

8-28-2023

## Gender Gaps in Employment and Earnings after Job Loss

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### Citation

Ivandić, Ria and Anne Sophie Lassen. 2023. "Gender Gaps in Employment and Earnings after Job Loss." Policy and Research Brief. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/pb2023-60>

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# POLICY BRIEF

## Gender Gaps in Employment and Earnings after Job Loss

Ria Ivandić and Anne Sophie Lassen

### BRIEF HIGHLIGHTS

- *Job loss leads to persistently lower earnings and higher unemployment, but little is known about gender differences.*
- *Focusing on workers who lost their job due to a plant closure, we examine gender gaps and disentangle the role of child care responsibilities, experience, and education.*
- *We find that women face a 40–45 percent greater risk of unemployment and lower earnings in the first two years after job loss.*
- *The majority of the gap remains even when we compare men and women with similar labor market experience and socioeconomic characteristics.*
- *The gender gap for unemployment risk is more than twice as large when the workers have children.*
- *If these differences by presence of children did not exist, the earnings gender gap would be half as large, and the employment gender gap would be one-third smaller.*

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For additional details, see the full working paper at [https://research.upjohn.org/up\\_workingpapers/387/](https://research.upjohn.org/up_workingpapers/387/).

Research has long established that job loss leads to lower earnings and a higher risk of unemployment. However, we know little about how recovery from a job loss differs for women and men. Many job-loss studies exclude women from the analysis or pay scant attention to gender differences. To fill this gap, we directly investigate gender gaps following job losses and disentangle the roles of child care and human capital.

More specifically, we use administrative data from Denmark to track the employment and earnings of individual workers following plant closures that triggered job losses. We compare workers who lose their job to matched control workers of the same gender. We find that both men and women face an increased risk of unemployment and substantial earnings losses after their job had been displaced. However, in the first two years, women's unemployment risk and earnings losses are 45 percent greater than men's. Gender gaps are particularly large among parents and among workers with little formal education.

Prior to losing their job, women and men have different labor market histories and sociodemographic characteristics. We therefore estimate conditional gender gaps in which we match men and women who look similar on these characteristics. We find that the conditional gaps are smaller, but never fully close. Digging deeper, we examine which characteristics can explain the gender gaps. Education and predisplacement earnings are important drivers. Additionally, while men and women are almost equally likely to be parents, the impact of children is strikingly different. If men and women were equally affected by small children, the gender gap in earnings would be halved, and the employment gap would shrink by one-third.

Our research points to two relevant implications. First, excluding women from analyses of job loss (or other disruptions) can lead to an incomplete picture of its economic effects. Second, the gender gap after job loss is large, and a likely mechanism is that child care responsibility prevents women's adjustment to labor market shocks.

### Background

Many workers become unemployed at some point during their lifetime, and research has shown that such job loss can lead to persistently lower earnings and higher unemployment (Jacobson, LaLonde, and Sullivan 1993)—at least for men. With more women working today than in the past, their risk of job loss has increased, yet we know little about gender differences in labor market recovery following job loss.

We address this shortcoming by investigating the effects of job loss on future labor market outcomes for both women and men. To do so, we use high-quality administrative data from Denmark that covers all employment relationships, including information matching workers to firms. We also observe background information on each individual, such as their labor market experience, education, and family characteristics. This allows us not only to estimate gender gaps following displacement, but also to attribute how much of the gender gap is associated with child-related factors and how much is connected to differences in labor market experience.

