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# ABSTRACT <br> Women Have to Enter the Leadership Race to Win: Using Random Selection to Increase the Supply of Women into Senior Positions 

Despite well-intentioned efforts, the supply of women into senior management roles has changed little. Radical ideas are apparently needed. This paper is an attempt to suggest one. It is to use a form of random selection of candidates - drawn from a pre-selected and properly qualified pool - to increase the supply of women into management positions. The background rationale is that while most gender studies have focused on the demand side (direct and indirect discrimination), we think about how to improve the supply side, and in particular how to find ways to reduce negative self-stereotypes and stereotype threats. Evidence suggests, for example, that women shy away from competition, and are especially averse to rejection. We argue that a random-draw method would offer women a type of 'rejection insurance', lessen the 'chosen one' factor associated with leadership, prevent the desire for a 'safe pair of hands' (i.e. a man), and foster genuine equality.

JEL Classification: L2, M1, M5
Keywords: leadership, women, diversity, random selection

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## Introduction

Women are underrepresented at the top of all kinds of hierarchies -- be it within corporations, the public sector, in government bodies (e.g. Ely, Ibarra \& Kolb, 2011; Ali, Metz \& Kulik 2015), on editorial boards (Metz \& Harzing, 2009) or even among business school deans (McTiernan \& Flynn, 2011). The hope that a sizeable influx of female graduates would close the gender gap at senior levels has not materialized (Rader Sipe et al., in press). Only 5 percent of CEO positions in Fortune 1000 companies are held by women (Catalyst, 2015 ${ }^{1}$; Dawson, Kersley \& Natella, 2014). In OECD countries in 2014, 7.7 percent of employed men had managerial responsibilities; the same was true for only 4.4 percent of employed women. Even in countries considered progressive, such as Norway, women have lower promotion rates than men across all ranks (Miller, 2014), even after controlling for individual characteristics like age, education, experience, and tenure. ${ }^{2}$ According to a business report by the consultants Grant Thornton (2015), women in the US in 2015 hold $21 \%$ of senior management positions; in 2004 the figure was $19 \%$.

There have been attempts to change this. Diversity education and training has been introduced, since it became clear that discrimination comes at a high cost to society. A myriad of programs exist, starting at university, through to the workplace and at board level (e.g. Bell, Connerley \& Cocciara, 2009; Bezrukova, Jehn \& Spell, 2012). There is evidence that female representation in top management relates positively with organizational performance (Dawson, Kersley \& Natella, 2014). Female representation in top management improves performance in companies that pursue innovative strategies (Deszö \& Ross, 2012); diversity also has a positive impact on performance in turbulent times (Rost \& Osterloh, 2010); finally, in studies of groups, performance is reported to be affected more by the proportion of women in the group, than by the average or maximum individual intelligence of each member (Woolley et al., 2010; Engel et al., 2014).

Moreover, in educational achievement today there is a reverse gender-gap. In schools girls now outperform boys in many subjects (Goldin, Katz \& Kuziemko 2006; OECD, 2015); and, the majority of college graduates in OECD countries are now female (Dawson, Kersley \& Natella, 2014). In the UK in 2014, 150,000 males graduated from university; the number for females was $200,000^{3}$. In a wide range of settings, girls have been shown to be more self-

[^0]disciplined, and better able to defer gratification compared with boys (Castillo et al., 2011; Duckworth \& Seligman, 2006). Finally, numerous global corporations today proclaim that they are committed to diversity in management (e.g. Chevron and Procter \& Gamble, see Catalyst 2015). Yet, despite these corporate proclamations, diversity programs and tales of educational success, women are still missing at the top.

Radical new ideas are thus apparently needed. This paper proposes one. The paper is designed to be of interest both to practitioners and academic researchers.

First, we switch from a demand side to a supply orientation concerning female managers. In particular, we are concerned with why females - even the most competent ones - shy away from competition with men, thereby diminishing their chance of promotion. Second, we examine different ways to encourage women to enter the race for senior positions. Third, we explore an unusual approach to mitigate competition in order to motivate women to apply for demanding jobs and to learn how to overcome stereotype threats: random selection from a preselected pool. The roots of this idea have a long, though little-known, tradition. A randomselection principle was applied in ancient Athens and used in the "golden times" of Venice.

