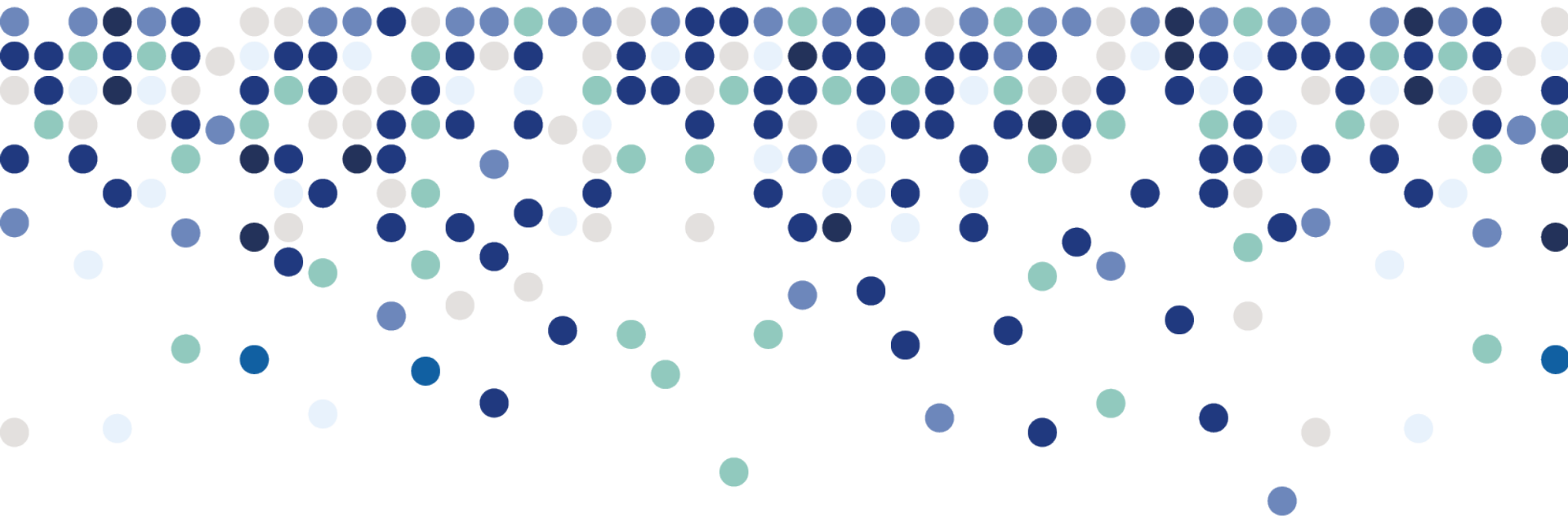


The graduate wage premium in the UK: Decline and fall?

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1. Roadmap



Structure of presentation

- Importance of the topic
- An overview of previous literature
- Our contribution to the debate
- Methodology and results
- Concluding thoughts

