

Labor Digitization and the Gender Gap

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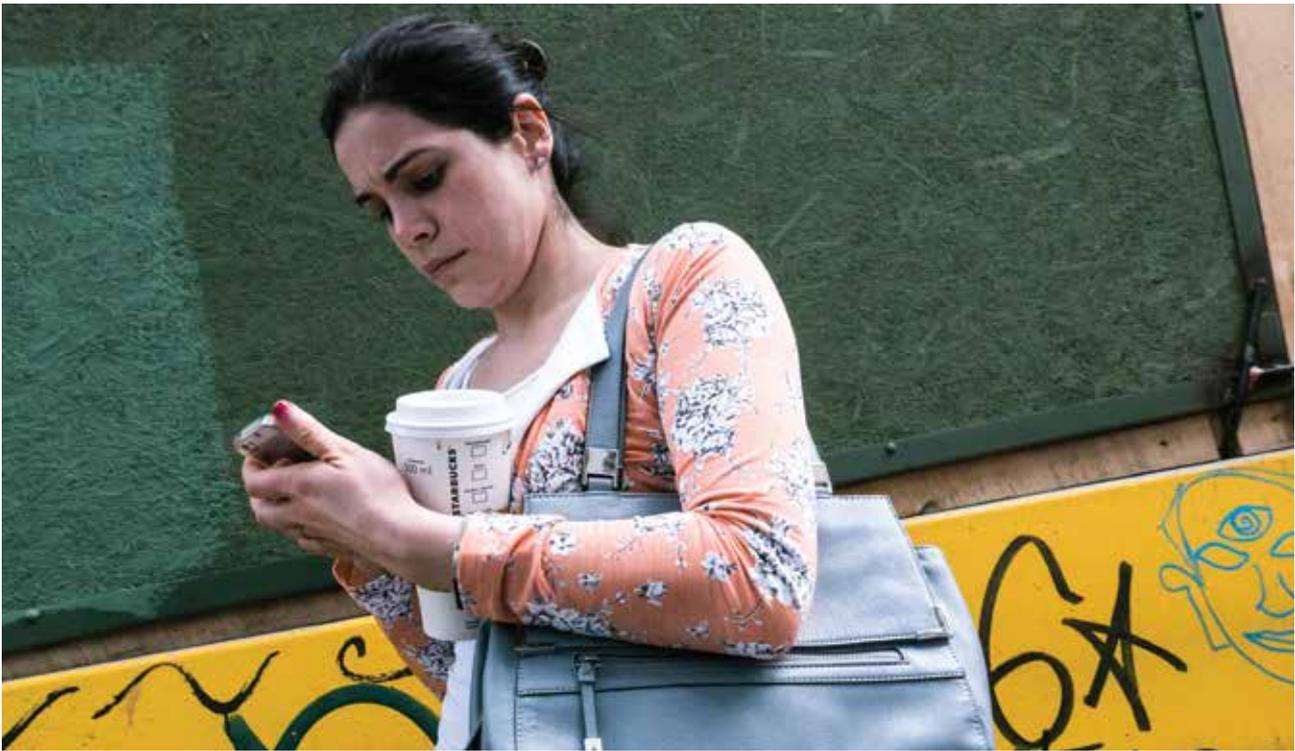
How will the ongoing transformations associated with automation and the digitization of work affect opportunities for women in labor markets? In particular, will they help reduce existing gender gaps in labor market participation, career development and wages? The evidence we have to date suggests a mixed picture.

Automation has so far affected mostly male-dominated sectors such as manufacturing and agriculture (OECD, 2017). However, advances in artificial intelligence in combination with modern robotics are now threatening to automatize middle-skill jobs that were previously considered too complex for non-human execution. While this is likely to impact industries that are also male dominated (e.g., transportation), other sectors at risk of automation heavily skew female (e.g., retail and customer relations).

A related trend is the growth in the share of jobs that require “people skills,” which involve the ability to interact with, care for and motivate others. Some studies suggest that the digitization of work has accelerated this trend, and that gender differences in psychological attributes will favor women in such contexts (Borghans et al., 2014). However, persistent sorting into different careers will also result in women benefiting less from new, higher-paying job opportunities in STEM-related occupations.

