Gender wage gap among young adults: a comparison across British cohorts

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Motivations

- In the UK gender inequalities in wages appear early in one's working life and gradually widen over time (Manning and Swaffield, 2008; Costa Dias et al, 2020; Bryson et al 2020, Benny et al, 2021).

- For most workers early adulthood precedes the acquisition of family responsibilities. By studying the GWG among young adults we could uncover some of the mechanisms through which the earning inequalities first appear and creates path dependence over time.

- Comparison across cohorts can help understand the role of changing selection into employment, socio-demographic changes, legislation and structural changes in the labour market in determining gender inequality in earnings.

This paper

- *What we do*
  * In this paper we examine the GWG among graduate and non graduate young adults across four British cohorts, born between 1946 and 1990 (and interviewed between 1972 and 2015).
  * We consider the role of changing non-random selection into employment over time.
  * We study the determinants of the gender wage gap and how they change over time.

- *Results*
  * The raw GWG declines sharply over the period 1972-1996. The overall convergence is driven by non-graduates.
  * Adjusting for human capital and childrearing accounts for some of the gap in the earliest cohort and only among graduates in the remaining cohorts.
  * Accounting for changing non-random selection into employment increases the gender wage gap in the earliest cohort.
  * While the unexplained component of the gap declines overtime, occupational segregation explains a greater component of the gap among young adults.

Contribution

- We examine the gender wage gap among young adults using nationally representative samples (see, for example, Neuburger et al., 2011; and 2005; Fortin, 2008; Manning and Swaffield, 2008, Combet and Oesch, 2019), and we add to this literature by considering a longer span and by accounting for differential selection into employment throughout the whole period.

- We investigate the role of specific job characteristics in explaining the gender inequality in this particular age group.

- We study the evolution of the gender wage gap among young UK graduates over time by using a nationally representative sample. We compare it to the evolution of the gender wage gap among non-graduates, thus contributing to a different set of studies which focus on homogeneous samples of high-skilled young adults (Dolton et al., 1996; Chevalier, 2007; Bertrand et al., 2010; Azmat and Ferrer, 2017; Benny et al, 2021)

Data

- 4 British cohort studies

  - National Survey of Health and Development (NHSD) The cohort members were interviewed in 1972 at the age of 26 (N=3,752).

  - National Child Development Study (NCDS). The cohort members were interviewed in 1981 at the age of 23 (N=12,537).

  - British Cohort Study (BCS). The cohort members were interviewed in 1996 at the age of 26 (N=9,003).

  - Next Steps (NS). The cohort members were interviewed in 2015 at the age of 25 (N=7,707).

Variables

- Real gross hourly wages

- Early life: parental education, father social class.

- Family formation: whether any child, whether more than one child, whether married/cohabiting.

- Human capital: highest qualification achieved, subject studied in HE, cognitive test scores (reading and maths), months of FT/PT experience, no. of different spells of work.

- Job characteristics: hours worked, occupation indicators, proportion of females in occupation at national level (this last variable is obtained from LFS from same year).

Method

- Adjusting for selection into the labour market:

  * Men's and women's wages are adjusted to account for non-random selection into employment by imputing a wage for individuals with no wage in the samples

  * Imputed wages come from nearest neighbour wage 'donors' defined as those, among the same cohort and the same gender, who are nearest in their propensity for waged employment to the non-waged individual.

  * The nearest neighbours are identified through propensity score matching where the propensity for waged employment is estimated by gender for each individual for each cohort study

- Decomposing the gap
  * Kitagawa-Oaxaca-Blinder decomposition: standard two-fold decomposition run on pooled data with female dummy variable as recommended by Jann (2008)

  * Chernozhukov, Fernández-Val, and Melly (2013) method to decompose the gap across the distribution of wages.
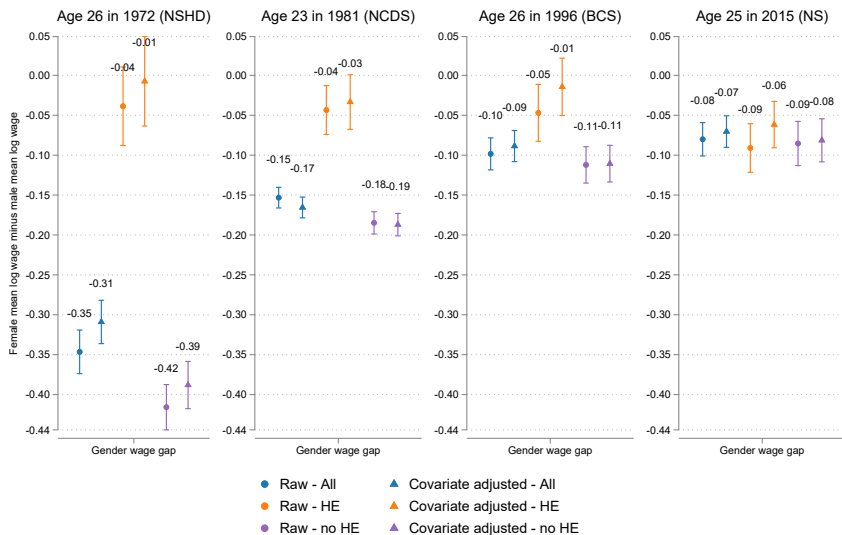
Employment rate by gender

