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Paola Profeta

Gender Quotas and Efficiency

WOMEN ARE UNDER-REPRESENTED IN DECISION-MAKING POSITIONS



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Women are under-represented in the labour market and in decision-making positions. In spite of the continuous evolution towards their closure, economic gender gaps appear to be persistent and difficult to eliminate. According to the World Economic Forum (2016), only 59% of the gender gap in economic opportunities around the world has closed.

Reducing the gender gaps is a major goal everywhere. Not only equality between men and women is in itself important for sustainable development, but women's economic participation is also "a part of the growth and stability equation" (IMF, 2014). Having more women in the labour market and in decision-making positions represents a good strategy to exploit talents with the final goal of promoting economic growth and business performance. In fact, women represent half of the population: women's educational level is now comparable (or even higher) to that of men in all developed countries and their productivity and talent is well-recognised. Yet, they rarely reach the top level of their professional careers, i.e. the *glass ceiling* is still a dominant phenomenon worldwide.

Why are women under-represented in decision-making positions? A large literature has tried to investigate what the obstacles for women in the labour market are, and what prevents them from reaching top positions in their career. Family, cultural and institutional factors play a relevant role, as they shape the context in which women decide their role in society. At the root of gender gaps is the traditional division of labour within the family, with men working on the market and women primarily being devoted to domestic work and child care. Even when women work on the market, they still have the majority of the responsibility for care work. This limits their possibility to invest in labour market skills and to be recognised as being engaged in their career. Gender gaps are not only the outcomes of environmental influence (*nurture*), but they also depend on *nature*, i.e. they may have biological roots. A growing literature in fact has recognised that risk aversion, attitudes towards competition, and social-oriented preferences are fundamental intrinsic traits which differentiate men from women (see Bertrand, 2011 for a review) and may be associated with gender gaps.

DISCRIMINATION

What cannot be explained by observable factors is considered discrimination. Discrimination occurs when some workers are treated differently than others because of their personal characteristics, such as gender, race, age, nationality, sexual orientation and so on, that are unrelated to their productivity (Arrow, 1973). Discrimination not only leads to unequal outcomes but it may also create efficiency losses: waste of talent, lack of incentives to invest in human capital by the discriminated group and inefficient allocation of resources.

We can identify three types of discrimination against women: taste, statistical and screening.

Taste discrimination occurs when employers discriminate against women based on prejudices against women. However, this type of discrimination can persist only in the absence of competition in the labour market because it is costly to be maintained.

Statistical discrimination occurs when people do not have full information about an individual's relevant work characteristics and use group averages as a substitute. Two people may be identical in any economic aspect that is relevant for performance, but, since this is unknown to employers, some characteristic, such as race or sex, will be used as a basis for decisions on hiring and promotion. To make an example, firms expect women to quit earlier, to put less effort into the job, and to dedicate more time to domestic and care work. These expectations are based on evidence, and thus are plausible. As a consequence, firms rationally pay women less than men and/or do not promote them. Within couples, the lower wage reduces the opportunity cost for women to work at home, and thus the initial expectations self-fulfil.

Even in the absence of a clear preference for people of the same sex, a screening discrimination may occur during the selection process, as it is in general easier for individuals to screen people of similar background. It is easier to judge job applicants' unknown qualities when candidates belong to the same group. This different evaluation may be justified by differences in language, communication styles, and perceptions, which make it easier for a person of the same group (f.i. gender) to evaluate personal skills and attitudes.