The platformization of work is similarly double-edged. Flexible arrangements associated with online labor platforms may benefit women by improving opportunities to balance paid work and other responsibilities that disproportionately fall on women, particularly in the Global South (e.g., unpaid childcare and housekeeping). There is evidence from the US that gender pay gaps are lower in industries with more flexible work arrangements (Goldin, 2014). At the same time, the gig economy may lock women into low-wage sectors and precarious labor arrangements with limited opportunities for long-term career development.

Scholars have long debated how much of the observed gender gaps in labor markets can be attributed to discrimination. The short answer: it’s not clear. In the past, gender differences in labor force participation and human capital factors could be used to explain much of the observed gaps (Blau and Khan, 2017). As these differences narrowed (or reversed in some cases), the literature began to look into differences in career preferences and psychological attributes (Bertrand, 2010). Women themselves are partly to blame, some suggest, because they are less likely to negotiate salaries and promotions (Babcock and Laschever, 2013). Are we likely to see a continuation of these patterns as automation and digitization transform the nature of work?



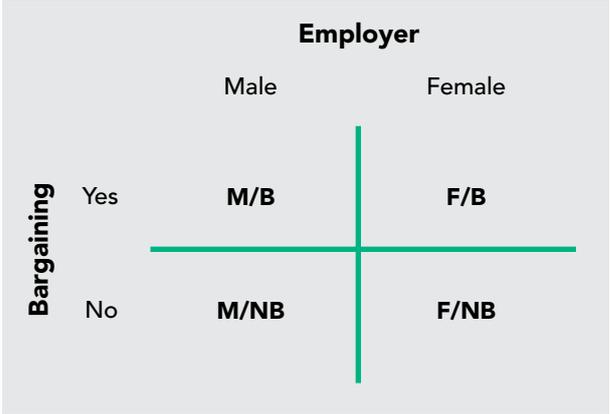
Gender discrimination in the gig economy: A field experiment

Discrimination in the labor market has proven notoriously difficult to study. Even well-crafted correspondence studies, in which researchers send otherwise identical resumes to real job openings and compare call-back rates for men and women, only tell part of the story. In particular, a fundamental missing piece is the gender of the employer. What if call-back rates also depend on whether the person screening candidates is man or a woman? Further, do gender stereotypes also put women at a disadvantage as employers? Could this help explain why women lag behind in business ownership and are significantly less likely to become entrepreneurs?

To help answer some of these questions, we designed the following field experiment: we invited 2,800 freelancers in Nubelo, a large online platform for short-term contracts based in Spain, to apply for a job (to transcribe an hour-long marketing video).¹ The invitation was identical and came from the same employer (a fictitious marketing services agency), except that in half of the cases (selected at random) the invitation was sent using a female name (“María”), while in the other half the invitation was sent using a male name (“José”). We also introduced a second manipulation: in half of the cases,

freelancers were asked to name their price for the job (“bargaining context”), while in the other half freelancers were invited to apply but the contract price was fixed (“non-bargaining context”). Figure 1 illustrates this 2x2 experimental design.

Figure 1. Experimental Design



We focus on two main outcomes: first, the response rate to our invitation in the different experimental treatments; second, the price (or bid amount) received in each case. We further disaggregate results by gender of the freelancer, in order to capture the worker-employer gender interactions at work.

¹ Nubelo has since been acquired by Freelancer.com.

Do women avoid bargaining contexts?

Contrary to findings in traditional employment contexts, our results reveal no statistically significant differences in gender preferences for bargaining in the context of online employment. Female freelancers were as likely as male freelancers to respond to our price bargaining scenario (Figure 2). Further, whether the invitation came from a man or a woman made no difference in their willingness to bargain. In other words, as long as the rules of the game are clear, women are willing to bargain as much as men, and the gender of the bargaining party does not seem to affect this result.

Figure 2. Response rates by gender



However, where men seem to get the upper hand is in the non-bargaining context. How is this possible? Because men are more likely to break the rules and offer to do the job for less in response to our fixed-price invitation. This

