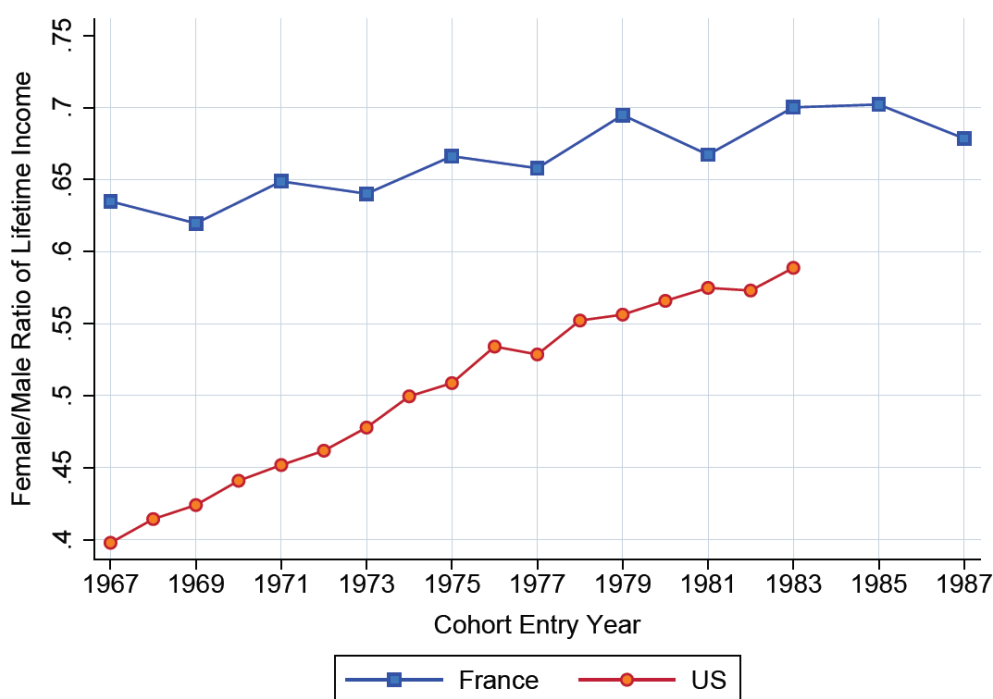


# EXPLAINING THE NARROWING OF THE GENDER GAP IN LIFETIME EARNINGS

By Bertrand Garbinti (CREST-ENSAE-IP Paris, CEPR), Cecilia García-Peñalosa (Aix-Marseille University, CNRS, EHESS, and AMSE, Banque de France, CEPR and CESifo), Vladimir Pécheu (Paris School of Economics, Institut des politiques publiques) and Frédérique Savignac (Banque de France)

*Analysis of lifetime earnings (LTE) of individuals entering the labor market between 1967 and 1987 indicates that the gender gap declined over time in the US and in France. Women's LTE still amount however to only 60% (in the US) to 70% (in France) of those of men for the latest cohorts. Changes in working time and education have been key in explaining the evolution of the gender gap.*

Chart 1. Gender Lifetime Earning Gap in France and in the US



Sources : France : Garbinti et al. (2023), US : Guvenen et al. (2022)

Note : Ratio between median female and male lifetime earnings, for successive entry cohorts.

Analyses of inequality typically provide snapshots at a given point in time, without considering the trajectories of individual earnings over their lifecycle (“Lifetime earnings” or LTE). Assessing how the well-documented gender differences in annual earnings translate into the gender gap in lifetime earnings remains an open question. Several factors that have a different impact on the annual earnings of men and women over their life cycle are likely to affect their lifetime

earnings too, e.g. differences between men and women in participation rates, hours worked, unemployment rates or average hourly earnings.