We later show how the use of random selection could offer advantages for women, and also potential efficiency gains for organizational performance as a whole. In particular, we believe our approach would lead, among other benefits, to the following: it would
(i) offer women a kind of 'rejection insurance',
(ii) lessen the 'chosen one' factor associated with leadership,
(iii) discourage the desire for a 'safe pair of hands',
(iv) foster genuine equality.

There is very little prior literature that explores such an approach. The only paper known to us that is somewhat close in spirit is Zeitoun, Osterloh, \& Frey (2014). However, that paper's objective is to find a way to encourage greater firm-specific investment by altering the makeup of company boards. Our paper's aim, and the nature of our arguments, are quite different. Our paper also differs from Pluchino, Rapisarda and Garofalo (2011), who suggest using partial random selection as a promotion strategy that protects against the Peter Principle, and from Ginsburg and Weyers (2014), who recommend its use in the selection of artists.

We would acknowledge that random selection is at first glance an unusual concept. Some readers may even find its suggestion surprising. Nevertheless, we wish to emphasize from the start that we propose random-draw methods from within an already highly-qualified
pool (or statistical urn) of candidates, and we believe that the idea of our proposal could generate fruitful dialogue within the human resource management community ${ }^{4}$.

## Background

Most studies that attempt to explain why senior women are less visible in organizations focus on demand-oriented causes. In particular, they look at direct discrimination (e.g. Becker, 1957; Goldin \& Rouse, 2000; Eagly, 2007; Beaman et.al., 2009; Bohnet, van Geen \& Bazerman, 2012) and statistical discrimination against women (Phelps, 1972; Arrow, 1973; Lazear \& Rosen, 1990). ${ }^{5}$ By definition, demand-side factors can be thought of as being imposed on women externally. However, today, direct discrimination in organizations is prohibited, but it seems that invisible barriers remain, for example, those arising from cultural beliefs and learned stereotypes (Ely, Ibarra \& Kolb, 2011). ${ }^{6}$ Women are often expected to be less ambitious, less assertive and less self-reliant, whilst also more caring and communally oriented (e.g. Rudman \& Phelan, 2008). In addition, it is assumed that women will face family-work-conflicts. ${ }^{7}$ These stereotypes are not congruent with idealized leadership roles (Eagly \& Karau, 2002). They lead to a too-risky-to-promote attitude regardless of whether these expectations are justified or not (Banerji \& Greenwald, 2013). Hiring committees may be attracted to a safe pair of hands ${ }^{8}$.

Supply-side explanations are recent additions to the literature. They examine how women impose negative stereotypes on themselves and into their identity. This form of adverse self-verification restrains females in several ways.

First, women might accept a less ambitious career path with lower salaries ${ }^{9}$ (Eagly, 1987; Eagly and Karau, 2002).

[^1]Second, if women consciously deviate from internalized female stereotypes, this may cause psychological "identity costs" and if women behave "out of role" (Goffman, 1959; Jacobson \& Aaltio-Marjosola, 2001; Heilman \& Okimoto, 2007) they may additionally be punished by being less-liked in their professional and private life (Phelan, Moss-Racusin \& Rudman, 2008). For example, in a laboratory experiment it was shown that men dislike women who negotiate over their salary (Bowles, Babcock \& Lai 2007); further, divorce rates are higher in couples where women are the main breadwinners (Bertrand, Pan \& Kamenica, 2013; Dawson, Kersley \& Natella, 2014).

Third, additional "identity costs" accrue if women try to compensate negative attitudes towards "out of role" behaviour by attempting to display greater sociability in a bid to be liked (Rudman \& Phelan, 2008).

Fourth, women who adopt counter-stereotypical behaviour can be accused of lacking social skills. They then suffer professionally when attention is diverted away from functional competence to social skills (Phelan, Moss-Racusin \& Rudman, 2008).