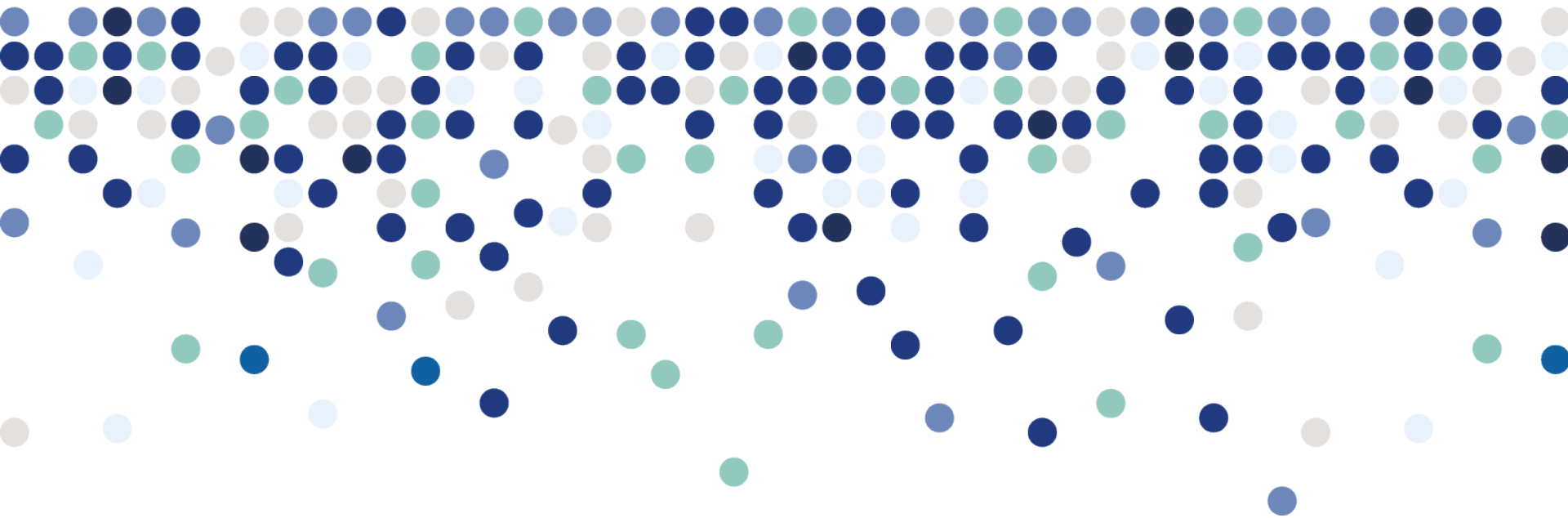


2. Why studying the ‘graduate premium’ matters



Why examine the ‘graduate premium’?

- Studying in higher education comes at a significant cost.
- Student loan balances at the time of graduation have risen in all UK nations in the last decade.
- Prospective students (and their families) would like information on whether it is a worthwhile investment.



3. Historical evidence

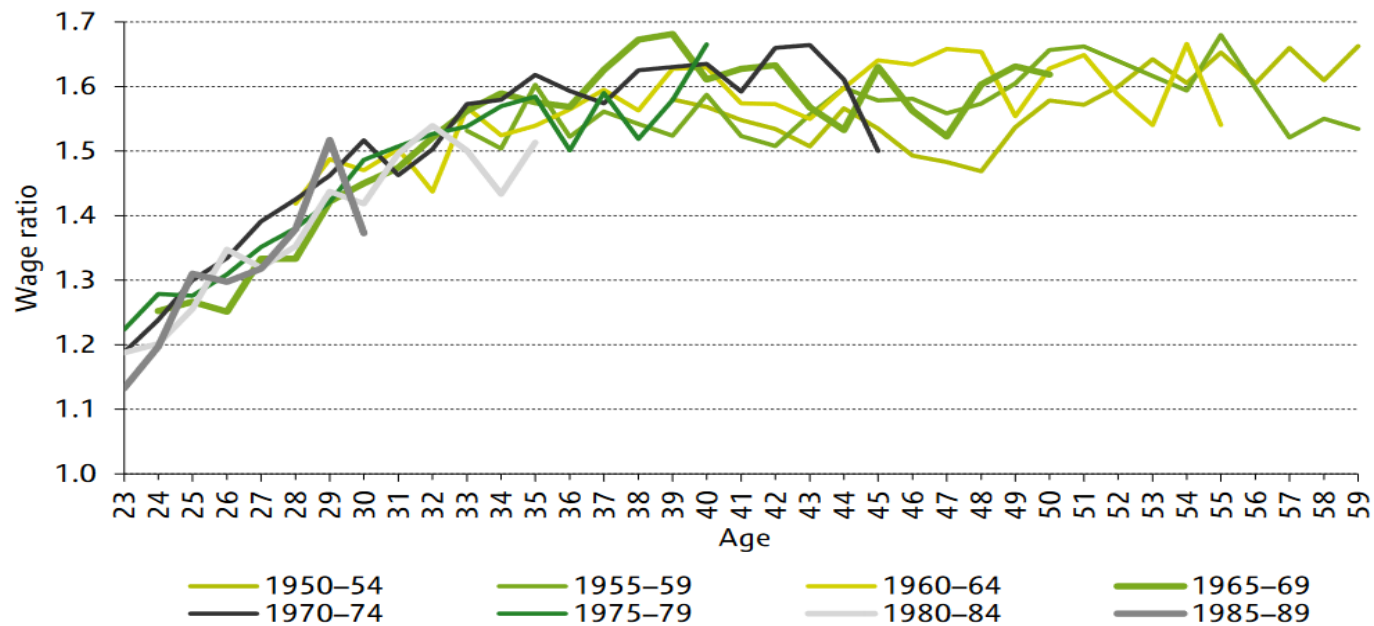


Previous literature on the premium

- The Labour Force Survey (LFS) has been the most common source used to explore the premium over time.
- Existing studies have tended to cover those born prior to 1990 and/or have used LFS data up to 2016.
- Majority (but not all) find the premium to have remained stable across different age groups.

The graduate premium over time

Figure 3. Ratio of graduate median hourly wage to that of school-leavers, by birth cohort



Note: The sample contains 23- to 59-year-olds. Each data point is based on two education groups, both of which have at least 50 wage observations.

