioneer Natural Resources 2, 3, 4, Salesforce.com 2, 3, 4, Schlumberger 1, 2, 3, 4, 13, 17; Sempra Energy 2, 6, 7, 8, 10, 11, 14, Synchrony Financial 2, Union Pacific 2, 3, 4, 5, 6, Visa Inc. 2, 5, 16, Walt Disney Co. 2, 3, 4, 5, 9, 12,

1. UBS AG, its affiliates or subsidiaries beneficially owned 1% or more of a class of this company's common equity securities as of last month's end (or the prior month's end if this report is dated less than 10 days after the most recent month's end).

2. UBS Securities LLC makes a market in the securities and/or ADRs of this company.

3. This company/entity is, or within the past 12 months has been, a client of UBS Financial Services Inc, and non-investment banking securities-related services are being, or have been, provided.

4. Within the past 12 months, UBS Financial Services Inc has received compensation for products and services other than investment banking services from this company.

5. UBS Financial Services Inc., its affiliates or subsidiaries owns a net long position exceeding 0.5% of the total issued share capital of this company.

6. Within the past 12 months, UBS Securities LLC and/or its affiliates have received compensation for products and services other than investment banking services from this company/entity.

7. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-securities services are being, or have been, provided.

8. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-investment banking securities-related services are being, or have been, provided.

9. The equity analyst covering this company, a member of his or her team, or one of their household members has a long common stock position in this company.

10. Within the past 12 months, UBS AG, its affiliates or subsidiaries has received compensation for investment banking services from this company/entity or one of its affiliates.

11. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.

12. The UBS Wealth Management strategist, a member of his or her team, or one of their household members has a long common stock position in this company.

13. UBS AG, its affiliates or subsidiaries owns a net long position exceeding 0.5% of the total issued share capital of this company.

14. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.

15. UBS AG, its affiliates or subsidiaries expect to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.

16. UBS AG, its affiliates or subsidiaries held other significant financial interests in this company/entity as of last month's end (or the prior month's end if this report is dated less than 10 working days after the most recent month's end).

17. UBS Financial Services Inc. its affiliates or subsidiaries owns a net long position exceeding 0.5% of the total issued share capital of this company.

Disclaimer

UBS Chief Investment Office's ("CIO") investment views are prepared and published by the Global Wealth Management business of UBS Switzerland AG (regulated by FINMA in Switzerland) or its affiliates ("UBS").

The investment views have been prepared in accordance with legal requirements designed to promote **the independence of investment research**.

Instrument/issuer-specific investment research – Risk information:

This publication is **for your information only** and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. The analysis contained herein does not constitute a personal recommendation or take into account the particular investment objectives, investment strategies, financial situation and needs of any specific recipient. It is based on numerous assumptions. Different assumptions could result in materially different results. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS). All information and opinions as well as any forecasts, estimates and market prices indicated are current as of the date of this report, and are subject to change without notice. This publication is not intended to be a complete statement or summary of the securities, markets or developments referred to in the report. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria.

In no circumstances may this document or any of the information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes (i) valuation or accounting purposes; (ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or (iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees. By receiving this document and the information you will be deemed to represent and warrant to UBS that you will not use this document or otherwise rely on any of the information for any of the above purposes. UBS and any of its directors or employees may be entitled at any time to hold long or short positions in investment instruments referred to herein, carry out transactions involving relevant investment instruments in the capacity of principal or agent, or provide any other services or have officers, who serve as directors, either to/for the issuer, the investment instrument itself or to/for any company commercially or financially affiliated to such issuers. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is not suitable for every investor as there is a substantial risk of loss, and losses in excess of an initial investment may occur. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information.

Research publications from **CIO** are written by UBS Global Wealth Management. **UBS Investment Research** is written by UBS Investment Bank. Except for economic forecasts, the research process of **CIO is independent of UBS Investment Research**. As a consequence research methodologies applied and assumptions made by **CIO and UBS Investment Research** may differ, for example, in terms of investment horizon, model assumptions, and valuation methods. Therefore investment recommendations independently provided by the two UBS research organizations can be different.

The compensation of the analyst(s) who prepared this report is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking, sales and trading or principal trading revenues, however, compensation may relate to the revenues of UBS as a whole, of which investment banking, sales and trading and principal trading are a part.

Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific client's circumstances and needs. We are of necessity unable to take into account the

particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein. This material may not be reproduced or copies circulated without prior authority of UBS. Unless otherwise agreed in writing UBS expressly prohibits the distribution and transfer of this material to third parties for any reason. UBS accepts no liability whatsoever for any claims or lawsuits from any third parties arising from the use or distribution of this material. This report is for distribution only under such circumstances as may be permitted by applicable law. For information on the ways in which CIO manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit www.ubs.com/research.

Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copies of any past reports on this topic; are available upon request from your client advisor.

Important Information About Sustainable Investing Strategies: Incorporating environmental, social and governance (ESG) factors or Sustainable Investing considerations may inhibit the portfolio manager's ability to participate in certain investment opportunities that otherwise would be consistent with its investment objective and other principal investment strategies. The returns on a portfolio consisting primarily of ESG or sustainable investments may be lower than a portfolio where such factors are not considered by the portfolio manager. Because sustainability criteria can exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. Companies may not necessarily meet high performance standards on all aspects of ESG or sustainable investing issues; there is also no guarantee that any company will meet expectations in connection with corporate responsibility, sustainability, and/or impact performance.

Distributed to US persons by UBS Financial Services Inc. or UBS Securities LLC, subsidiaries of UBS AG. UBS Switzerland AG, UBS Europe SE, UBS Bank, S.A., UBS Brasil Administradora de Valores Mobiliarios Ltda, UBS Asesores Mexico, S.A. de C.V., UBS Securities Japan Co., Ltd, UBS Wealth Management Israel Ltd and UBS Menkul Degerler AS are affiliates of UBS AG. UBS Financial Services Incorporated of Puerto Rico is a subsidiary of UBS Financial Services Inc. UBS Financial Services Inc. Services Inc. accepts responsibility for the content of a report prepared by a non-US affiliate when it distributes reports to US persons. All transactions by a US person in the securities mentioned in this report should be effected through a US-registered broker dealer affiliated with UBS, and not through a non-US affiliate. The contents of this report have not been and will not be approved by any securities or investment authority in the United States or elsewhere. UBS Financial Services Inc. is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.

External Asset Managers / External Financial Consultants: In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties. Version 01/2019. CIO82652744

© UBS 2019. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.