To address this issue, [Garbinti et al. \(2023\)](#) compute lifetime earnings based on the Permanent Demographic Sample for France (EDP) produced by the National Statistical Institute (Insee). This large socio-demographic panel includes administrative payroll data from firms, providing information on employee earnings over the period 1967-2017. In order to mitigate possible sample bias, the sample is selected so as to focus on individuals displaying sufficient attachment to the labor market (i.e. individual earning at least a sixteenth of the minimum wage in at least half the period between ages 25 and 55) and who are still alive at age 55. For each individual, lifetime earnings are defined as the average of annual earnings between ages 25 and 55. This 31-year period, the 'lifetime', is available for those born between 1942 and 1962, with the youngest cohort reaching age 55 in 2017. Throughout this analysis, a cohort is identified by the year in which they turned 25. The methodological setting follows [Guvenen et al. \(2022\)](#) in order to provide meaningful comparisons between the French and US cases. This comparison is particularly interesting as France is, relative to the US, a country characterized both by a lower level of cross-sectional inequality (e.g. [Alvaredo et al.\(2018\)](#), [Garbinti et al. \(2018\)](#)) and limited income mobility ([Aghion et al. \(2023\)](#), [Kramarz et al. \(2022\)](#)).

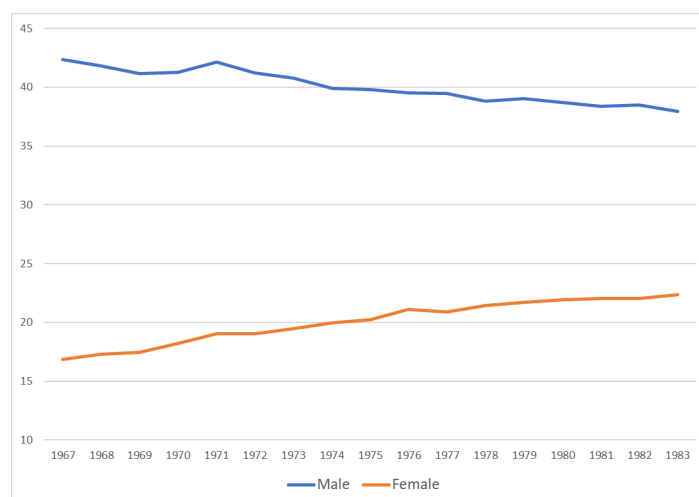
The lifetime gender gap has narrowed across cohorts (Chart 1), both in France and in the US. For instance, in France, women's earnings averaged over ages 25-55 peaked at 70% of those of men for the 1983 and 1985 cohorts. This ratio increased from about 61% to 70% over the 1967 to 1983 cohorts, while in the US it soared from about 41% to 60% over the same cohorts. This narrowing of the gender pay gap in the United States has been studied in detail by Claudia Goldin, the 2023 Nobel laureate (see, for example, [Goldin \(2014\)](#)).

As a result, women's lifetime earnings as a percentage of men's are far larger in France than in the US for all cohorts. Moreover, the narrowing of the gender gap results from very different gender dynamics in the two countries.

### **Contrary to the US, trends do not strongly differ for men and women in France**

In the US, the narrowing of the gender gap reflects heterogeneous trends across genders. Chart 2 shows the dynamics of LTE for the US, displaying considerable losses for men (-10%) and large gains for women (+33%) (Guvenen et al., 2022). These different dynamics have led to the sharp reduction in the gender gap observed in Chart 1.