Fifth, in addressing the lack of women on corporate boards, Rowley, Lee \& Lan (2015) suggest that negative messages are transmitted to women early in their careers through networks, selection bias, and role-model shortages, which leave women believing that any potential board director role is merely 'ornamental'.

Finally, gender stereotypes, be they external or internal, can become "self-fulfillingprophecies" (Merton, 1948: 195; Ely, Ibarra \& Kolb, 2011). Stereotype threats are activated whereby people fear to confirm negative stereotypes about their social group (Inzlicht, 2011). The "activation of a self-relevant stereotype leads people to show stereotype-consistent behaviour, thereby perpetuating the stereotypes" (Dar-Nimrod \& Heine, 2006:435). The performance of individuals who belong to negatively stereotyped groups is lower (Schmader, Johns \& Forbes, 2008).

Ample evidence demonstrates the effect of negative stereotyping on the behaviour of women. For example, girls' math performances decrease when their gender is made salient (Spencer et al., 1999; Dar-Nimrod \& Heine, 2006). The same is true for performance in competitions (Guenther et al., 2010), and for risk-aversion (Booth \& Nolen, 2015). Stereotype threat not only leads to poorer task performance, but also to lower levels of identification and motivation in the given performance domain (Steele, James, \& Barnett, 2002). Female stereotypes decrease women's entrepreneurial intentions (Gupta \& Bhawe, 2007), leadership aspirations (Davies et al., 2005), interest in mathematics, science, and engineering (Murphy et al., 2007), and their motivation to improve their math ability (Fogliati
\& Bussey, 2013).
It is not necessary for women to internalize female-inferiority typecasts for negative outcomes to occur. Stereotype threats also arise from the pressure incurred to reject the dominant typecasts (Steele, Spencer \& Aronson, 2002). Research suggests that "fighting back" reduces working memory capacity (Schmader \& Johns, 2003), induces anxiety and stress (Schmader, Johns \& Forbes, 2008), as well as efforts to suppress negative emotions that increase blood pressure and activate the cardiovascular system (Blascovich et al. 2001; Murphy, Steele \& Gros, 2007). However, stereotype threats are reduced when people learn about the malleability and controllability of the characteristics at hand (Aronson, Fried \& Good, 2002), in particular when they view the origins of those characteristics as experiential or learned instead of innate or genetic (Dar-Nimrod \& Heine, 2006).

In sum, these factors may explain why on average women strive less than men for leadership positions. Women appear to have to choose between career success and social success, and to endure extra pressures that male leaders are not exposed to (Heilman, 2001). Research suggests that supply side reasons consist mostly in characteristics other than cognitive skills. Cognitive skills show only minor differences between men and women (see e.g. Kimura, 2004; Fine, 2010). ${ }^{10}$ With respect to non-cognitive differences, researchers have started to look at issues such as aversion to competition, risk aversion, feedback-aversion and low self-confidence. In particular, women's resistance to competition has recently been studied quite extensively. If women are less likely to enter competitions, this not only reduces their prevalence in management and other senior positions, but contributes to a large gendergap (Niederle \& Vesterlund, 2007).

## Random Selection

We propose the use of random draw from a pre-selected pool. A key reason is that women may be more likely to enter the pool of candidates because, in a sense, random selection suppresses the final level of competition. Identity costs -- for example being disliked, or being punished by candidates who were not selected -- are likely to be minimized, and non-winners in random selection do not lose face. Moreover, randomness has intrinsic advantages in certain environments, for a mathematical reason that we later explain.

More broadly, random selection has a long but -- to social scientists and management

[^2]scholars -- a largely unknown history. It was used as a political mechanism by the Athenians over two and a half thousand years ago (Mueller, et. al.,1972; Frey Buchstein, 2010; Buchstein \& Jörke, 2007; \& Steiner, 2014), as well as in the "golden age" of Venice and other medieval city states. Although its use has greatly declined, some institutions still use randomness; for example the Coptic Pope is selected randomly out of three candidates (Boochs, 2009), the Amish choose their leaders by random selection, and in modern society it is of course commonly used as a mechanism to select juries or decide tiebreaks in national and local elections.