Source: Authors' calculations from Labour Force Survey 1992–2015.

Figure source: https://ifs.org.uk/sites/default/files/output_url_files/bn185.pdf

Explaining the puzzle

- The period encapsulated by these previous studies cover a time of expanding participation in higher education.
- In theory, such large increases in supply should have led to the premium falling.
- Stability has led to some economists arguing that there has been a simultaneous rise in demand for graduates.

An alternative explanation

- Not everyone is convinced by this theory.
- For example, how can we be sure/prove that the shift in demand was similar in magnitude to the rise in supply?
- Alternative model proposed by [Blundell and colleagues at the IFS](#).
- They suggest UK firms may change organisation structure as skills in the economy evolve.

Changing our working ways

- As the proportion of graduates in the workforce rises, firms find it profitable to shift to a more decentralised approach.
- In the 1990s and 2000s, UK was transitioning to this new organisational form.
- Premium should remain stable during transition.
- After this point, further rises in supply will result in a fall.
- Authors suggest changeover may have ended in the first half of 2010s.

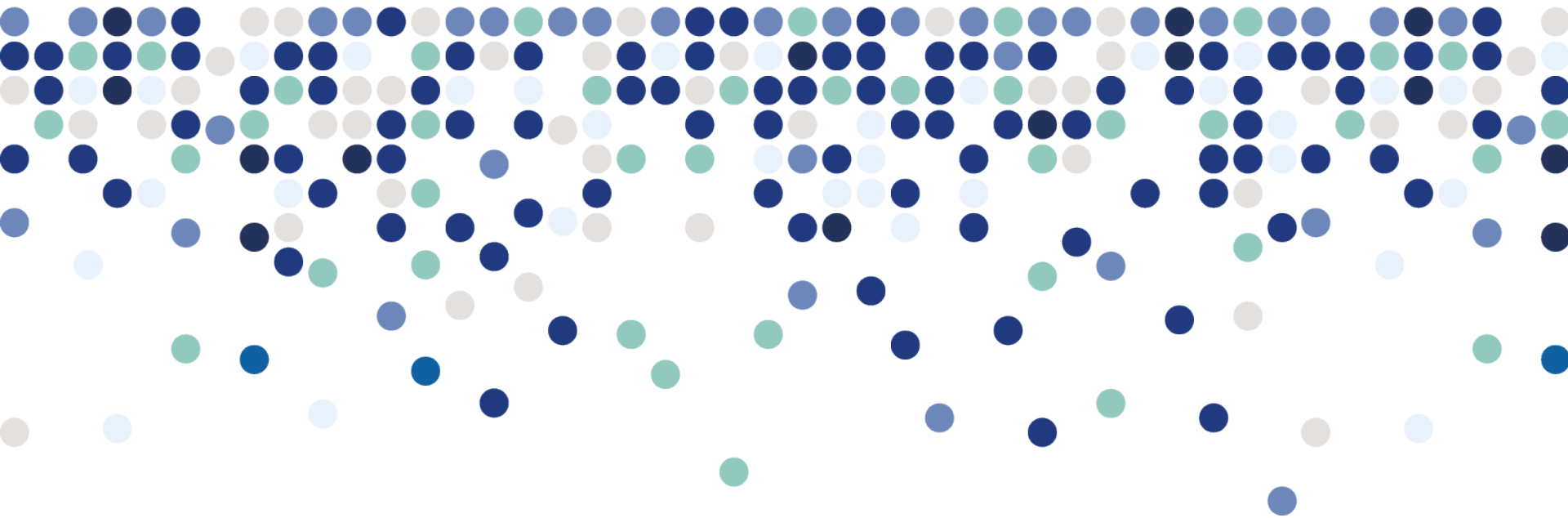


4. Our contribution



Research question

- Key research question for us is:
- **Is there any evidence to suggest the premium has declined in the second half of the 2010s?**
- We contribute to the literature by using information on more recent cohorts, as well as an alternative data source.

