

An illustration depicting a celebratory scene at a graduation. At the bottom, five graduates in black gowns are shown from the waist up, facing away from the viewer. They are all raising their arms in celebration. The graduate on the far right is also holding a black mortarboard cap. Above them, three more mortarboard caps are shown in mid-air, as if they have just been tossed. The entire background is filled with a dense shower of small, colorful confetti in shades of yellow, blue, and green. The title text is overlaid on the left side of the image.

THE HIDDEN COSTS OF HIGHER EDUCATION

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INTRODUCTION & GOAL

We'll explore how **location**, **gender** and **opportunity** interact in shaping **UK graduate outcomes** and uncover where the system **rewards**, and where it **fails to deliver**.

Questions:

- How has the supply of UK graduates shifted over time?
- Does access to education translate into equality?
- Do graduates have to choose between stability and higher income?
- Do qualification levels affect the gender pay gap?

DATA

Source: LEO Graduate and Postgraduate Outcomes, Tax year 2022-23 (latest available)

- underlying_data.csv
- international_top20countries_data.csv

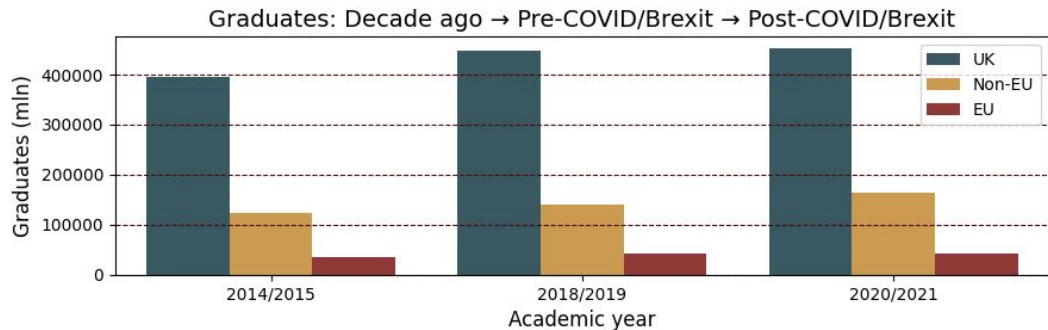
Cleanup:

- Filter years by: 2014/15 (decade ago), 2018/19 (before Covid / Brexit), 2020/21 (after Covid / Brexit)
- Filter by 1 year after graduation, for consistency
- Drop irrelevant columns
- Convert outcomes (earnings) columns to numeric

DATA (variables)

- **'academic_year'**
- **'YAG'** - year after graduation
- **'qualification_level'**
- **'country_of_domicile_grouped'**
- **'country_of_domicile'** - international only
- **'sex'**
- **'age_band'**
- **'POLAR4'** - participation of local areas in the UK: classified into quintiles based on the proportion of 18-19 y.o. who enter higher education. Quintile 1 lowest / 5 highest.
- **'grads'** - graduates
- **'grads_uk'** - graduates included in outcomes calculation
- **'sust_emp_with_or_without_fs'** - sustained employment with or without further study
- **'earnings_median'**
- **'earnings_UQ'** - earnings upper quarter

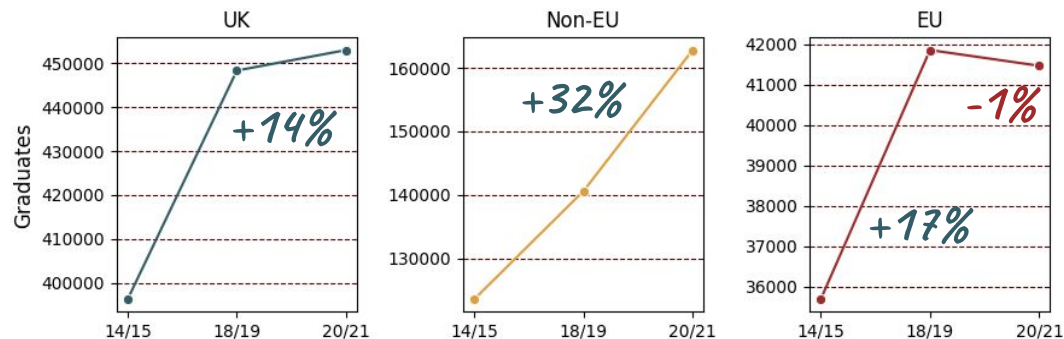
GRADUATE SUPPLY SHIFT OVER TIME - LOCATION



Over the past decade, the UK's graduate supply has grown steadily, but since 2018/19, growth has flattened.

