

# One Cohort at a Time: A New Perspective on the Declining Gender Pay Gap\*

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## Extended Abstract

The gender pay gap has been decreasing for several decades across many high-income economies and, for reasons that are not yet well understood, this decrease slowed down around the turn of the twenty-first century.<sup>1</sup> Young workers entering an increasingly gender-equal labor market have, concurrently, been faring worse over time compared to older workers, with a widening age-wage gap (Bianchi and Paradisi, 2023; Rosolia and Torrini, 2007; Guaitoli and Pancrazi, 2022) and decreasing lifetime incomes (Guvenen et al., 2022). In this paper, we ask whether these cross-cohort trends in young workers' outcomes are related to overall gender convergence and its slowdown. Doing so would help us better understand the drivers of what is considered one of the greatest societal advances of the last decades (Goldin, 2014).

A large literature has documented the evolution of the gender pay gap over time and has examined different explanations for its existence, including differences in educational

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<sup>1</sup> See, for example, England, Levine and Mishel (2020) and Pew Research Center (2023) for the case of the United States.

attainment and field of study, sorting across firms and occupations, family formation, compensating differentials for long and flexible work hours, and discrimination (see [Blau and Kahn \(2017\)](#) for a review of the existing evidence). Most explanations about the decline in the gender pay gap share two implicit assumptions. First, the quick decrease in the gender pay gap that high-income economies experienced during the 1970s-1990s was primarily driven by substantial gains in women’s earnings and labor-market outcomes. Second, that the recent slowdown in the closing of the gender pay gap stems from a stagnation of the labor-market gains experienced by women.

Using data from several high-income countries, we uncover a critical role for cohort-level trends and young workers’ outcomes in explaining the aggregate gender pay gap dynamics of the past four decades. First, the decreasing gap can be fully explained by *cohort composition*—i.e., the gradual entrance of newer cohorts featuring narrower gender pay gaps at entry and the retirement of older cohorts with larger gaps. Instead, the evolution of within-cohort gender gaps does not help explain the overall declining trend. Second, cross-cohort convergence in entry wages came to a halt around the turn of the century, coinciding with the slowdown in the decrease of the gap for the population of workers. Ever since, all cross-cohort convergence occurred only through the exit of older, large-gap cohorts. Third, the 1970s-1990s steep convergence in entry wages—which itself fueled overall convergence—was primarily driven by a substantial decrease in the entry earnings of young men, rather than large gains among young women. In a period when the wage bill allocated to younger cohorts was decreasing, our findings indicate that the burden of this adjustment fell predominantly on younger men. These men had initially occupied higher-paid positions in the 1970s, which made them susceptible to larger reductions in their earnings. Consequently, we argue that a significant factor contributing to the convergence of pay between younger men and women is the compression towards the bottom of the wages of younger employees. Fourth, the narrowing of the gender gap at entry stopped when the worsening of younger workers’ opportunities slowed down and when the remaining gap was largely due to differences in educational choices, which cannot be equalized by wage dynamics in the labor market. Our results thus paint a complex picture of the declining and stagnating pay gap and caution against interpreting the evolution of the aggregate gender pay gap as a summary metric of enhanced women’s opportunities.

We illustrate these mechanisms using a model of labor demand that extends the framework introduced in [Bianchi and Paradisi \(2023\)](#) to include gender groups. In the model, firms employ young workers in two jobs: a top, more productive job, and a bottom, less productive one. The wages and job allocation of incumbent older employees cannot be fully adjusted. In addition, top jobs require a cost of maintenance, and there is a limited number of top