Gender Gaps in Employment and Earnings after Job Loss

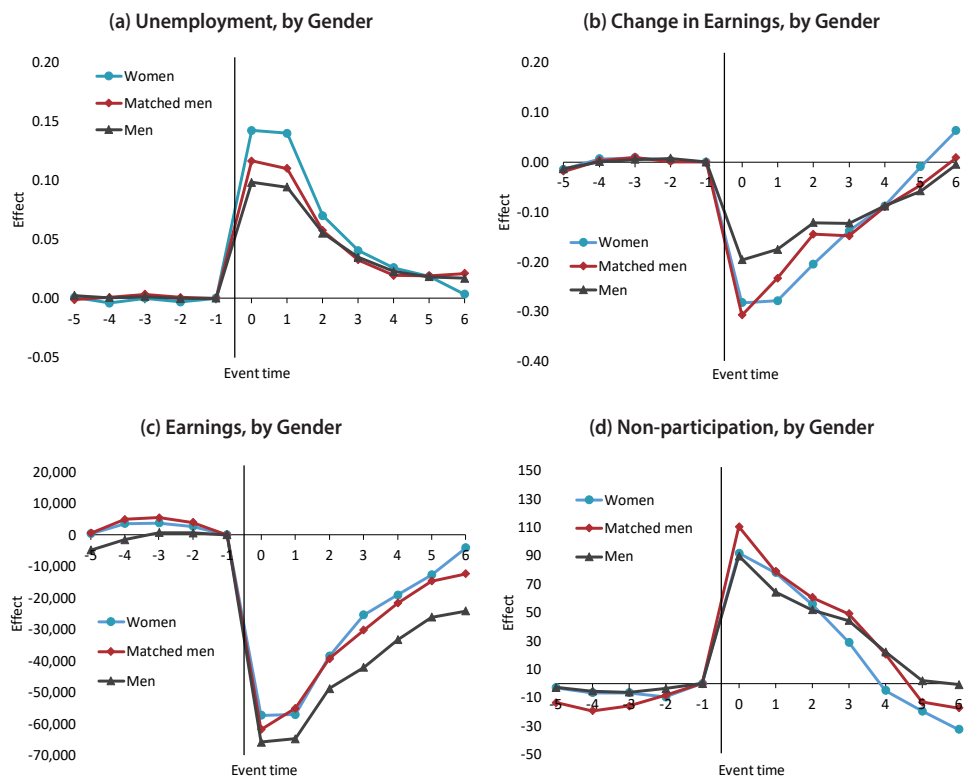
Women on average experience a 45 percent higher risk of unemployment than men in the two years after losing their job.

We focus on job losses from manufacturing plant closures, which reflect circumstances beyond the individual worker’s control. We study men and women who were employed at a plant that closed between 1995 and 2006 and that had been employed at that plant at least one year before its closure. We compare the evolution in these displaced workers’ earnings, risk of unemployment, and nonparticipation to similar workers, matched on sociodemographic characteristics, who were employed in a plant that did not close. These latter workers represent the trajectories that the displaced workers would have experienced if their plants had not closed. We compute the gender gap as the difference between displaced men and women compared to nondisplaced individuals of the same gender.

The Gender Gap after Job Loss

As Figure 1 shows, we find substantial gender gaps in the risk of unemployment and earnings loss following job loss (visualized as the difference between the blue and black lines). For both men and women, job loss leads to an increase in unemployment (panel a) and a reduction in earnings (panel b) for several years. Women on average experience a 14.2 percentage point increase in the probability of unemployment over

Figure 1 Following Job Displacement, Workers See a Rise in Unemployment and a Fall in Earnings, and a Gender Gap Emerges



NOTE: Job displacement occurs between -1 and 0, marked by the vertical black line. Black triangles denote displaced men while blue circles denote displaced women, each relative to a control group of workers of the same gender who are not displaced. The red diamonds show effects for displaced men that on average have similar observable characteristics as the sample of women. The outcome in panel (a) represents the likelihood of claiming unemployment benefits for at least three months in a calendar year. The outcome in panel (b) represents the proportional change in earnings relative to the period 2–4 years before job displacement, while the outcome in panel (c) represents the change in absolute earnings (Danish kroner) relative to the year before job displacement. Panel (d) reports a measure of the fraction of the year spent neither working nor registered as unemployed.

**The gender gap for unemployment risk is more than twice as large when the workers have children, suggesting that child care is crucial in understanding women's greater risk of unemployment after job loss.**

the first two years, while for men this increase is smaller, 9.8 percentage points. This difference amounts to a relative gender gap of 5.4 percentage points, or 45 percent ( $14.2 / 9.8$ ), in the risk of unemployment. This gap shrinks over time and closes four years after job displacement.

Women also experience a larger relative loss in earnings (panel b). In the first year after job displacement, the gender gap in earnings loss is 44 percent, as men lose on average 19.6 percent of their earnings while women lose 28.2 percent of theirs. In the fourth year following displacement, the gender gap disappears. As shown in panel (d), we do not find a gender gap in labor force participation after a plant closing.

A potential source of these gender gaps could be differences in human capital, broadly defined to include education, experience, occupation, and other types of sorting in the labor market (Goldin 2014). Men and women might be different along these characteristics, which could in turn affect their labor market recovery beyond the role of gender, per se. To account for gender differences in these characteristics, we construct a new sample of men who are similar to the women along these lines. This allows us to compute the gender gap taking these factors into consideration. When we compare men and women with similar characteristics, shown as the red line in Figure 1, we find that gender gaps are smaller, but the majority of the gaps remain.

We also document which workers' characteristics correlate to worse labor market outcomes after job loss. Workers with little formal training face the most adverse labor market trajectories after job loss, with a large relative gender gap. Meanwhile, there is little or no gender gap among workers with vocational training or higher education. While women are worse off across all age groups, older women face the greatest absolute risk of unemployment and the biggest drop in earnings. The relative gender gaps, however, are greatest among workers between ages 35 and 50.

