JOHN FORTH
City, University of London, UK, and IZA, Germany
NIKOLAOS THEODOROPOULOS
University of Cyprus, Cyprus

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World of Labor
Evidence-based policy making

Employers and the gender wage gap

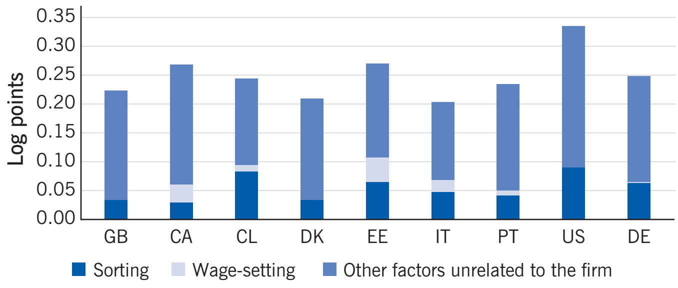
Sorting across workplaces, and unequal rewards within them, are major causes of the gender wage gap

Keywords: sorting, bargaining, discrimination, promotion, motherhood, flexibility

ELEVATOR PITCH

In most developed countries, women have closed the gap in educational attainment and labor market experience, yet gender wage gaps persist. This has led to an increased focus on the role of employers and employment practices. In particular, research has focused on the types of workplace where men and women work, their promotion prospects and the extent to which they are rewarded differently for similar work. Understanding the relative importance of these features, and the mechanisms that generate them, is necessary to design effective policy responses.

Contribution of firm-specific factors to the gender wage gap



Note: Wage-setting component not identified for Great Britain, Denmark or USA. In Germany, it is identified but very small.
Source: Authors' own calculations based on studies identified in the Additional references.

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KEY FINDINGS

Pros

- Analysis of Linked Employer-Employee Data (LEED) has shown that gendered sorting across firms, and the unequal distribution of rewards within them, can each account for substantive portions of the gender wage gap.
- Some noticeable patterns with respect to the gender wage gap arise from gender differences in preferences for particular types of jobs or reward packages, but there is also evidence of bias in managerial decisions.
- Increasing the degree of transparency and accountability within organizations is effective in reducing managerial bias in hiring, promotion decisions and pay setting.

Cons

- Diversity training has a limited impact on managerial behavior, and should be accompanied by other organizational initiatives to create a level playing field.
- The gender wage gap is particularly large for women with caring responsibilities, caused in part by a lack of flexibility in many jobs.
- Generous family-friendly policies can be counter-productive in terms of the gender wage gap, unless accompanied by a redistribution of caring responsibilities from women to men.

AUTHOR'S MAIN MESSAGE

The demand side of the labor market contributes to the gender wage gap through the sorting of women into low-wage firms and through pay-setting behavior which leads some women to be paid less over their careers than their male co-workers. Policies that increase transparency and accountability in managerial decisions are effective in reducing unequal treatment. However, equally important are policies which remove the barriers to combining work with caring responsibilities.

MOTIVATION

Despite progress in reducing wage differentials between men and women, gender pay gaps persist across a wide range of developed countries. Historically, differences in human capital – educational attainment and labor market experience – were a major cause, but these differences have become smaller and now tend to explain less than half of the raw gender wage gap. Attention has, therefore, turned increasingly to the structure of the demand side of the labor market and the actions of employers.

Women are sorted into less well-paid jobs and firms. Research also identifies differences in the wages of male and female co-workers, drawing attention to the ways in which careers are shaped and pay is determined within firms. Some of these gender differences in sorting and pay setting may arise through employer discrimination. Numerous research studies – and legal cases – indicate that discrimination does take place in some firms, either at the point of hiring or in the subsequent process of wage renegotiation. Research also identifies gender differences in job search and career patterns, related to preferences for particular types of work or working conditions. However, social norms shape preferences and expectations about gender roles in ways that affect the opportunities that men and women are offered – or are supported to take on – within firms. These subtle barriers affect mothers' careers in particular.