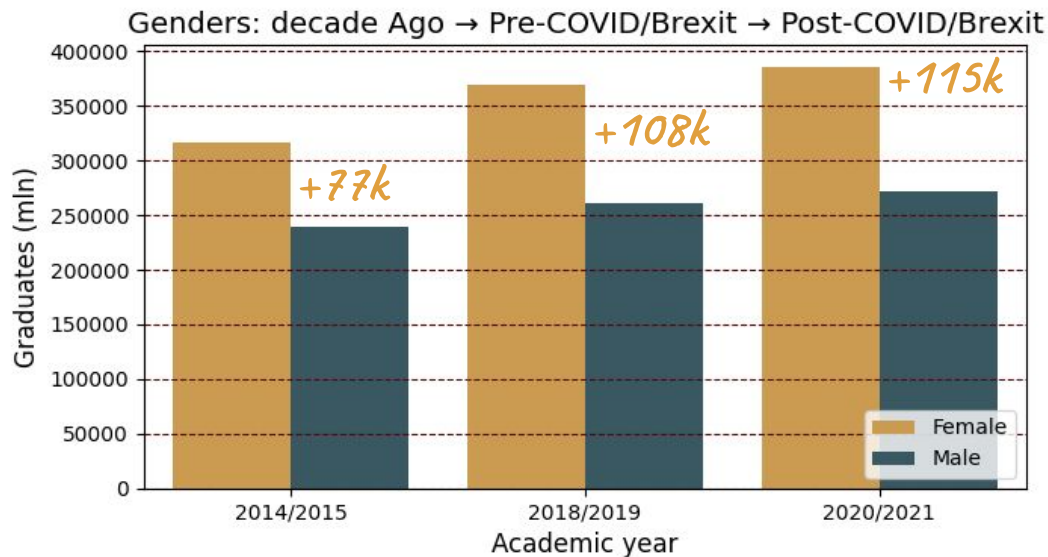
Non-EU graduates grew strongly, far outpacing both UK and EU.

In contrast, EU graduate numbers dipped slightly after 2018/19, reflecting the combined impact of Brexit and COVID.



Overall, the domestic pipeline remains robust, but the **international mix is shifting from EU to Non-EU**.

GRADUATE SUPPLY SHIFT OVER TIME - GENDER



In 2014/15, women outnumbered men by 77k.

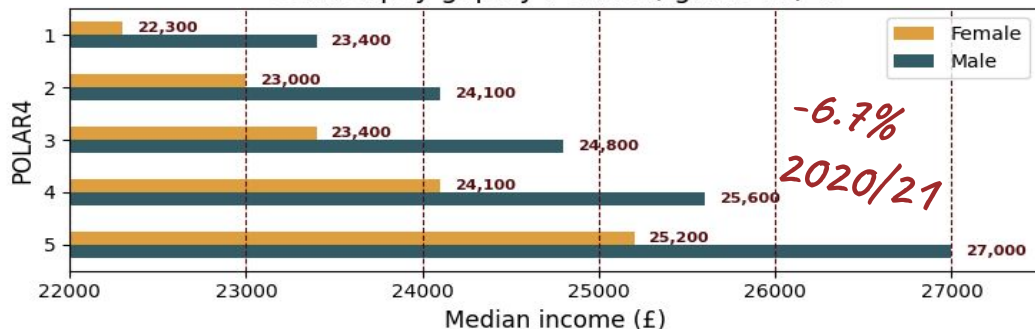
By 2020/21, that gap had widened to 115k, an increase equivalent to 3-4 entire graduating classes of a medium-sized university, such as Manchester or Leeds.