What are the background benefits of using random selection? Clearly, random decisions produce representativeness in the population (McCormick, 2006). Also, random processes prevent an illegitimate influence on decisions by interest groups. These may include "old boys networks" or through corruption (Hayek, 1979). Once the short-list is decided, there is little sense spending time or money trying to influence a random process. Selecting people randomly gives a chance to groups that otherwise have no voice and thus enables neglected aspects, ideas and perspectives. ${ }^{11}$ It is a way to protect against homophily and it encourages new talent into the pool - such as individuals who may be less inclined to enter competitions or elections because of low confidence or risk aversion (Beckmann \& Menkhoff, 2008; Buchstein, 2010). A diverse talent pool will generate diversity of ideas and decisions, allowing creativity to surface (Fishkin \& Farrar, 2005; Jeppesen \& Lakhani, 2010); and it facilitates a "focused naïveté: a useful ignorance of prevailing assumptions and theories" (Gieryn \& Hirsh, 1984: 91). It may also lead to a 'balanced portfolio' by spreading risks as different kinds of people (and personalities) will be randomly selected. These aspects of random selection seem particularly pertinent to knowledge-intensive firms.

Random selection promotes stability and continuity of representation. Each group has the chance of being chosen in the future. In organizations where the core workers are experts and professionals, it is common to find an unwillingness to take up management and leadership positions (Empson \& Langley, 2015). An option to include candidates through a random process may motivate reluctant managers into the pool.

Importantly, random selection implies that the "losers" of the selection process do not lose face, inducing more well-reputed individuals to stand for an office. In our context, women who win the lottery will not be exposed to negative stereotypes that may be associated with them outperforming men. Again, this may foster a more diverse applicant pool.

[^3]The alternative so-called "rational" selection processes are themselves prone to many weaknesses: for example, biases and prejudices of the appraisers (e.g. Latham et al., 2005), the Peter Principle ${ }^{12}$ (e.g. Lazear, 2001), and the performance paradox (e.g. Meyer \& Gupta 1994). ${ }^{13}$ Evidence suggests that some alleged "rational" evaluation processes are in fact subject to randomness, e.g. the selection of award-winners in musical competitions (see Ginsburgh \& Weyers, 2014), and winners in wine contests (Hodgson, 2009). As soon as these "rational" processes are shown to be factually irrational, perceptions of fairness suffer greatly which is not the case with openly random processes.

We suggest here that random selection could be used to appoint managers from among pre-chosen candidates, to encourage women to enter competitions, thereby raising the female talent pool. The next section outlines how the procedure would work.

## Random Selection as a Supply-Side Tool for Increasing the Number of Female Leaders

## Entry to the short-list

Given the possibility that females tend to be more averse to open competition, some method has to be found to ameliorate that aversion. Random selection would, we believe, encourage women to allow their names to go onto the short-list after a long-list candidate pool has been composed.

There are two possible ways to compose this pool. One possibility would be random selection from a short-list involving conventional procedures where there may not initially be an equal number of men and women. Conventional procedures mean that the position might be advertised internally, or a committee might choose male and female candidates. A second possibility requires a pool that is made up from the start of the same number of men and women. It would combine supply-oriented with demand-oriented measures such as quotas. ${ }^{14}$

[^4]Quotas seem empirically to work to change the gender landscape by raising the profile of women without negatively affecting productivity (Jones, 2004; Chattopadhyay \& Duflo, 2004; Powley, 2007; Balafoutas \& Sutter, 2012; Niederle, Segal \& Vesterlund, 2013; Beaman et al., 2009, 2012).

Irrespective of which of these two methods is chosen, candidates who enter the pool should be approximately equal in their rank or position in the organization, have equal approximate ability, and have extensive knowledge of the core business of the organization (Goodall, 2009; Goodall \& Bäker, 2014). This would help prevent potential 'glass cliff' scenarios (Ryan \& Haslam, 2005), where women are inappropriately picked for a task and therefore fail -- a situation that increases negative stereotyping.