DISCUSSION OF PROS AND CONS

Employer contributions to the gender wage gap: sorting and wage-setting

Researchers are increasingly taking advantage of Linked Employer-Employee Data (LEED) to show that women are less likely than men to be employed in high-wage firms. Studies also show that women tend to capture a different share of the firm-specific surplus than their male co-workers. The illustration on p. 1 presents the results of six studies that are able to show the contribution of these sorting and wage-setting components of the gender wage gap, and a further three studies that indicate the sorting component only. Collectively, these studies indicate that firms make a substantive contribution to the gender wage gap. Sorting tends to account for the larger share of that contribution, but wage-setting also plays a role. It is thought that differences across countries in the relative contribution of sorting and wage setting are due to differences in institutions (e.g., unionization rates, minimum wages, collective bargaining), although this hypothesis has yet to be formally tested.

Sorting mechanisms: preferences, monopsony power and hiring discrimination

Preferences

The distribution of women and men across firms is partly shaped by preferences for particular types of work, which in turn is partly shaped during schooling. In particular, research finds that gender differences in the probability of taking a STEM (science, technology, engineering, and mathematics) major are not primarily due to differences in ability, but more related to preferences. In addition, among those who take a STEM major, women tend to study less math-intensive subjects, which leads them to be more likely to opt-out of a STEM career [1]. If STEM jobs are more likely to be found in firms that operate at the technology frontier, where firms are likely to offer higher wage premia, this will contribute to the sorting component of the gender wage gap.

Gender differences in preferences over the working environment may also shape the gender distribution of employment across firms. A review of cross-country evidence indicates that women with children have preferences for flexible working hours, atypical work arrangements, family friendly policies, shorter commutes, and sort into the service sector in order to increase their comparative advantage [2]. These preferences for jobs with the above characteristics contribute to the gender wage gap through compensating wage differentials.

If the choices of women over particular occupations or fields of studies are rational, reflecting different skills or preferences, no corrective action is needed. However, preferences may be socially constructed through gender stereotypes and may also be shaped by constraints in the labor market.

Monopsony

Instead of trading off wages for other workplace amenities, women may sort into lower wage workplaces because there are labor market frictions which limit their choices. In such cases women have less opportunities than men to join high-wage firms. Research finds that one-third of the gender pay gap is due to monopsony, suggesting that employers have substantial market power over their employees [3]. Further research using LEED finds that most of this monopsony effect arises through across-firm sorting (rather than gendered wage setting within firms). In short, male-dominated firms tend to operate in more competitive labor markets, giving them less power to push down wages. In the aforementioned study using LEED, differences in labor market frictions led to 3.3 % lower earnings for women; 60 % of this differential could be explained by the higher mobility penalties experienced by women as a result of marriage and children.

Hiring

One way in which employers may affect sorting via the hiring process is through the use of gendered language in job advertisements. Experimental studies show that job advertisements are less appealing to women than men when they are constructed to include words associated with male stereotypes (e.g., “dominant firm”, “competitive environment”, “confident attitude”). Organizations can mitigate this effect on job search by using gender-neutral language.

Hiring decisions may also have a gendered component, however. A study of the hiring practices of low-priced versus high-priced restaurants shows that employers value men and women differently. Other non-experimental research tests for sex-biased hiring and finds that the adoption of blind auditions by symphony orchestras increased the probability that a woman would advance into the next round.

At the shortlisting stage, recent correspondence studies do not find evidence of gender differences in employer contact rates, nor do they find evidence in favor of female job applicants. However, there are variations in terms of hiring discrimination for some groups [4]; married women with no children or young children have lower call-back rates than those who are single or married with older children, at least for part-time jobs. These patterns indicate that employers are concerned about the risk of pregnancy and impact of childcare, particularly when women signal potential work-life conflicts by selecting into part-time work.

One way to reduce discrimination in hiring decisions is through anonymous job applications. These shift the recruiter’s attention towards the applicants’ qualifications and skills. Evidence suggests that standardized application forms that limit the collection of personal details are more cost-effective than redacting information from CVs. However, since candidate identity or characteristics cannot stay hidden in later stages of hiring, other methods are also required. Many studies show that structured interviews and ability tests are effective in creating a level playing field for applicants.