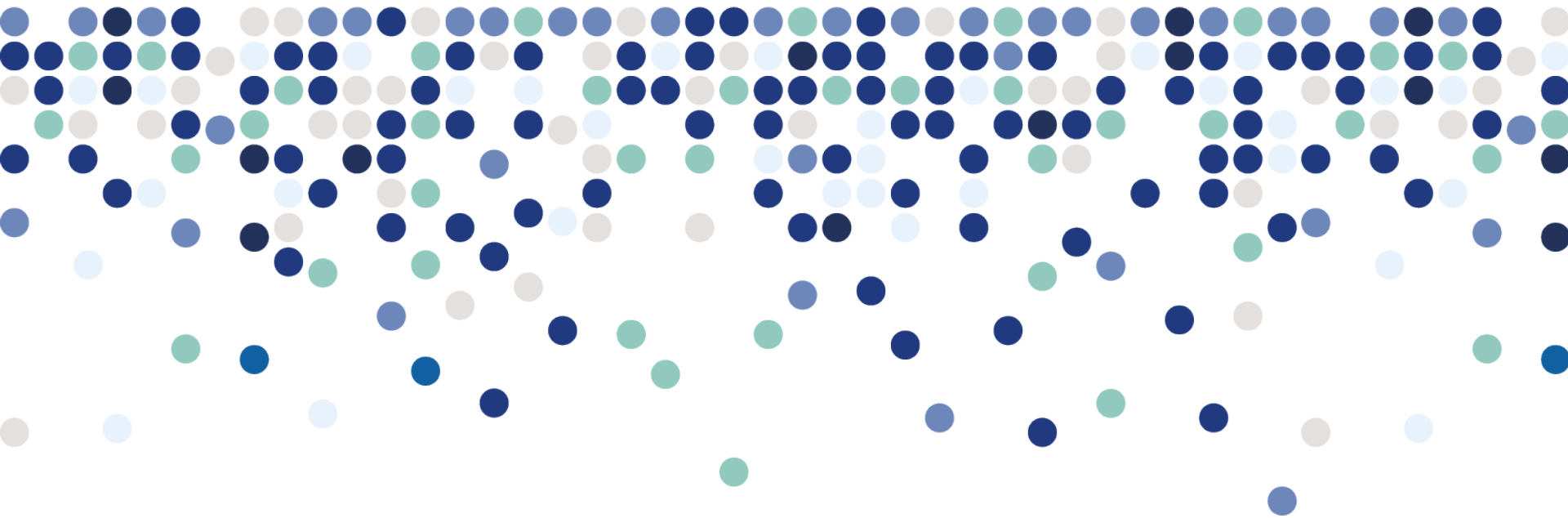


5. Methodology



Overview of method

- Use two cohort studies to assess the change in the graduate premium for those aged 25-26.
- British Cohort Study follows those born in 1970, while Next Steps samples those born between 1989-1990.
- Complement this with analysis from the LFS to evaluate:
 - Whether similar conclusions emerge
 - The timing of the change in the premium



5a. Cohort studies



Why use the cohort studies?

- Limitation of the LFS is the lack of data on topics such as cognitive ability and household background.
- Longitudinal Education Outcomes (LEO) dataset only covers those born from the mid-1980s onwards.
- Data is available on annual earnings only in LEO with no information on hours worked.
- Cohort studies, however, are particularly rich in the data they collect.