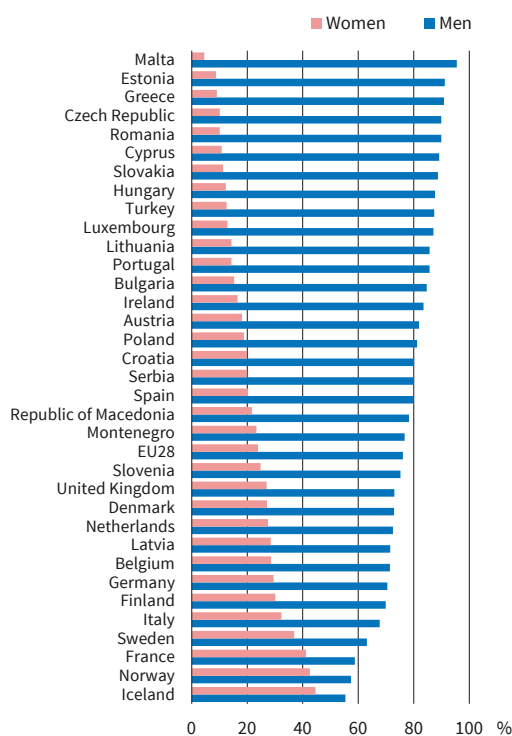
THE ROLE OF POLICIES AND GENDER QUOTAS

How to address discrimination and promote gender equality? Public policies are advocated to accelerate the process towards gender equality (OECD, 2012; Olivetti and Petrongolo, 2017). They include childcare, maternity, paternity and parental leaves, fiscal policies, labour market interventions (such as part-time), pension designs and flexible work arrangements.

When we concentrate on measures to promote the presence of women in top positions, a natural candidate is the introduction of gender quotas, which impose a threshold level of representation for each gender.

Figure 1

Percentage of Men and Women on Boards of the Largest Listed Companies in the EU-28, 2016



Source: Author's elaboration on European Institute for Gender Equality (EIGE) Gender Statistics Database.

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Figure 1 shows the share of men and women on boards of the largest listed companies in 2016 EU28 countries. No country has reached parity (50% of men and 50% of women), but generally countries which have introduced quotas have a larger share of women on boards of the largest listed companies. Italy is a clear example: a country traditionally characterized by a very low presence of women, is now among those with the highest presence of women, thanks to the introduction of gender quotas.

However, gender quotas are a controversial measure. Empirical research (see, among others, Bertrand et al., 2014, Bagues et al., 2017) has reached no conclusive results on the effectiveness of gender quotas in reducing gender gaps in specific contexts (business, politics, academia) nor on the efficiency gains vis-à-vis the costs they may generate. The effectiveness of quotas in achieving equality depends on the extent to which quotas in decision-making positions translate into more balanced outcomes and smaller overall gaps, for example, if increasing women's representation in decision-making positions reduces overall gender gaps. This result seems difficult to prove empirically. As for efficiency, theoretically, quotas have an ambiguous effect. On one side, by reducing the inefficiency losses associated to discrimination, quotas may increase productivity and total welfare. On the other side, by restricting the set of candidates and imposing con-

straints to the selection process, they may generate economic costs. Which outcome will prevail has to be tested empirically.

The effects of the introduction of gender quotas can be assessed according to the following critical dimensions: (i) the quality of representatives, (ii) performance, (iii) the agenda. I will now explain these concepts and present examples both in the context of politics and business.

The three dimensions above refer to the most typical concerns about the introduction of gender quotas. First, quotas seem to be at odds with meritocracy: individuals are assigned to a top position not because of their merit, but because they belong to a protected group. They may thus be very useful to rapidly increase the presence of women, but at the cost of reducing the quality of representatives if these women turn out not to be the best choice for the organisation. This is certainly true if at the initial status the competition is free and open to all individuals, and merit is the basis of decisions. However, as we argued before, often the real world is quite different from this "ideal world" because of discrimination: competition is not open, and the selection process is not rewarding the most talented individuals. Are we sure that, under these circumstances, quotas are against meritocracy? What alternative measures could be used to reach the same result?

Second, quotas may reduce performance if the selected women are not competent enough to play a positive role in their position. However, if diversity matters for performance, having both men and women in decision-making positions would translate into a positive outcome.

Finally, quotas make no difference because in the end men and women make the same decisions. In particular, women who reach top positions are highly selected and they are far from having the "average" female characteristics, while they are more similar to men and will behave similarly. If this is true, we should expect that men and women do not have a different agenda.