Managerial decision-making within the firm

It is usually impossible to come to a definitive conclusion (outside of experimental studies) as to whether an employer is discriminating between employees on the basis of gender after appointment, because of the difficulty in fully controlling for differences in employee ability and performance. However, many observational studies show that the gender wage gap is smaller within firms where a higher share of the decision makers are female. Surveys, also show that having a female manager is associated with lower levels of perceived gender discrimination among female employees. Such findings are consistent with the idea that some managers may exhibit gender bias in their decisions. And so, it is important to pay close attention to how the employment relationship develops post-hiring.

Task allocation

Within organizations, it has long been known that men and women with similar levels of human capital sort into different types of occupations. In one study of a grocery chain, occupational segregation – whereby some entry-level jobs were assigned almost exclusively to women and others to men – accounted for around 95% of the variation in wages among hourly-paid workers. However, men and women in the same occupation are not always undertaking the same work, even when they have the same job title, and gender differences in task allocation can contribute to differences in pay.

A number of studies have shown that female employees are more likely than men to engage in low-promotability tasks (e.g., committee work), and experimental evidence indicates that such disparities are not wholly voluntary, but are partly due to differences in what men and women are asked to do by their managers. Female employees may also be assigned by managers to lower value projects or clients. In one study of stockbrokers, women were assigned to accounts with weaker sales histories, yielding fewer sales opportunities, and hence creating gender disparities in sales commission [5]. Such differences do not always explain pay gaps however: a similar study of lawyers found no evidence that case assignment affected gender differences in billed hours and new client revenue.

Evidence on the contribution of task assignment to the gender wage gap remains limited to a small number of single-firm studies and experiments. The inclusion of questions on task content within LEED data would go some way to addressing this gap in research evidence.

In terms of solutions, progress is likely to come from greater transparency in the allocation of tasks within job cells, along with clear rules for how work is to be distributed and compensated. Such actions have been shown to be associated with reduced perceptions of inequitable and unfair workloads in university departments.

Performance evaluation and promotion

Many studies provide evidence of gender differences in promotion to higher-paid positions [6]. Whilst some studies are able to explain these differences through performance differentials, others cannot. This suggests that women's performance may be evaluated to a higher standard than that of male co-workers in some organizations, creating a "glass ceiling".

There is some indication of this from within academia, where evidence suggests that female authors must produce research papers of higher quality than male authors in order to get published. Female academics also receive less credit than men for their contribution to joint-authored papers, whereas there are no gender differences in rewards for sole-authored papers. This suggests that women may receive less credit for team outputs when employers cannot perfectly observe their individual contribution. The gendered evaluation of teamwork is potentially an important contributor to gender wage gaps, since teamwork is an increasingly prevalent aspect of production or service delivery in many sectors of the economy.

Performance evaluation may also be gendered in its treatment of mistakes. A study of financial advisers focused on the career implications of misconduct, comparing male and female advisers working at the same firms [7]. Controlling for differences in the nature of misconduct and advisor productivity, the researchers found that female advisers were 20% more likely to be dismissed, despite engaging in misconduct that was 20% less costly. This aligns with other evidence on gender differences in the evaluation of surgeons when patients die in their care.

Other subtle factors may also be at work. In many organizations, employees are required to put themselves forward for promotion. However, women tend to have less confidence in their own ability, lower tolerance for risk and less appetite for competition. The gender gap in self-confidence has been shown to be particularly large when facing male-dominated tasks. Together, these psychological differences are likely to mean that female employees will be less willing to seek promotion than their male colleagues, particularly when the promotion governs entry to managerial roles, which remain male-dominated in many organizations.

Organizations may also offer different levels of support to male and female employees. Studies in various sectors have found that managers or supervisors are more willing to give development opportunities to male subordinates. This may have consequences for performance evaluation outcomes and promotion prospects.

One possible solution to these problems is to increase the share of female decision-makers, perhaps through the introduction of quotas for managerial positions. However, this may not prove effective because some evidence suggests that female evaluators also hold women to higher standards. Instead, organizations should focus on the context within which a manager undertakes a performance evaluation or makes a promotion decision. They should be transparent and specific about the criteria for evaluation, and not rely on employees' self-nomination for promotion. They should also increase accountability by requiring managers to report and explain their decisions to other managers within the firm. Similar principles can be applied to the provision of development opportunities.