Empirical approach

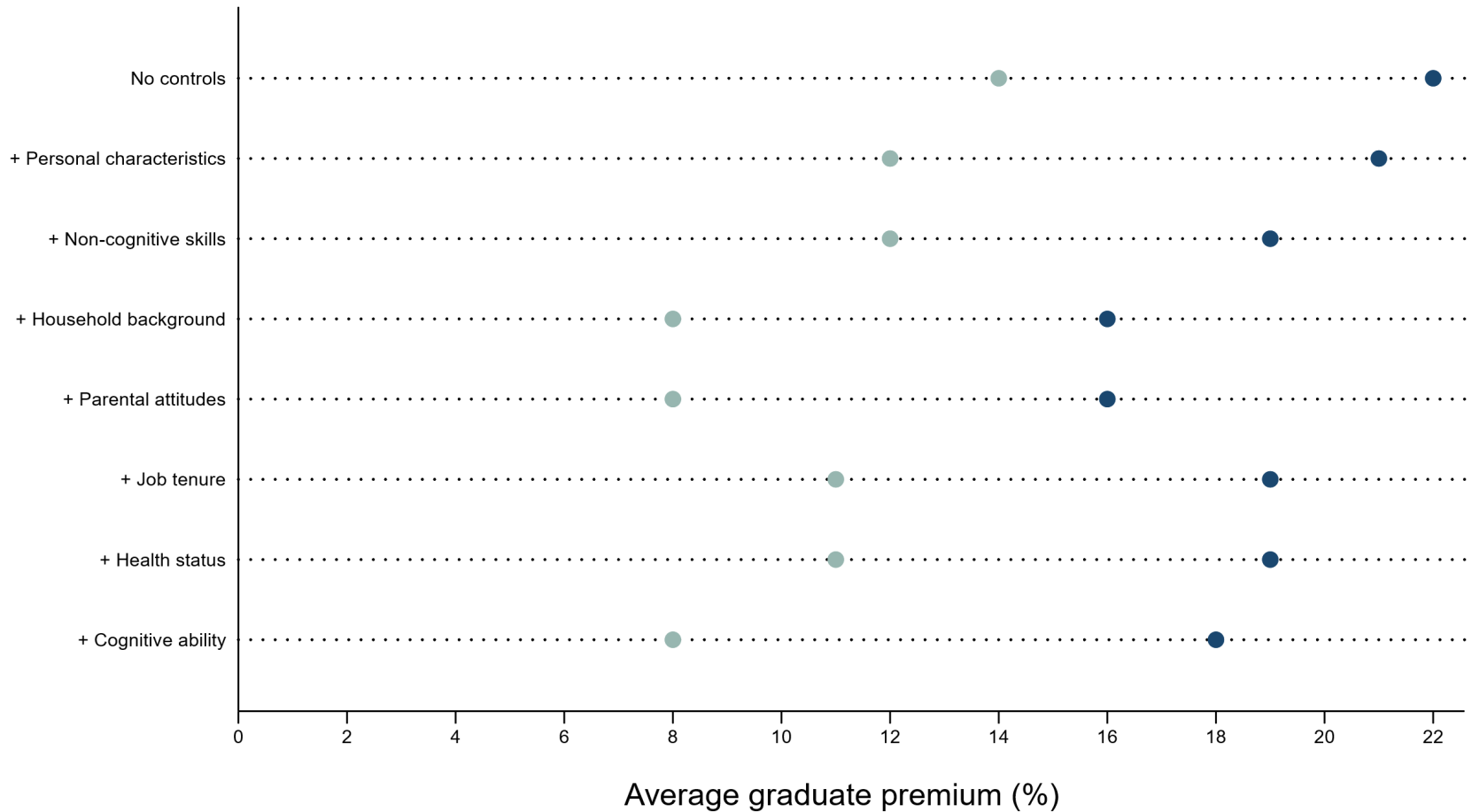
- Employ ordinary least squares (OLS) to estimate the premium in both cohort studies.
- Include controls that are as similar as possible in both instances.
- These covariates are added successively into the models, so that we can observe how the premium changes.

Key definitions

- **Graduate premium definition:**
- The extent to which the hourly earnings of graduates exceed that of non-graduates in percentage terms.
- **Dependent variable:** [Log of] (net/gross) hourly pay
- **Key independent variable:** Highest qualification
- **Graduates:** Those with a first degree only.
- **Non-graduates:** Those with A-levels or GCSEs.

The change in the graduate premium

The average graduate premium at age 25-26 in the British Cohort Study (navy) and Next Steps (green)