Women, who now make up nearly 6 in 10 UK graduates, **are shaping the future workforce**.

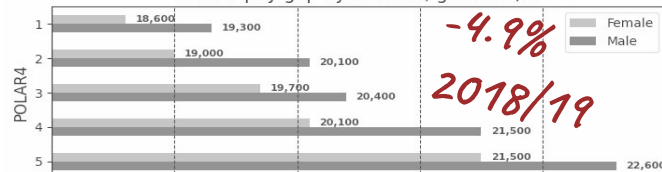


DOES ACCESS TO EDUCATION TRANSLATE TO EQUALITY?

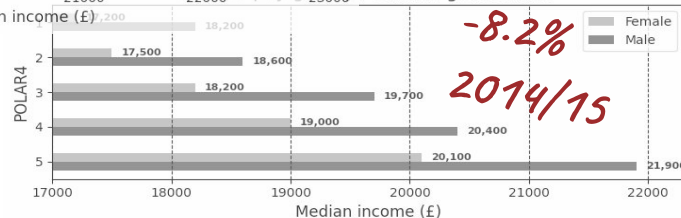
Gender pay gap by POLAR4, grads 20/21



Gender pay gap by POLAR4, grads 18/19



Gender pay gap by POLAR4, grads 14/15

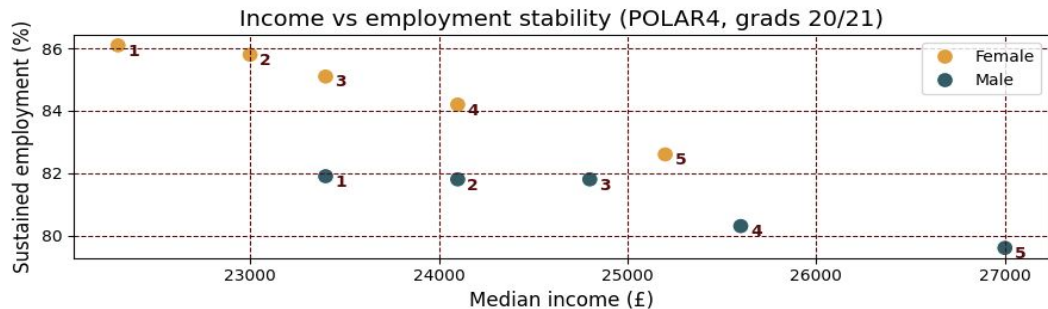


The gender pay gap has persisted across every POLAR4 quintile in the last ten years.

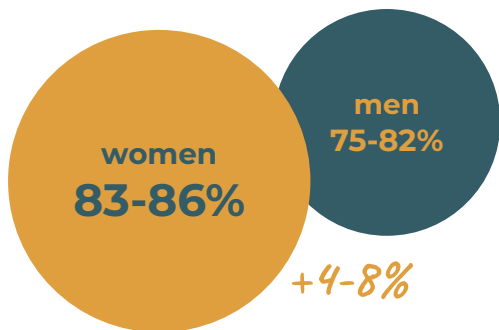
In the most advantaged areas the gap narrowed slightly by 2018/19, but widened again in 2020/21.

The gap isn't closing, it's bouncing back, it's persistent, and sharpest among the most advantaged graduates, showing that even **opportunity does not equal equality**.

STABILITY VS HIGHER INCOME?