**Figure 1:** Employment rate in the four British cohorts
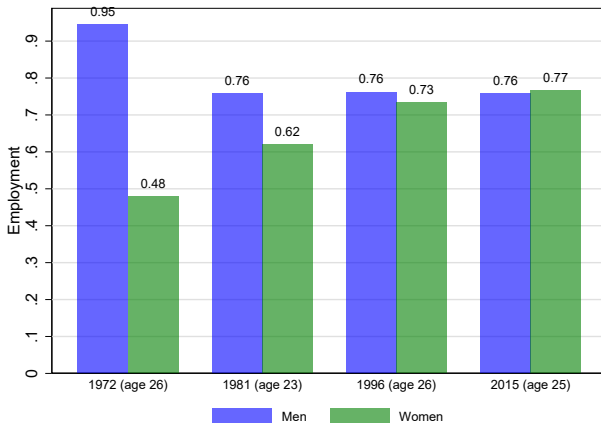
Raw and covariate adjusted gap

Figure 2: Estimates of the GWG for the full sample, graduates and non graduates, by cohort

Legend:
- Raw - All
- Raw - HE
- Raw - no HE
- Covariate adjusted - All
- Covariate adjusted - HE
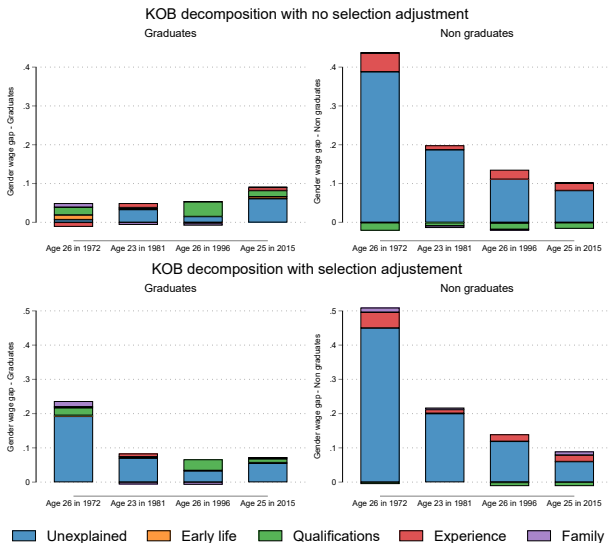- Covariate adjusted - no HE

Covariate and covariates+selection adjusted gap

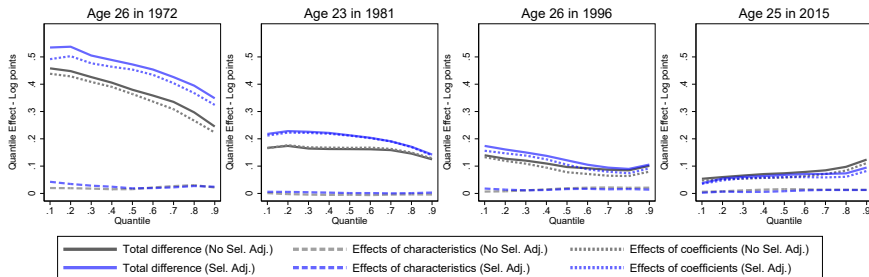**Figure 3:** Estimates of the GWG for the full sample, graduates and non graduates, by cohort
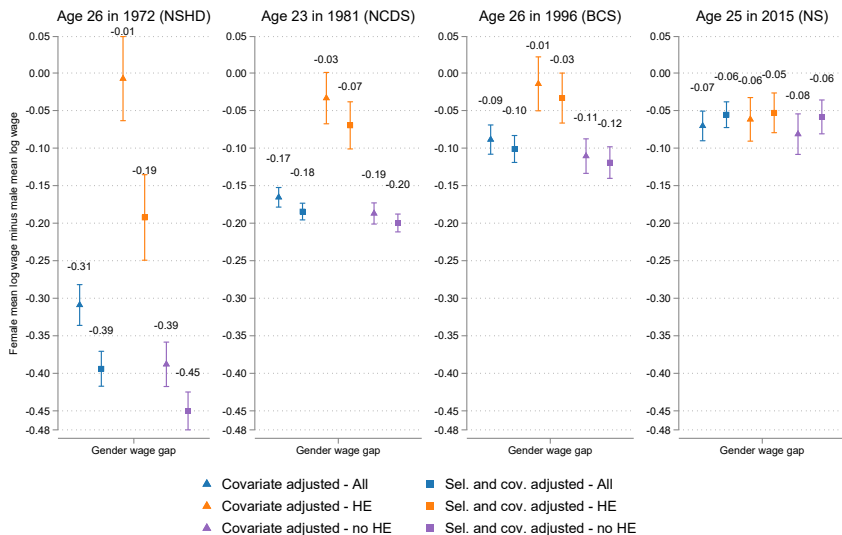
KOB decomposition