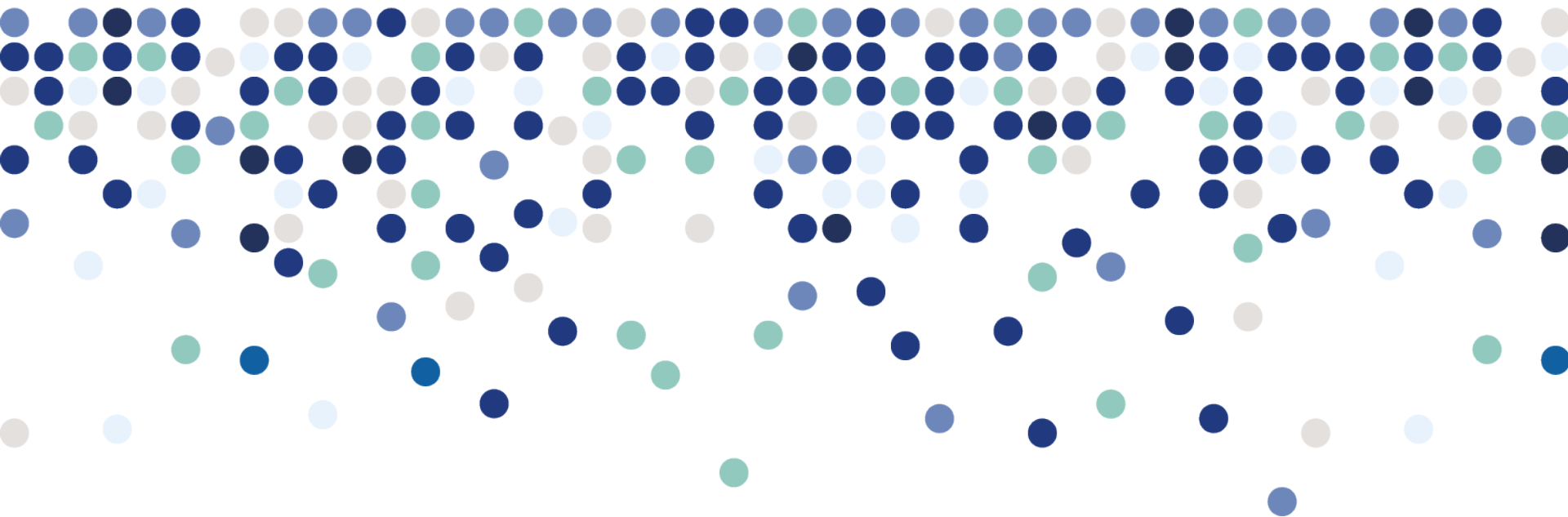


Main take-away message

- **Key finding:** The premium has declined by 10 percentage points across the two decades considered.
- The magnitude of the fall is almost equivalent for both men and women.
- How robust are these results?

Methodological challenges

- Is there a need to account for selection into employment?
- Are earnings and qualification data likely to be measured with error?
- Should job tenure and health status be included in the controls?
- Do the findings change if we move from net to gross pay in the British Cohort Study?



5b. Labour Force Survey



Our LFS dataset

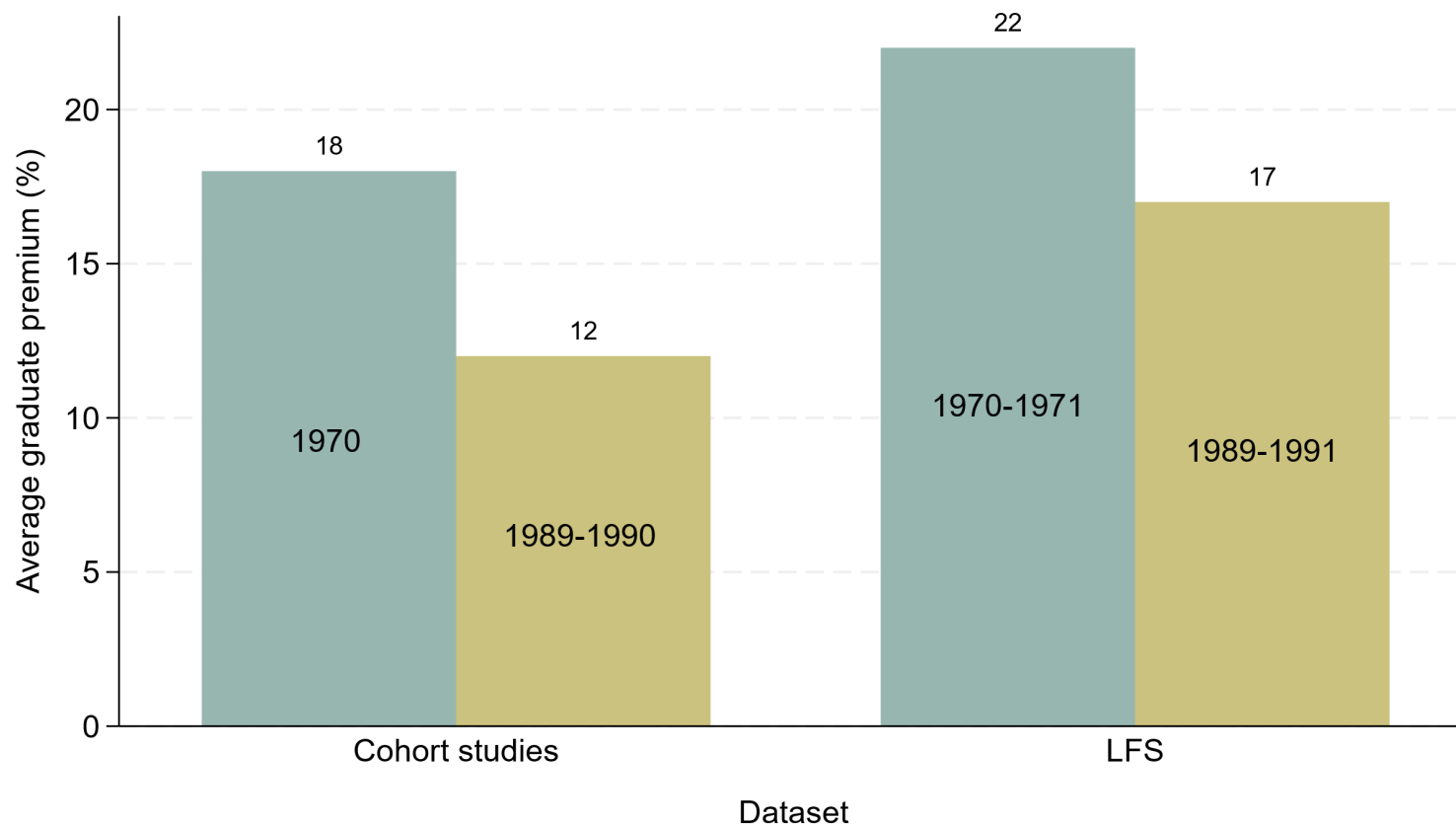
- Pool all quarters of the LFS between 1995 and 2019, restricting to those aged 25-26.
- **Dependent variable:** (Log of) gross hourly pay
- **Key independent variable:** Highest qualification
- Definitions of graduates and non-graduates remains the same.