## Randomly selecting into the post

Once a short-list has been finalized, the random selection of the candidate can occur. Male and female candidates receive a predetermined chance according to their numbers in the pre-selected pool. Under the quota approach, men and women have the same chance of being selected. Both methods are designed to encourage women to throw their hat into the ring without crowding-out high-performing men by "reverse discrimination." Trust is an important factor to ensure. Therefore, the process needs to be regulated and should perhaps happen in a public or semi-public setting. If done in this way, throwing a dice makes the process balanced and open, and, therefore, not susceptible to undue influence through networks and interest groups, homophily or corruption, which will allow the process to induce greater trust within the organization.

## Random selection offers 'rejection insurance'

The literature suggests that women fear being punished by competing with men (Phelan, Moss-Racusin \& Rudman, 2008) since "....being competitive in "male settings" for women still includes a negative stigma of being bitchy" (Guenther et al. 2010: 400). Moreover, they are more risk averse than men in certain circumstances (Barber \& Odean, 2001; Charness \& Gneezy, 2012). Women lack confidence compared with men (Lichtenstein, Fischhoff, and Phillips, 1982; Beyer, 1990; Niederle \& Vesterlund, 2007; Kay \& Shipman, 2014) and they are also more likely to suffer psychologically from failure or rejection (e.g. Steele, Spencer \& Aronson, 2002).

Random selection acts as 'rejection insurance' against these factors - and does so in two key ways. First, it protects against any personal pressures a woman may be subjected to; for example, husbands or partners might welcome their wives' success with less negative feelings when randomly selected.

Second, if a candidate loses, he or she cannot 'blame themselves' for not winning, thus reducing the likelihood of internalizing failure into one's self-perception.

## Random selection reduces 'the chosen one’ factor

Random selection not only offers rejection insurance to protect women against internalizing failure, it also protects against the possibility of men to overly internalize the positive influence of winning. Overconfidence in men is well documented (Lichtenstein, Fischhoff \& Phillips, 1982; Beyer, 1990; Kay \& Shipman, 2014). It is more pronounced when men undertake tasks that are considered to be masculine (Moore \& Small, 2007); arguably men may consider leadership as such a task. The characteristic of 'hubris' is sometimes associated with organizational leaders (Hayward \& Hambrick, 1997; Hiller \& Hambrick, 2005). Individuals who regularly win tournaments may start to believe that they are 'the chosen one'. They may overly-attribute their success to personal talent and underrepresent the role of chance.

The contrasting characteristic of 'humility' viewed as being desirable in managers and leaders (Sally, 2002; Van Buren \& Safferstone, 2009; Goodall \& Bäker 2014) will be furthered by a greater weight placed on chance.

## Random selection can improve organizational performance - an application of Jensen's Inequality

There is another, and little-known, argument for random selection. Put intuitively, it boils down to the idea that playing it safe guarantees a modest and never outstanding outcome. In many commercial settings, by contrast, it pays to take risks.

Here, our underlying notion is mathematical, and emerges from the nature of probability distributions. A conceptual step originating from the Danish mathematician Johan Jensen can help us to understand how the random selection of managers (of either sex) may also contribute to organizational performance. Known in the mathematics literature as 'Jensen’s Inequality' (Jensen, 1906), this famous algebraic theorem, which is taught in most
undergraduate mathematics courses, describes the fact that randomness can be desirable when performance is described by an upward-sloping curve that is steadily accelerating (that is, in mathematical jargon, convex from below). This is because a random mixture of very high and fairly low values will itself average out to be high. The occasional really high end more than offsets the occasionally somewhat low end.

In our setting, this relates to the often fallacious argument that what organizations need is a safe pair of hands. This is how headhunters and hiring committees may see it, and in that case the known quantity (a standard kind of male manager, for example) can appear a good choice. Nevertheless, the mathematical idea named after Jensen explains why this can be incorrect. To the best of our knowledge this point has never been made in the leadership literature.