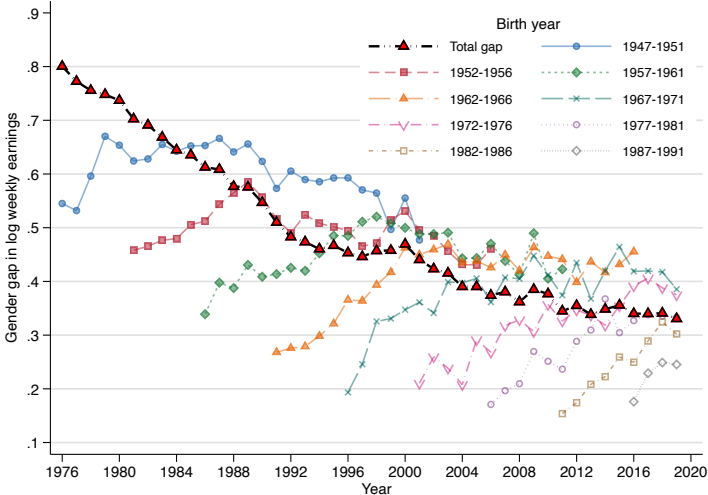
positions that can be allocated to younger workers. Women face higher maintenance costs, contributing to their underrepresentation in top jobs as observed in the data. This could be the result, among other factors, of statistical or taste-based discrimination. When the number of older workers increases, younger employees are crowded out of top jobs, leading to a drop in average wages. The decline is more pronounced for younger men when their initial representation in top jobs exceeds that of younger women. Introducing multidimensional skills capturing the skills acquired through education, we examine a scenario with scarce top jobs for younger workers. In this case, an increase in the number of older workers boosts wages for all younger workers since the crowding out effect is muted. If younger men occupy higher-return tasks, the gender pay gap might persist or even widen. Our theoretical framework therefore suggests three main findings: the gender pay gap should decrease due to cross-cohort dynamics, the gap reduction should stem from larger deteriorations in younger men's position in the distribution of wages, the gap should stabilize or increase when younger workers concentrate in lower-tier jobs, and the remaining gap for younger cohorts should be driven by baseline skill differences that cannot be altered by market dynamics.

We conduct our empirical analyses using *Current Population Survey* (CPS) data for the United States, as well as administrative data from Italy, and survey data from Canada and the United Kingdom. The paper proceeds in four steps. First, we show that the gender pay gap has consistently narrowed in all countries in our sample for at least the last four decades, with the decline stemming from reductions happening mostly across cohorts rather than within any given cohort (Figure 1). In all countries, despite some differences in the within-cohort patterns, the cross-cohort trend is very different from the aggregate one, suggesting that the convergence between the pay of men and women is not affecting all cohorts simultaneously. Moreover, we show that the gap at entry in the labor market decreased across cohorts until the mid-1990s, meaning that younger cohorts started from lower levels of gender pay gaps compared to older ones. Therefore, the intergenerational turnover favors the decreasing trend in the overall gap.

Second, we precisely quantify how much of the decreasing gender pay gap over time stems for cross-cohort convergence between genders. Specifically, we decompose the aggregate gender pay gap into a *between-cohort* and *within-cohort* components. The former captures how the overall gap would evolve if there was no change in the life-cycle wage growth across cohorts and genders. Hence, it measures the effect of a pure compositional change in the age demographics of men and women. In all countries the entire trend in the gender gap in weekly earnings can be accounted for by a progressive decrease in the between-cohort component, i.e., in the entry gap across cohorts. Therefore, our analysis reveals that the secular trend in the gender pay gap comes from younger cohorts with smaller pay gaps replacing older ones

with larger gaps. However, since the convergence in entry gaps has stalled during the 21st century, we show that the exit of older cohorts has nowadays become the most important driver of the declining overall gap. Subsequently, in the absence of any structural breaks, a projection exercise predicting the timing of the closure of the overall gap results in no convergence within the next few centuries.

**Figure 1:** Gender Gap Between and Within Cohorts in the USA



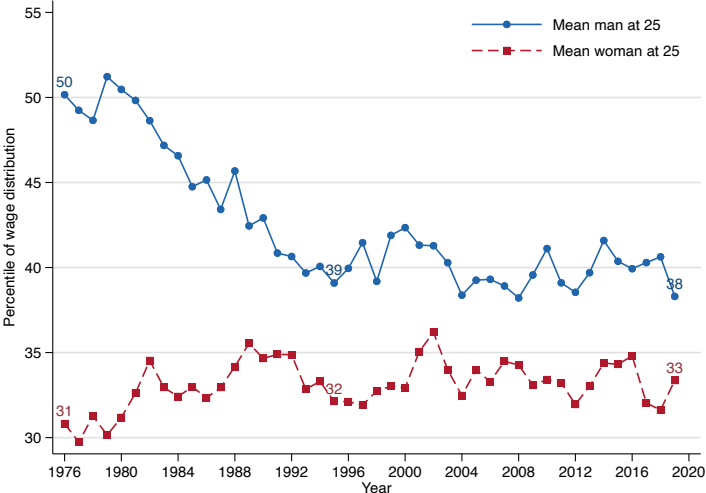
*Notes:* The Figure shows the trend in the mean gender gap across different birth cohorts in the United States. The red triangles depict the trend in the mean gender gap across all cohorts active in the labor market in each year. This analysis includes only workers aged 50 or younger to limit the influence of cross-cohort changes in the selection into retirement. In each year, the data pools information about all workers who were between 25 and 50 years old, had worked in the private sector for at least 24 weeks, and had earned strictly positive earnings.  
*Sources:* Integrated Public Use Microdata Series, Current Population Survey: Version 10.0 [dataset]. Minneapolis, MN: IPUMS.