Q1. Does the LFS also suggest a decline in the premium?

- Start by looking at those who were born around 1970 and 1990 only.
- Estimate the graduate premium for both groups (include no controls).
- Key rationale of this analysis is to see if different data sources produce similar findings.

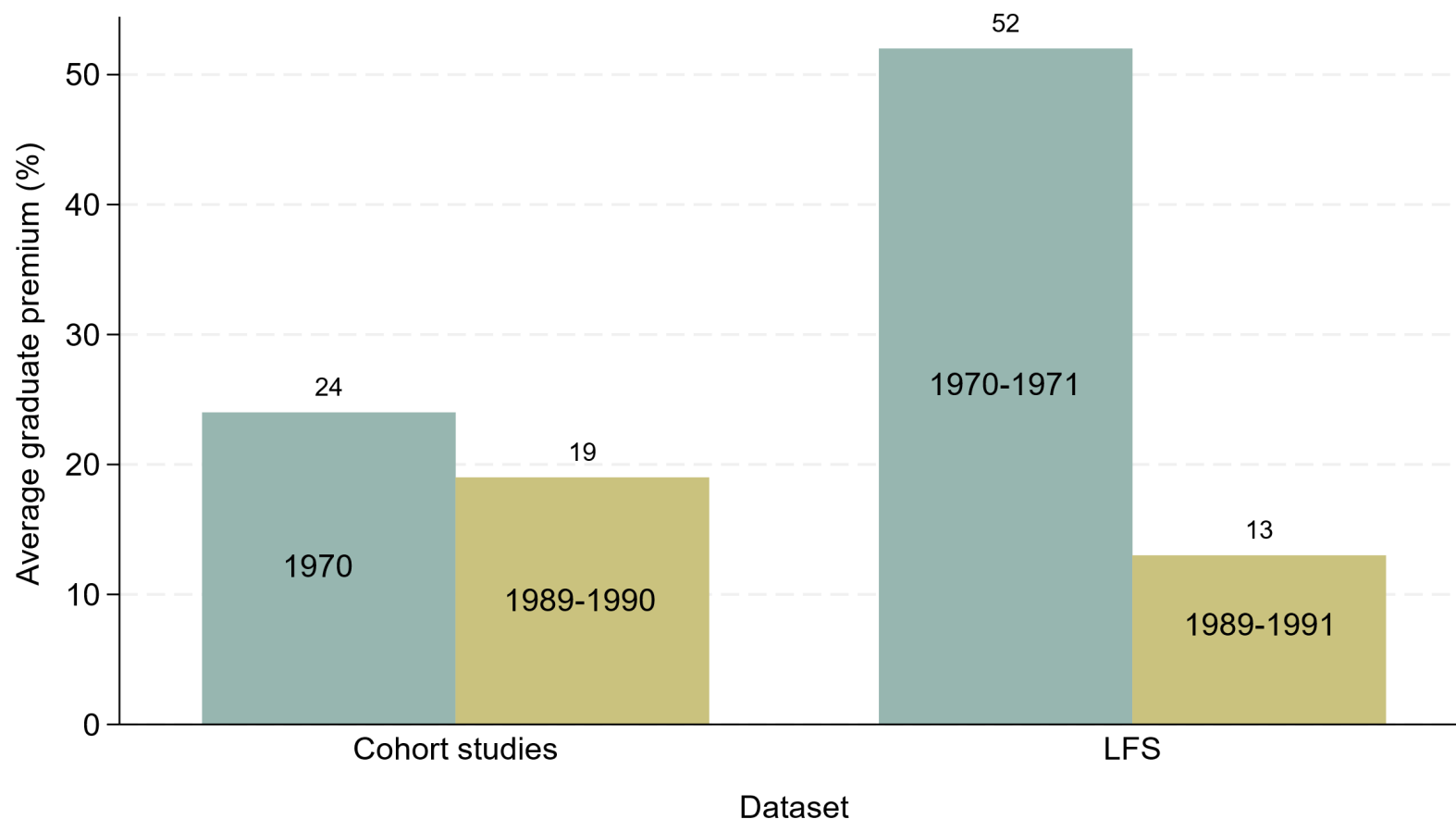
The graduate premium among males

The average graduate premium among males at age 25-26 in the cohort studies and LFS



The graduate premium among females

The average graduate premium among females at age 25-26 in the cohort studies and LFS



Can we explain the finding for females?