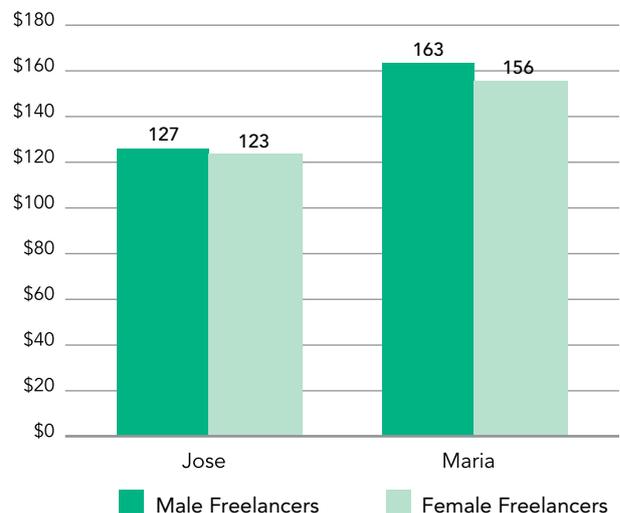
is consistent with studies which show that men are less averse to risk and more willing to negotiate under ambiguity (Leibbrandt and List, 2015). Not surprisingly, this is particularly true when the bargaining party is also male. In other words, women do not avoid negotiations; the invisible male advantage comes into play when the market design allows (and potentially rewards) rule-breaking.

Women don't ask for less, but are asked for more

Some studies suggest that the gender wage gap is partly explained by the fact that women ask for less in salary negotiations (Save-Soderbergh, 2007). Once again, our results contradict these findings. In the context of online hiring, we do not find evidence that women ask for less than men (the small differences in Figure 3 are not statistically significant). Further, the gender of the employer does not alter this basic result. Women ask as much as men do, whether bargaining with a male or a female employer.

However, the results reveal that Jose, our male employer, received significantly lower bids than Maria, our female employer. In other words, women are asked for more from prospective workers to complete the exact same job (about 27% more in our experiment). When controls are introduced for differences in the characteristics of the job applicants, this penalty against female employers remains essentially unchanged. More interestingly, this result holds regardless of the gender of the freelancer.

Figure 3. Bid amount (bargaining treatment only) by employer gender





Gig economy: A gender perspective

There is much that remains to be understood about how automation and the gig economy are affecting gender differences in labor market participation, entrepreneurship and wages. In particular, there is a remarkable lack of evidence for countries in the Global South, where a combination of economic, legal and cultural factors tends to widen gender disparities in labor outcomes (Sorgner et al., 2017).

The results from our field experiment suggest that some of the mechanisms used to explain gender gaps in traditional labor contexts need to be reconsidered in the context of online employment. In particular, there is no evidence that women avoid negotiations or ask for less. Rather, we find evidence that women are asked for more. In our experiment, this resulted in our female employer having to pay a premium of about 27% relative to our male employer. Our preliminary hypothesis is that this is explained by gender stereotypes about women being less capable and less willing negotiators. Future research will be needed to validate these results and detect the mechanisms at work.

As we look into the future of work, there are many reasons to believe that digitization can contribute to gender

equality in labor markets. At the same time, there are also reasons to be cautious, particularly if traditional worker-employer relations are increasingly replaced by platform-mediated transactions that fall outside existing anti-discrimination law. The truth is technology, ultimately, extends our capabilities as human beings. But, unfortunately, it does not change our biases and prejudices.

References

- Babcock, L. & Laschever, S. (2013). *Women Don't Ask: Negotiation and the Gender Divide*. Princeton: Princeton University Press.
- Bertrand, M. (2010). New Perspectives on Gender. In O. Ashenfelter, & D. Card (Eds.), *Handbook of Labor Economics* (pp. 1545-1592). Amsterdam: Elsevier.
- Blau, F., & Kahn, L. (2017). The Gender Wage Gap: Extent, Trends, and Explanations. *Journal of Economic Literature* 55(3): 789-865.
- Borghans, L., Ter Weel, B., & Weinberg, B. (2014). People Skills and the Labor-Market Outcomes of Underrepresented Groups. *ILR Review* 67(2): 287 – 334.
- Goldin, C. (2014). *A Grand Gender Convergence: Its Last Chapter*. *American Economic Review* 104 (4): 1091-1119.
- Leibbrandt, A., & List, J. (2015). Do Women Avoid Salary Negotiations? Evidence from a Large-Scale Natural Field Experiment. *Management Science* 61(9): 2016-2024.
- OECD (2017). *Going digital: The future of work for women*. Paris: OECD.
- Save-Soderbergh, J. (2007). *Are Women Asking for Low Wages? Gender Differences in Wage Bargaining Strategies and Ensuing Bargaining Success*. SOFI Working Paper 7, Stockholm University.
- Sorgner, A., Bode, E., & Krieger-Boden, C. (2017). *The effects of digitalization on the gender equality in the G20 economies*. Kiel Institute for the World Economy.