Gendered wage setting

In terms of the process for wage setting itself, a key consideration is the degree of discretion held by employers or managers. The association between the gender wage gap and the gender of managers is found to be particularly strong when there is a discretionary element to pay setting via performance-related pay. This result may derive, in part, from gender differences in performance evaluation, as discussed earlier. However, studies also find that women may receive lower wage increases than men for the same performance evaluation. Some element of this difference may be attributable to gender differences in negotiation skills.

In some countries, where minimum wage laws exist, the employer should have no discretion over the wage that is paid to the lowest-skilled workers. Accordingly, the gender pay gap tends to be lower in countries with higher wage floors, since women are disproportionately located in lower-paid jobs. Collective bargaining between employers and trade unions can also reduce employer discretion by establishing the going rate for a job and by tying deviations to productive characteristics such as experience. Studies in the US and Germany find that the gender wage gap is smaller in workplaces covered by collective bargaining. And in Germany, the decline of collective bargaining has led to an increase in the gender wage gap. There is also quasi-experimental evidence that the removal of collective bargaining for some school teachers in the US led to increases in gender wage differentials [8]. However, it is difficult to tell from these studies how important collective bargaining might be in narrowing the gender wage gap in other settings, because much depends on who is covered by the collective agreement and the strength of any wage effects.

Whilst minimum wages and collective bargaining can therefore reduce the gender wage gap by setting rules that govern pay determination, policy makers can affect employers' wage setting behavior in other ways, by creating mechanisms to enhance transparency and accountability. In a longitudinal study of performance-reward decisions in one organization, the gender gap in performance-related rewards narrowed after a committee was set up to monitor reward decisions and reward criteria and outcomes were made more transparent [9]. A number of countries have introduced reforms in recent years that require organizations to report gender pay discrepancies – a form of pay transparency – and evaluations of these reforms generally support the notion that greater transparency reduces the gender wage gap [10].

Motherhood wage penalty and the cost of flexibility

The motherhood wage penalty is well documented and varies over time and across countries. For instance, evidence from France suggests that mothers who experience a birth also experience a 2.2% hourly wage disadvantage per child, although this effect is non-linear in the rank of birth since the loss at the first child is 4.7% [11]. Evidence from Germany suggests that mothers who have taken an employment break compared to females who continue to work with the same employer experience a wage penalty of 19%, whereas evidence from the Scandinavian countries suggests that the long-run motherhood wage penalty ranges between 10% and 20%.

There are many mechanisms that lead to the motherhood wage penalty. Studies tend to suggest that the main causes are human capital depreciation due to time out of work and lower hours of work associated upon returning to work (e.g., working part-time) [11]. The limited availability of jobs with flexible hours of work, household specialization based on relative earnings or relative education levels of the spouses, and sorting into lower wage growth firms also play a part. One mechanism for the perpetuation of the motherhood wage penalty is the importance of the social norms in affecting female labor supply. For instance, evidence suggests that women who grow up in traditional families with a male breadwinner and a female homemaker face large child penalties when they themselves become mothers, suggesting that child penalties are influenced by female gender identity formed during childhood.

In terms of solutions, the motherhood penalty could be reduced by lowering the cost of childcare, especially for mothers with low earnings potential, and by addressing the long-hours culture and reducing the penalties associated with part-time work. The difficulty of reconciling full-time work with the length of school day leads women to reduce their labor supply both at the extensive margin (leaving the labor market) and at the intensive margin (reduce working hours by switching from full-time to part-time work). But there is also a need to reduce gender differences in family-friendly provisions, since employers may be less likely to hire women because they may fear that women would be absent for long periods or use expensive benefits. Technological advances and the expansion of hybrid working following the COVID-19 pandemic have increased opportunities to combine family and work responsibilities via increased home working life and a career.

Social networks and social capital

Some part of the gender wage gap can also be attributed to gender differences in social network structures within firms. Men are likely to have larger networks than women and this has been found to enhance labor market productivity in uncertain environments with potentially high but risky returns. Women, in contrast, tend to have smaller networks, but with stronger connections that lead to better performance in stable environments.