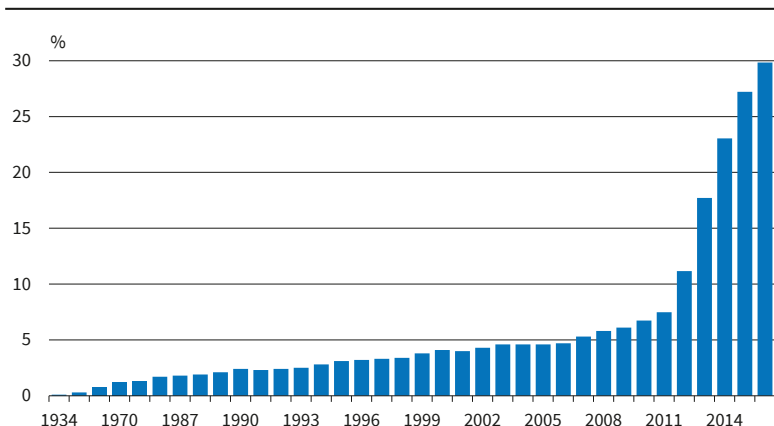
In the following, I will provide evidence that quotas introduced to reduce discrimination may generate efficiency gains, which include a better quality of the institution and the organisation, a positive effect on economic outcomes and performance and a new agenda.

THE QUALITY OF REPRESENTATIVES

A major concern when promoting gender balance in decision-making is that there are not enough women qualified to cover top positions. Thus, having more women in decision-making roles may translate into a lower quality of representatives. In particular, the introduction of mandatory gender quotas which forces a gender-balanced composition risks promoting less qualified women who very likely will perform worse than men.

Figure 2

Percentage of Women on Boards of Listed Companies in Italy, 1934–2016



Source: 1934–1998: Gamba and Goldstein (2009); 1998–2009: Author's elaboration on Consob. © ifo Institute

However, two alternative mechanisms may arise, which may produce a different result: positive selection and positive incentives.

Positive selection means that, as women are typically highly qualified, if they are under-represented because of discrimination, when affirmative action measures force the inclusion of women in certain contexts, the most competent women are appointed at the expense of the less qualified men. Thus, the overall quality may increase. In fact, by reducing the inefficiency losses associated with discrimination, these measures may generate efficiency gains. Even men will be better selected if the pool of candidates enlarges and the competition becomes tougher.

Positive incentives arise if a more balanced leadership induces more women to compete. In an enlarged pool of talents, one is more likely to select appropriate candidates. Thus, a virtuous positive cycle of quality may begin.

In a recent theoretical paper with Conde-Ruiz and Ganuza (2017), we show that quotas may increase the incentives to invest in human capital by the discriminated group (women). This is because the accuracy of individual productivity signals depends on the representation of each group in the evaluation committee: the larger the proportion of one group in the evaluation committee is, the more precise the estimation of productivity of this group is, and then the higher the return of the human capital investment is. Workers who are perceived as being highly productive today are more likely to be involved in future evaluation processes. Thus, if for some exogenous reason one group is initially poorly evaluated, this translates into lower investment in human capital of individuals of such a group, which leads to lower representation in the evaluation committee in the future, generating a persistent discrimination process. This discrimination trap is inefficient because of the lack of investment in human capital by the talented workers (with relative low investment cost) of the discriminated group. Quotas may be effective

to deal with this discrimination trap and restore an efficient equilibrium.

On the empirical side, the relationship between gender equality and the quality of representatives is not easy to establish, because it suffers from the typical endogeneity concern: does the presence of women increase quality? Or does the quality of institutions promote the presence of women? The introduction of gender quotas, both in politics and in business – an exogenous increase of women's empowerment – allows the testing of the causal impact of women's

empowerment on quality. Again, these empirical studies challenge the "common wisdom" according to which measures forcing an increase in women's empowerment have negative consequences on quality.