Third, we ask whether the 1970s–1990s decline in the entry-pay gap was a reflection of improved prospects for young women or, instead, worse ones for young men. Answering this question requires moving beyond the entry male-female gap itself and, instead, comparing young women and young men to a common benchmark. To this end, we compare how young men and women (at the age of 25) have ranked, over time, in the overall pay distribution. Figure 2 shows that the narrowing of the entry gap until the mid-1990s was mostly driven by younger men doing *worse* in absolute terms, rather than by younger women experiencing disproportionately meaningful improvements.

Finally, we find that a substantial part of the remaining entry wage gap results from divergent college major choices among young men and women. Using American Community

Survey data, we calculate the average wage for men with a specific major and predict the average weekly earnings for young men and women attributing to each college graduate the average wage in their major. Over nearly three decades, the predicted wage gap has remained steady (Figure 3), constituting approximately 80% of the entry gap for college graduates, which is around 10 log-points in recent years. This underscores that the primary driver of the remaining entry wage gap lies in the differing educational choices of men and women. As our framework emphasizes, when the impact of crowd out diminishes and existing disparities predetermined at labor market entry persist, the entry wage gap may cease to narrow.

**Figure 2:** Positional Gains and Losses at 25 Years Old in the USA



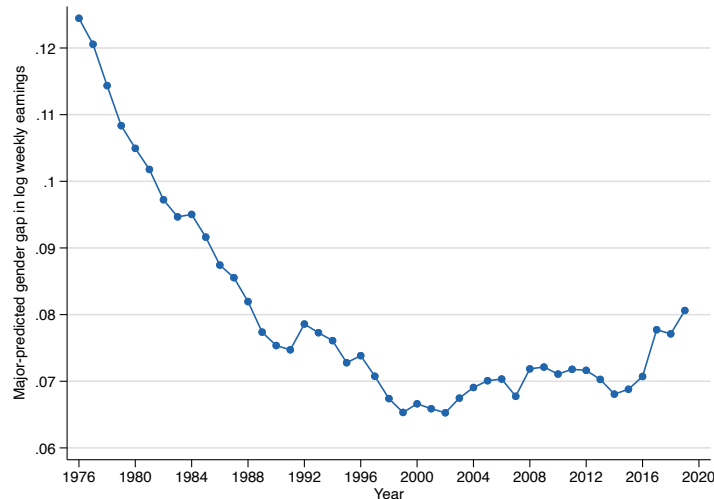
*Notes:* The Figure shows the average weekly earning percentile of men and women at 25 years old in the United States, respectively. In each year, the data pools information about all workers who were between 25 and 64 years old, had worked in the private sector for at least 24 weeks, and had earned strictly positive earnings.

*Sources:* Integrated Public Use Microdata Series, Current Population Survey: Version 10.0 [dataset]. Minneapolis, MN: IPUMS.

All in all, our findings imply that, in all four countries, pay convergence has manifested itself one cohort at a time; initially spurred by a decline in entry-pay gaps but, during the past two decades, merely driven by the outflow of older cohorts featuring greater gaps. Even more pessimistically, the original catalysts of these dynamics—male-female convergence in entry outcomes until the mid-1990s—were not driven by improved prospects for young women but, rather, for disproportionately worsening outcomes for young men. Finally, the narrowing of the gap has stopped in the mid 90s when the reduction in younger workers prospects has slowed down and the remaining gender gap at entry was mostly explained by pre-labor-market choices. This interpretation leads to a cautionary note against interpreting

narrowing gaps as undoubted gains for the less-privileged group. It also points towards an important role for the dynamics of younger employees’ wages in explaining the observed trend in the gender pay gap.

**Figure 3:** Predicted entry gap with college major in the USA



*Notes:* The Figure shows the average weekly earning gender gap at 25 years old in the United States for college graduates as predicted by the college major. We assign to each worker the average wage of men (of all ages) who earned the same college major. We then compute the difference in log predicted wages of men and women.

*Sources:* Integrated Public Use Microdata Series, Current Population Survey: Version 10.0 [dataset]. Minneapolis, MN: IPUMS.

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