## -INSERT TABLE 1 HERE-

The intellectual relevance of Jensen's Inequality is best illustrated numerically: See Table 1. Imagine a world in which there are three kinds of leader or manager candidates. They come in three qualities: 'poor', 'sound' and 'outstanding'. Assume that a selection panel can always identify the sound, safe candidate. Assume, however, that it is hard for the panel to distinguish between poor and outstanding (both may tend to look unfamiliar and hard to assess, ex ante, to a selection panel). Imagine, say, that what a hiring panel wishes principally to achieve is an outcome in which they cannot greatly be blamed. Then, the safe outcome for the hiring panel can always be reached by an unadventurous strategy of selecting the middlequality manager, namely the one here described as sound. Realistically, this will often be the same kind of person as those on the hiring panel. Also realistically, female candidates will often be viewed as risky.

In what circumstances, and exactly why, can an organization do better than by merely selecting the safe managerial choice each time? Table 1 illustrates two cases. In the first, random selection is neither better nor worse than taking the safe managerial candidate. In the second, random selection leads to better average outcomes. Following our proposal, consider the second case in Table 1 (where outstanding leaders can really make a difference). Now imagine that the choice among the three candidates is done by random draw. Assume for the argument here (Jensen's inequality is more general but we wish here only to convey the idea) that a poor manager will lead to the organization making $\$ 2$ million revenue, and the sound one will ensure the organization makes $\$ 3$ million, while the outstanding one will lead to the
organization making for itself $\$ 5$ million in revenue. Then, necessarily under random selection, one third of the time the manager will turn out to be poor. That means, under random selection of leaders, that one third of the time the organization will generate $\$ 2$ million revenue. One third of the time the manager will be sound, thus leading to $\$ 3$ million, and one third of the time the candidate will be outstanding and will generate $\$ 5$ million revenue. On average, therefore, it is straightforward to see that with random selection of the leader the organization will produce revenue of more than the $\$ 3$ million that is produced by the safe option. This happens because the organization gets an even spread of candidates through time, but the excellent outcome on the upside more than outweighs the low outcome on the bad side. Arithmetically, the calculation under random selection of a leader is simply that $(2+3+5) / 3=3.3$. This is a ten percent better outcome than comes from the safe 3.0 outcome. In this type of organizational setting, therefore, where the success of the organization depends in an accelerating way on the quality of the manager, random selection produces on average a better organizational result than continually picking the safe candidate.

In some instances, it is empirically rather plausible to think that outstanding managers can produce these accelerating effects, because, as they sit many layers above in a hierarchy, they can have special multiplying 'externality' effects on the success of their organizations. A talented senior manager may, say, appoint another talented middle manager who may go on to appoint a talented junior manager, and so on, in virtuous cascades. In such situations, getting a superb manager, even occasionally, may be disproportionally important to an organization. Random selection can over time be optimal because the occasional 'error' (appointing a poor leader) is more than offset by the occasional high-quality leader whose actions go on to produce large rewards for the organization. Randomness can pay off, mathematically and in a real-world setting.

## Conclusion

The tide has not yet turned for women in leadership. This paper, which is an attempt to provide both a practical and intellectual contribution to a famous problem, discusses a supplyside measure that may help to encourage female candidates into senior management roles. We acknowledge that gender gaps probably stem in part from the dissimilar preferences of men and women, the most important perhaps being different inclinations to enter competitions. It is known that women are less likely than men to compete openly in mixed sex-groups. With this problem in mind, we have here set out a potential new idea.

The approach outlined here is the use of random draw from among a pre-chosen (and, we wish to emphasize, appropriately qualified) pool of candidates. We argue that a randomselection scheme at the final stage in a hiring process would have a number of benefits. Such a selection scheme would:
(i) provide rejection insurance;
(ii) reduce the chosen-one factor associated with leadership;
(iii) discourage a hiring committee's tendency to go for the safe pair of hands;
(iv) act in the long run to foster equality.

Crucially, we believe that random selection could increase females' willingness to allow their names to go on to short-lists for senior managerial positions.

This paper has a limitation that offers opportunities for future research. There is apparently no empirical evidence on the effects of random selection in the field of gender policy. Such evidence is by necessity restricted because the application of random selection in this field is a novel idea. Future endeavors may apply various methodologies to gather empirical evidence, perhaps starting with laboratory experiments and vignette studies, and continuing to in-depth case studies of real-world implementations. Empirical testing is the next, and important, step.