**Chart 2: Median Lifetime Earnings by cohort and gender in the U.S. (in constant 2013 dollars)**

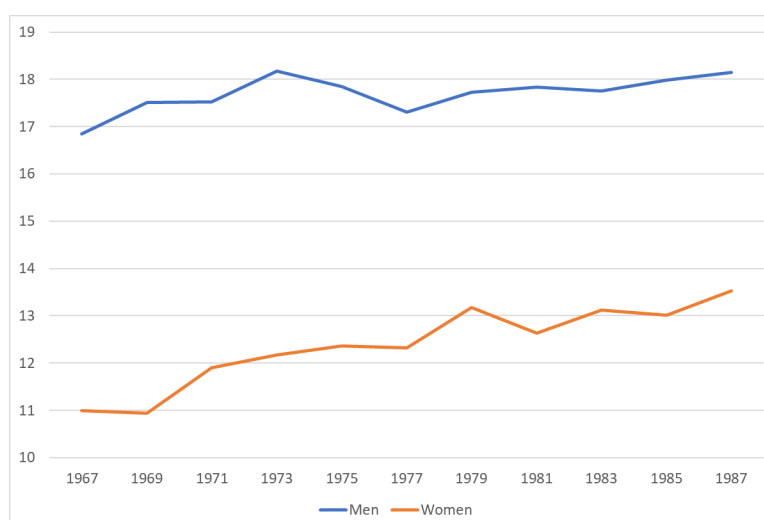


Source : Guvenen et al. (2022)

Note : Lifetime earnings defined as the average of earnings between ages 25 and 55. Thousands of 2013 dollars. X-axis: year of entry into the labor market.

In France, the trends across cohorts display a remarkable similarity between men and women (Chart 3), in contrast to the US. Median annualized lifetime earnings increased from 15,000 euros for the 1967 cohort to about 16,100 euros for the 1987 cohort. Both men and women experienced growth, by 5% and 19%, respectively, over 1967-1983 to be compared with the results for the US showing losses for men (-10%) and gains for women (+33%) over the same cohorts, see Chart 2. In France, most of the increase occurred for the first cohorts, with the most recent ones exhibiting a flat trend, from 1973 for men and between 1979 and 1985 for women.

**Chart 3 : Median Lifetime Earnings by cohort and gender in France (in constant 2015 euros)**



Source : Garbinti et al. (2023)

Note: Lifetime earnings are defined as the average of all the annual earnings between ages 25 and 55. Thousands of 2015 euros. X-axis: year of entry into the labor market.

## Education and working part-time have been key in shaping the gender gap in France

The overall increase in lifetime earnings across cohorts is partly driven by women's increased participation, especially from the 1980s. Econometric analysis in Garbinti et al. (2023) finds significant roles for various factors such as education, working hours (number of years working part-time or full-time) and place of work in shaping lifetime earnings for both men and women. In particular, results highlight a sharp drop in the return to all education qualifications other than a master's degree (and above) across cohorts, for both genders. The increase in the supply of bachelor's degree over cohorts may have led to this decline in their returns. Additionally, it is likely that education expansion results in the average "unobserved ability" of those with a bachelor's degree falling, which in turn implies lower average earnings for those with a degree. This key role of the fall in education returns can be illustrated by a simple counterfactual exercise: had the returns to education remained at their 1967 level, the growth in earnings experienced by men between the 1967 and the 1987 cohorts would have been twice as fast as the one we actually observe. The change in educational attainment has also played a major role: given the fall in the return to all educational qualifications other than a master's degree, had the distribution of education observed for the 1967 cohort of men remained the same over time, lifetime earnings would have declined over the period instead of growing mildly.

Comparing the results of this analysis for men and women allows to assess the key aspects driving the evolution of the gender gap in lifetime earnings in France. Much of the change over time is explained by differential developments in working time and, to a lesser extent, by a differential increase in educational attainment. In particular, the contribution of differences in working time across genders to explaining the gender gap has increased from 30% to 60% across cohorts.

Ultimately, the narrowing gender gap in France is the result of two offsetting forces. Although younger women work more years than their predecessors, they have tended to mainly increase the number of years in part-time employment, which has contributed to a widening of the gender gap. Between ages 25 and 55, the percentage of years worked increased from 82% for the 1967 cohorts to 86% for the 1987 for men, and from 76% to 82% for women. However, there was a large increase in the proportion of years spent working part-time for women, which rose from 12% to 25%. At the same time, education played a considerable role in reducing the gender gap. A fast increase in female educational attainment and a reduction in the gap in the returns to education between women and men have both been key factors in reducing the gender gap in lifetime earnings.