sustained employment



earnings



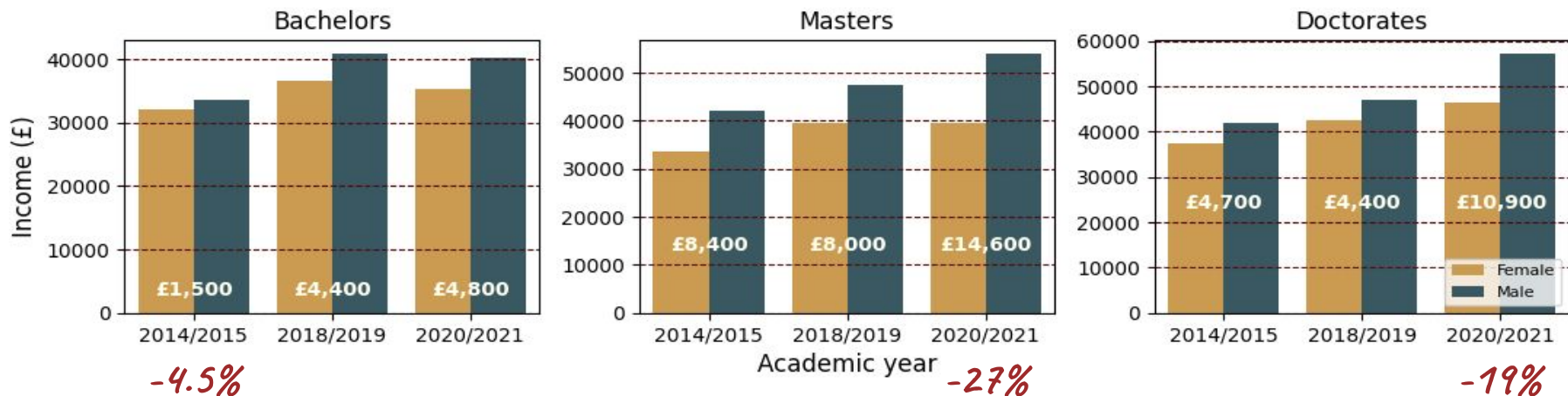
Women show higher sustained employment, yet earn less at every POLAR4 quintile.

The labour market forces a choice: **women**, often balancing childcare or elder care, are **compelled to prioritise stability**. **Men** are free to switch roles and **chase higher pay**.

Women form the more reliable workforce, yet men are financially rewarded for being less stable.

The market fails to recognise or reward women's contribution.

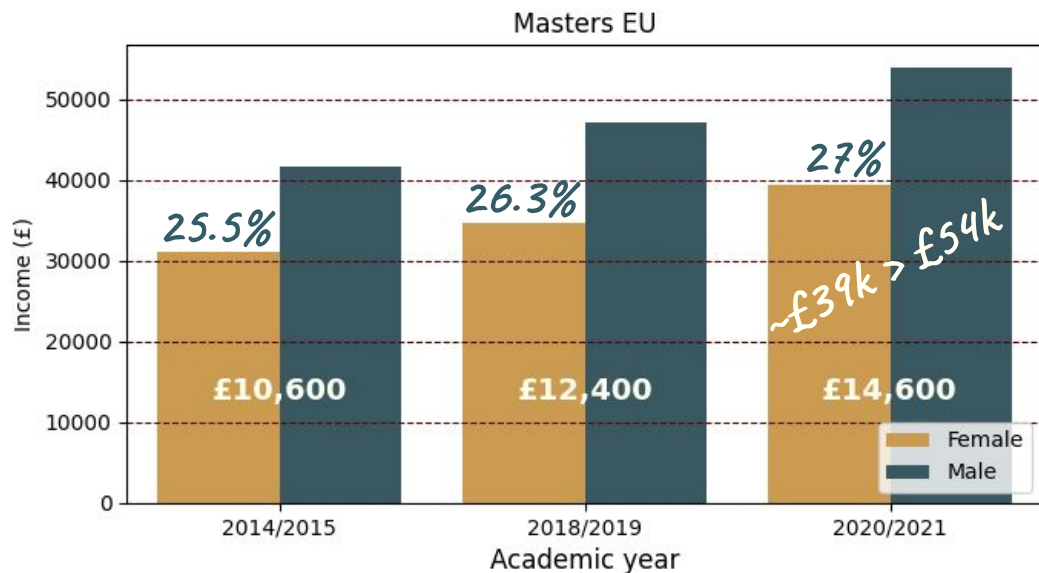
QUALIFICATION LEVELS & GENDER PAY GAP - ALL REGIONS



Across all regions, in terms of upper quartile earnings, the closest women ever came to parity was a decade ago at Bachelor's level, earning just £1.5k less than men.