## Table 1

## An illustration of the theoretical case for random selection and how it depends on the output consequences of different kinds of leaders or managers (an application of Jensen's Inequality)

## Section 1a

The simple proportional-revenue case where random selection is not needed*

| Leader/manager type Organizational output |  |
| :--- | ---: |
| Poor | 2 million revenue |
| Sound | 3 million revenue |
| Outstanding | 4 million revenue |

*In this case, leaders have smooth linear effects on the success of the organization.

## Section $1 b$

The exponential-revenue case where random selection would raise revenue**

| Leader/manager type Organizational output |  |
| :--- | ---: |
| Poor | 2 million revenue |
| Sound | 3 million revenue |
| Outstanding | 5 million revenue |

**In this case, leaders have accelerating effects on the success of the organization.

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[^0]:    ${ }^{1}$ See Catalyst at [http://www.catalyst.org/knowledge/women-ceos-fortune-1000](http://www.catalyst.org/knowledge/women-ceos-fortune-1000) for the full list of female CEOs in these groups; accessed June 20, 2014.
    ${ }^{2}$ For an overview over gender differences in promotion rates see Blau \& DeVaro, 2007.
    ${ }^{3}$ Higher Education Statistics Agency (HESA) for the UK.

[^1]:    ${ }^{4}$ The idea was presented at two events involving HR directors in finance and professional service firms; feedback was very positive.
    5 In orthodox family economics (e.g. Becker, 1985; Polachek, 1981) another external factor is analyzed. Due to gender specific division of labour, men and women differ with respect to relative productivities. As a consequence, for women compared to men it is less useful to invest in education and training. This explanation does not hold today. Women on average invest even more than men in their formal education.
    ${ }^{6}$ Stereotypes can be defined as "cognitive structures that contain perceiver's knowledge, beliefs, and expectancies about some human group" (Hamilton \& Trolier, 1986: 133).
    ${ }^{7}$ According to Rudman \& Phelan (2008) these stereotypes are in flux. They change descriptively little by little. Nevertheless prescriptively they remain intact. Many traits required for leadership still are rated as less desirable for women.
    ${ }^{8}$ Adams, Flynn \& Wolfman (2015) raise interesting suggestions for improving the recruitment of women on to corporate boards.
    ${ }^{9}$ More than 50 percent of male candidates negotiate their salary after the first job offer following graduation, but only ten percent of females, see Babcock et al. 2006 (Babcock \& Laschever, 2003).

[^2]:    ${ }^{10}$ Nevertheless, cognitive stereotypes are lively, see the debate around the former Harvard University President Larry Summers, who suggested that extremes of innate aptitude rather than discrimination are responsible for the failing careers of women in science, see e.g. Barres 2006.

[^3]:    ${ }^{11}$ This is the main advantage over the establishment of quotas which can only be set if the corresponding dimensions (e.g. gender or nationality) are determined, see Frey \& Steiner 2014.

[^4]:    ${ }^{12}$ The Peter Principle is the selection of a candidate for a position based on the candidate's performance in their current role rather than on their abilities that might be relevant to the intended role.
    ${ }^{13}$ The performance paradox characterizes the effect that all kinds of performance indicators after some time lose their ability to discriminate between good and bad performance, due to goal displacement, gaming, and lock-in effects. For the analysis of performance paradoxes in research see Osterloh \& Frey, 2014 and Frost \& Brockmann, 2015.
    ${ }^{14}$ Quotas are put in place by some governments when other forms of self-regulation have failed to alter gender or ethnic distributions (Krook, 2005; Dahlerup, 2006; Forstenlechner, 2011). A recent high-profile example is the requirement for all boards of public companies in Norway to include at least $40 \%$ women. The German Parliament has also recently decided to introduce a $30 \%$ quota in the boards of big public companies. An attempt by the UK government to impose a voluntary obligation of $25 \%$ female board membership on all public companies by 2015 looks like it may just meet its target (Sealy, Turner \& Vinnicombe, 2013). An alternative to quotas is positive discrimination (Noon, 2012).