### **The Presence of Children Helps Explain the Gender Gap**

In Figure 2 we also show that the gender gap in unemployment risk is more than twice as large when the worker has children, from 33 percent in households without children to 80 percent in households with children. Because other characteristics also might influence the gender gap, we use a decomposition technique to understand how much individual and household factors matter. Specifically, we examine the importance of human capital, such as formal education and cumulative work experience, as well as the presence of different ages of children, from preschool to primary school age to teenagers. We find that gender differences in human capital can explain one-third of the gap in unemployment and two-thirds of the gap in earnings, with differences in predisplacement earnings and education being the most important factors. However, this exercise also shows that having children increases the gender gap following the job loss, regardless of mothers' experience, earnings, and education.

While men and women are equally likely to be parents, we show that the impact of children on unemployment and earnings after job displacement is different. The presence of children in the household especially decreases women's earnings and increases their risk of unemployment following a job loss. Preschool children have the biggest impact on the gender gap, while the presence of teenagers does not matter much. If men and women were equally affected by the presence of young children, we find that the gender gap in earnings would be half as large, and the gender gap in employment would be one-third smaller. In contrast, gender differences in occupations and industries do not affect the gender gap in unemployment following displacement.

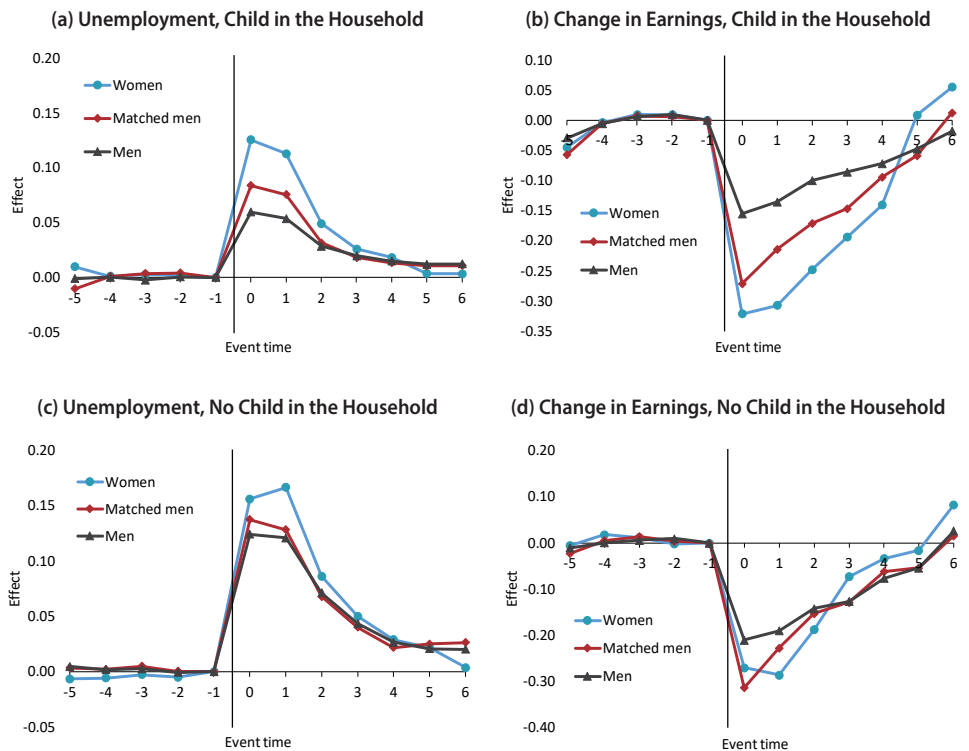
### **Conclusion**

Our findings suggest that women suffer greater risks of unemployment and earnings loss after job displacement than do men, creating a gender gap in their recovery. In the full paper, we discuss how certain aspects of the Danish labor market may cause these

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Excluding women from analyses of job loss can lead to an incomplete picture of its economic effects.

Figure 2 Gender Gaps Following Job Displacement Are Larger When Children Are in the Household



NOTE: See note to Figure 1.

patterns to generalize and create even larger gender gaps in other settings. Our analysis also provides insight into the persistent gender inequality associated with children. When the responsibility of child care falls disproportionately on women, it likely imposes a barrier to labor market recovery.

References

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Ria Ivandić is a lecturer in comparative politics and quantitative methods at the University of Oxford. Anne Sophie Lassen is a postdoctoral researcher at the Copenhagen Business School. This article is based on "Gender Gaps from Labor Market Shocks," which is forthcoming at the journal *Labour Economics*.