One innovative study of a large commercial bank identified the causal impact of social interactions on promotion rates through the rotation of managers and the smoking status of managers and employees [12]. The study found that, when employees have face-to-face interactions with their managers during shared smoking breaks, they move up to a higher pay scale. This benefit is found only for men and can explain one third of the gender gap in promotions within the bank.

Mentoring has also been found to be important in helping women to stay at their jobs and proceed up the job ladder. Research from the academic market suggests that junior female economists who were randomly assigned to senior female economists were more likely to stay in academia and attain permanent positions. This was achieved through increases in publications and in grants obtained, or through role modelling, networking and information sharing that continued after the mentoring program. The results from this study suggest that mentoring is an effective way to support the careers of young female employees.

LIMITATIONS AND GAPS

The existing research shows that the demand side of the labor market is of substantive importance in understanding the gender wage gap. LEED has been particularly valuable in identifying the relative importance of sorting across firms and pay inequality within them, but is not available in many countries. Large-scale household surveys are more readily available, and have proven particularly informative in indicating the scale of the motherhood wage penalty, but such surveys cannot delve far into the nature of the employment relationship. Moreover, most of the available large datasets lack detailed information on important contextual factors, such as employee's preferences and performance levels. Without this information, it is difficult to determine the scale of employer bias.

For now, some of the best evidence to understand the role of employers in the gender wage gap comes from detailed analysis of personnel data and personnel practices within individual organizations (so-called "insider econometrics"). Experimental designs have also proven helpful in identifying the gendered nature of managerial and employee decision-making or behavior, particularly in respect of hiring and performance evaluation. However, it is challenging to persuade organizations to participate in such studies, and so there are relatively few examples. The lack of randomized controlled trials of organizational reforms to reduce the gender wage gap is a particular weakness. The growing interest in evidence-based management may increase opportunities for controlled trials and quantitative case study research in the future.

SUMMARY AND POLICY ADVICE

As gender gaps in educational attainment and labor market experience have closed, those seeking to understand the gender wage gap have increasingly turned to the structure of the demand side of the labor market and the actions of employers. Studies using LEED show that an important explanation of the gender wage gap is that women are sorted into less well-paid jobs and firms. The demand-side contribution to the gender wage gap is not purely down to sorting though. Research also identifies differences in the wage returns that women and men receive for their human capital within firms. Mothers experience particularly large wage penalties, which have both a sorting and a wage-setting component.

Some part of the difference in outcomes can be attributed to employees' preferences for particular types of work or working conditions. If these are true preferences, then no reforms are needed. However, preferences are often socially constructed, for instance by social norms about the household division of labor, and the resulting constraints may affect how women are treated by employers. There is also persuasive evidence of gender bias on the part of managers across a range of personnel processes. Diversity training can have some small impact in reducing managerial bias. However, individual-level initiatives are not sufficient; reforms are also needed at the organizational level.

To ensure that managerial bias does not contribute to gendered sorting across organizations, firms can de-bias their hiring processes through the use of gender-blind applications, structured interviews and ability tests. They can also promote gender diversity in the applicant pool by using gender-neutral language in job advertisements. However, at the societal level, action is also needed to shape educational and occupational choices.

Studies of individual firms, and policy reforms, indicate that greater transparency and accountability are effective in reducing managerial bias within the firm. Organizations should develop rules for how work is to be distributed and compensated, have specific criteria for performance evaluation and promotion, and be clear about the criteria that merit bonus payments. Organizations should also increase levels of accountability by requiring managers to report and explain their decisions to other managers.

Organizations should also support women's career progression by not relying on employees to put themselves forward for promotion, by providing flexible working arrangements to all employees and by ensuring fair levels of performance support via mentoring. Where the burden of service work falls on women, organizations should ensure that it is appropriately rewarded.

The incentives for organizational action can come, in part, from government via legislation to promote gender transparency. Policy makers also need to affect the gendered division of labor in the household, by encouraging a more equal allocation of time to caring responsibilities. It is particularly important that they avoid gendered policies which unintentionally reinforce existing patterns.

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Competing interests

The IZA World of Labor project is committed to the *IZA Guiding Principles of Research Integrity*. The authors declare to have observed these principles.

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Online extras

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