By 2020/21, the **gap** had more than doubled to £10.9k at Doctorate level and **exploded to £14.6k at Master's**.

MASTER'S LEVEL GENDER PAY GAP - EU

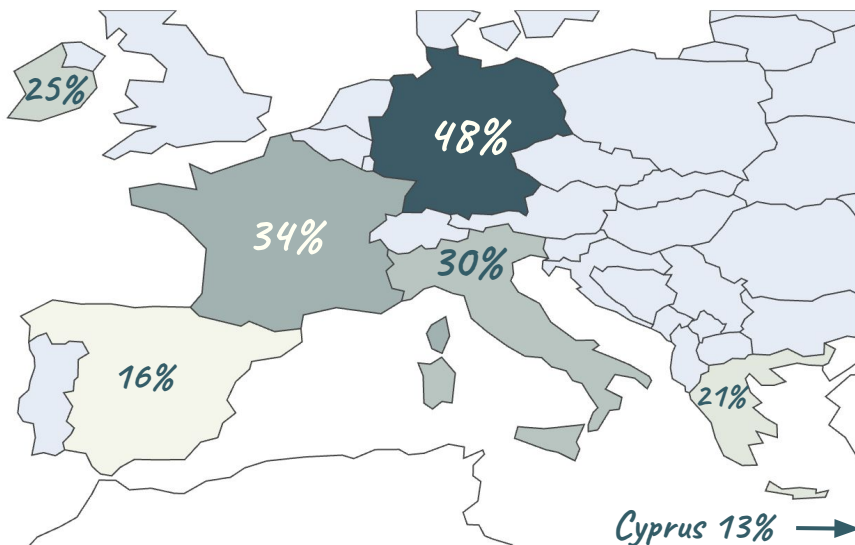


When we zoom in by region, the EU stands out for all the wrong reasons.

At **Master's** level the **inequality** is **magnified** for women: in 2020/21 their upper quartile stalls near £39k, while men's upper quartile jumps to £54k.

MASTER'S LEVEL GENDER PAY GAP - BY COUNTRY

Gender pay gap at Master's level by country (2020/2021, EU)



Disclaimer:

These country-level figures are from the LEO Top-20 Countries dataset. They represent upper-quartile earnings within each country (grouped samples, not individual records) and should be interpreted with caution. Extreme values (such as Germany's) likely reflect small sample sizes or high-earning outliers.

Across every EU country in this sample women earn less than men at Master's level, but Germany, France, and Italy stand out as extreme cases.

Even countries with smaller gaps, like Spain and Cyprus, still show a consistent gender penalty.

Country	Men (£)	Women (£)	Gap (£)
Germany	91,200	47,800	43,400
France	65,000	43,100	21,900
Italy	55,500	21,900	16,400
Ireland	47,900	35,800	12,100
Greece	47,800	38,000	9,800
Spain	47,500	39,800	7,700
Cyprus	47,800	41,600	6,200

CONCLUSION

- The system **rewards education**, but **not equally**.
- Women form the more stable workforce, yet the **labour market rewards availability over commitment**.
- **Women** now make up the **majority of graduates**, yet their growing presence in higher education has **not** translated into **equal outcomes in pay**.
- Across the UK **access does not guarantee equality**: even in the most advantaged areas women's earnings lag persistently behind men's.
- The **gender pay gap** at Master's level is significant everywhere, but **in the EU** it's simply **unforgiving**.

NEXT STEPS

- **Ethnicity:** look at how job outcomes and pay differ when we combine gender and ethnic background.
- **Subject area:** see whether certain degrees help close or widen the gender and regional pay gaps.
- **UK regions:** explore how job outcomes and pay vary across the country.
- **Institution type:** compare results between established and newer universities to see if reputation makes a difference in pay equality.
- **Career trajectories:** follow graduates 3 and 5 years after graduation to see how the gender pay gap evolves over time.

THANK YOU!

ANY QUESTIONS?