In the context of politics, in a paper with Baltrunaite, Bello and Casarico (2014), we analyse the temporary adoption of gender quotas in municipal elections in Italy in 1993–1995. The quota requires that neither sex could represent more than 2/3 of the total candidate list. A quasi-experimental set-up emerges, as some municipalities voted in the period in which the quota was in force (treatment group) and some others (control group) did not. Using a difference-in-differences estimate, the paper shows that gender quotas have positive effects on the quality of the elected politicians, measured by years of schooling. Interestingly, the effect comes from having more educated men. In other words, men are better selected in presence of gender quotas. Similarly, Besley et al. (2017) show that the introduction of gender quotas in Swedish local elections produces "the crisis of the mediocre man".

In the context of business, in a paper with Ferrari, Ferraro and Pronzato (2017), we show that the introduction of mandatory gender quotas on boards of directors of listed companies in Italy is associated with a higher quality of board members. Board gender quotas were introduced in Italy in July 2011 and implemented from August 2012, with a first required threshold of 20%. The measure is temporary, and it will expire after three board elections. Sanctions are substantial and culminate in the final dissolution of the board. The paper collects 4627 CVs of board members (men and women) elected in the years 2007–2014 to obtain information on age, gender, state of birth and residence, type of board, position within the board (president, vice-president, CEO, administrator/advisor, auditor), education (university and graduate level), university, field of education, and kinship with other members of the board.

Each firm elects a new board every 3 years. In 2013, firms were randomly allocated into three groups: those

with a board elected under the quota law (i.e. in 2013), those with a board elected before the approval of the law (i.e. in 2011) and those with a board elected in the phase-in period, i.e. when the law was approved but not yet implemented (i.e. in 2012). Table 1 shows differences in average board characteristics among the three groups: quotas increase the share of women, even more than the required 20% threshold. Quotas are associated with more graduate board members, in particular among men. The share of elderly members decreases in boards elected after the quota. These results are particularly meaningful in the Italian context, where female appointments before the quotas were mainly driven by family representation on the board rather than by meritocratic considerations.

These results are confirmed if we follow two cohorts of firms – the first one with board elections in 2007, 2010 and 2013 and the second one in 2008, 2011 and 2014 – and compare outcomes for each firm before and after the introduction of board gender quotas (see Ferrari et al., 2016)

THE PERFORMANCE

A second major outcome of the introduction of gender quotas is the performance of the organisation. Are gender quotas good or bad for performance?

The existing literature provides mixed results. In Norway, Ahern and Dittmar (2012) show that gender quotas are associated with a reduction of firm values, mainly because changes are costly and less experienced people entered the board. However, Eckbo et al. (2017) show different results: the quota does not represent a costly constraint. The Italian case provides different evidence: using an instrumental variable identification strategy, where the introduction of board gender quotas is an instrumental variable for the share of women on boards, Ferrari et al. (2016) shows that gender quotas are not associated with a different performance, measured by the number of employees, profits, ROA, Tobin's Q, and assets. This is probably

Table 1

Board Gender Quotas in Italy. Board Characteristics in 2013

Board Characteristics in 2013		Pre-Reform (Elections in 2011) (1)	Phase-In (Election in 2012) (2)	Post-Reform (Election in 2013) (3)
share of women		10.5	14.6 ***	28.6 ***
more than 20% of women		3.3	4	17.1 ***
% female president		4.9	6	7
% female CEO		1.7	9.1	3.6
% university degree	All	82.8	84	85.7
	Women	77.4	84.6	85.6
	Men	83.2	83.3	85.5
% graduate degree	All	3.9	4.7	7.4 ***
	Women	9.5	6.8	9.6
	Men	3.5	4.6	6.9 ***
% study abroad	All	2.6	3.4	2.4
	Women	3.8	5.4	4.4
	Men	2.6	3.1	1.7
% degree in economics	All	57.7	58.8	56
	Women	42.1	51	54
	Men	58.7	58.7	55.9
% degree in law	All	9.8	9.7	11.2
	Women	9.7	13.2	13
	Men	9.7	9.2	11
field diversity		0.7	0.6	0.6*
% older than 60	All	39.8	36.3	35.6
	Women	18.4	17	12.3
	Men	42	38.8	45.6
% older than 70	All	21.4	15.6**	12 ***
	Women	5.9	3.1	4.3
	Men	23	17.2**	15.2 ***
% family ties within the board	All	4.5	7.5**	6.1
	Women	12.7	14.1	5.2*
	Men	4.2	6.9 **	6.5
average number of positions	All	1.3	1.3	1.3
	Women	0.8	0.8	0.8
	Men	0.8	0.8	0.8