Figure 4: Decomposition of the GWG for graduates and non-graduates by cohort - without and with selection adjustment
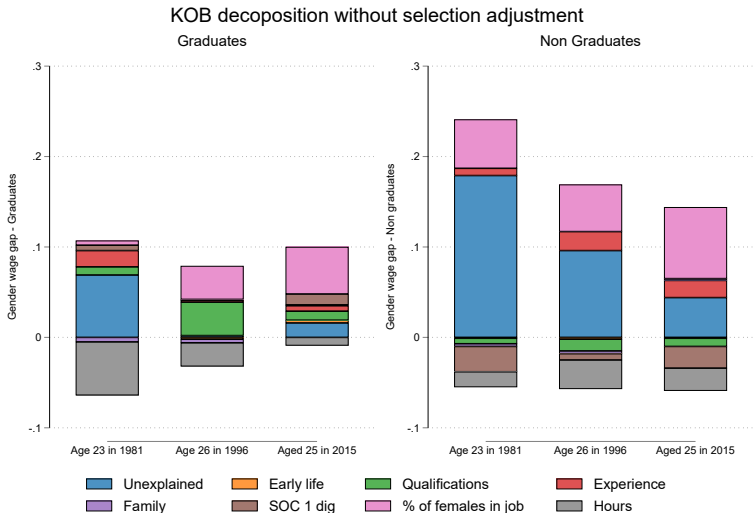
Gender wage gap across the distribution of wages

Figure 5: Chernozhukov, Fernández-Val, and Melly (2013) decomposition on sample without and with selection adjustment

KOB decomposition - Job characteristics (occupational segregation+hours)

Figure 6: Decomposition of the GWG for graduates and non-graduates by cohort - without selection adjustment

KOB decoposition without selection adjustment

Gender wage gap across the distribution of wages - Job characteristics (1 digit SOC code + proportion of women in the occupation)

Figure 7: Chernozhukov, Fernández-Val, and Melly (2013) decomposition on sample without selection adjustment
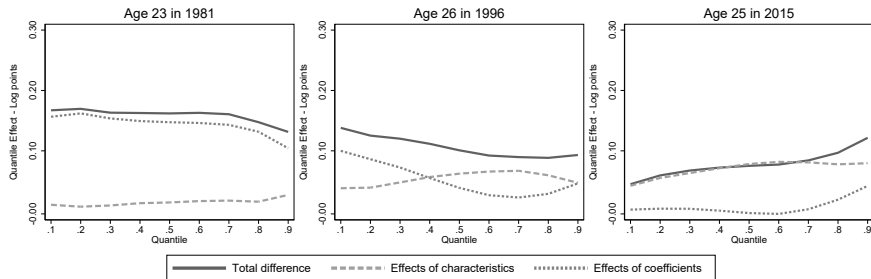
Conclusions

- The raw GWG declines sharply over the period 1972-1996. The overall convergence is driven by non-graduates.

- Adjusting for human capital and childrearing accounts for some of the gap in the earliest cohort and only among graduates in the remaining cohorts.

- Accounting for changing non-random selection into employment increases the gender wage gap in the earliest two cohorts. This result is driven by graduates.

- While the unexplained component of the gap declines across cohorts, occupational segregation explains a greater component of the gap among young adults.

Conclusions

- Cautionary tale on changing non-random selection: it is important to consider it when studying the convergence of men's and women's wages over time.

- *Policy implications*: In the long run: incentives and policies to hire and retain women in male-dominated fields (Cortes and Pan, 2017; Folke Rickne, 2020); policies that shift gender norms and culture (for instance by exposing more women to traditionally male subjects early on in school).

Thank you very much!

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