Note: T-test of the differences between the average members' characteristics in 2013 with respect to the pre-reform status quo. *p<0.10, **p<0.05, ***p<0.01

Source: Ferrari, G., Ferraro, V., Pronzato C. and Profeta, P. (2016).

because the period of observation is too short. When in fact short-term outcomes are considered, for example stock market returns, gender quotas are associated with positive effects: gender quotas reduce the variability of stock prices.

During the financial crisis, Christine Lagarde said that if Lehman Brothers had been Lehman Sisters, we would have observed less dramatic consequences of the financial crisis. Then, she qualifies that “Brothers and Sisters” is the more efficient leadership. This very suggestive view, which refers to the literature on diversity management, has become very popular. Yet it still needs to be tested empirically, since, as we explained before, it is very hard to identify the causal effect of women on outcomes (see Adams, 2016 on this point).

THE AGENDA

By increasing female representation in decision-making positions, gender quotas may also be related to the introduction of new topics of discussion, less-explored issues and to re-orient expenditures and/or investments towards categories which were traditionally neglected. In sum, we can observe the emergence of a new agenda.

If the new agenda has a positive economic impact, this is another channel through which gender quotas are associated with beneficial economic effects.

In public policy decisions, for example, women leaders take responsibility for social issues, welfare, health, and education more than men, and expenditure in education is particularly relevant for growth-enhancing effects. Research that assesses the causal role of women on setting the policy agenda and the consequent effects on economic outcomes, however, is scarce and mainly limited to developing countries (Chattopadhyay and Duflo, 2004 and Clots-Figueras, 2011 for India; Brollo and Troiano, 2016 for Brazil). For developed countries, the (little) existing evidence is not conclusive. Funk and Gathmann (2015) find that in the Swiss direct democracy, women support the allocation of larger expenditures on health and environmental protection. Ferreira and Gyourko (2014) instead find that having a female mayor in the United States does not change policy outcomes, such as the size of local government, the composition of municipal spending, employment or crime rates.

In a recent study with Baltrunaite, Casarico and Savio (2017), we show that the increase of women in Italian municipal councils due to a new policy (which combines gender quotas on candidate lists with double preference voting conditioned on gender) is not associated with a change of the size of local spending, while we find mild evidence of a change in the expenditure allocation. We find some preference in expenditure for the protection of the environment, which is in consistency with a female's stronger long-term orientation.

CONCLUSIONS

The 2030 Agenda for Sustainable Development launched by the UN and adopted in 2015 includes the following fundamental goal: to “achieve gender equality and empower all women and girls”. The European Commission states that “Gender equality is a fundamental right, a common value of the EU, and a necessary condition for the achievement of the EU objectives of growth, employment and social cohesion” (EU Commission).

Women's empowerment is a critical issue, one where progress has so far been slow and where room for improvement is large. More attention has to be concentrated on gender issues, both by researchers and policy-makers. Gender quotas are not a magic recipe, able to solve the gender gap problems. However, the

introduction of gender quotas, even temporary, may be useful to push women's empowerment without substantial economic costs. In certain circumstances, they may also be associated with beneficial outcomes: better quality of the representatives, better performance and an enriched agenda.

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