- Literature on gender wage gap illustrates males earn more than females.
- In LFS data for the year 1996 – female graduates report higher hourly earnings than male graduates.
- Atypical pattern means we regard results for the premium change among females in the LFS as tentative.

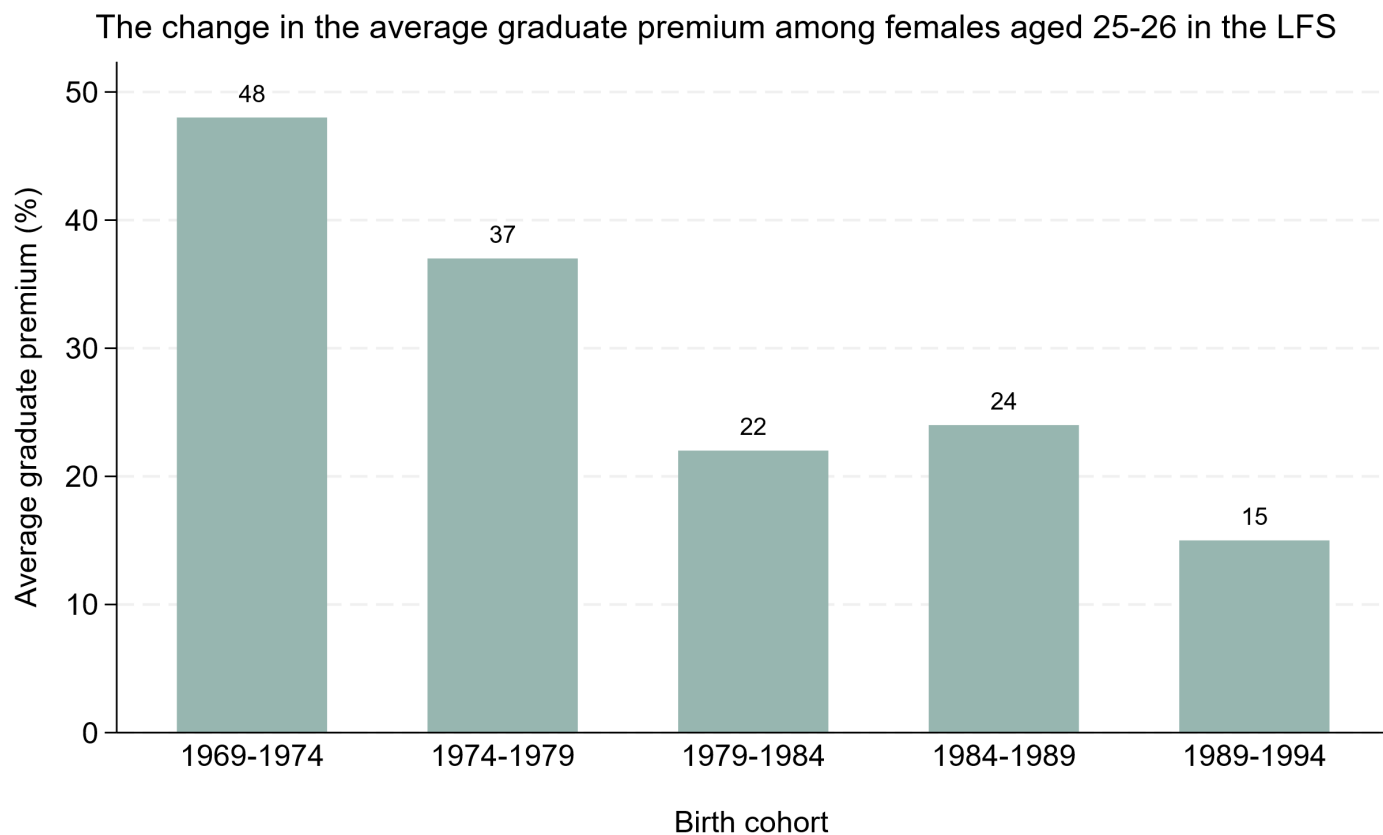
Q2. When did the decline emerge?

- Develop five birth cohort groups as follows:
 - 1969-1974
 - 1974-1979
 - 1979-1984
 - 1984-1989
 - 1989-1994
- Estimate the graduate premium for each of these and assess the change over time.

The change in the premium: males

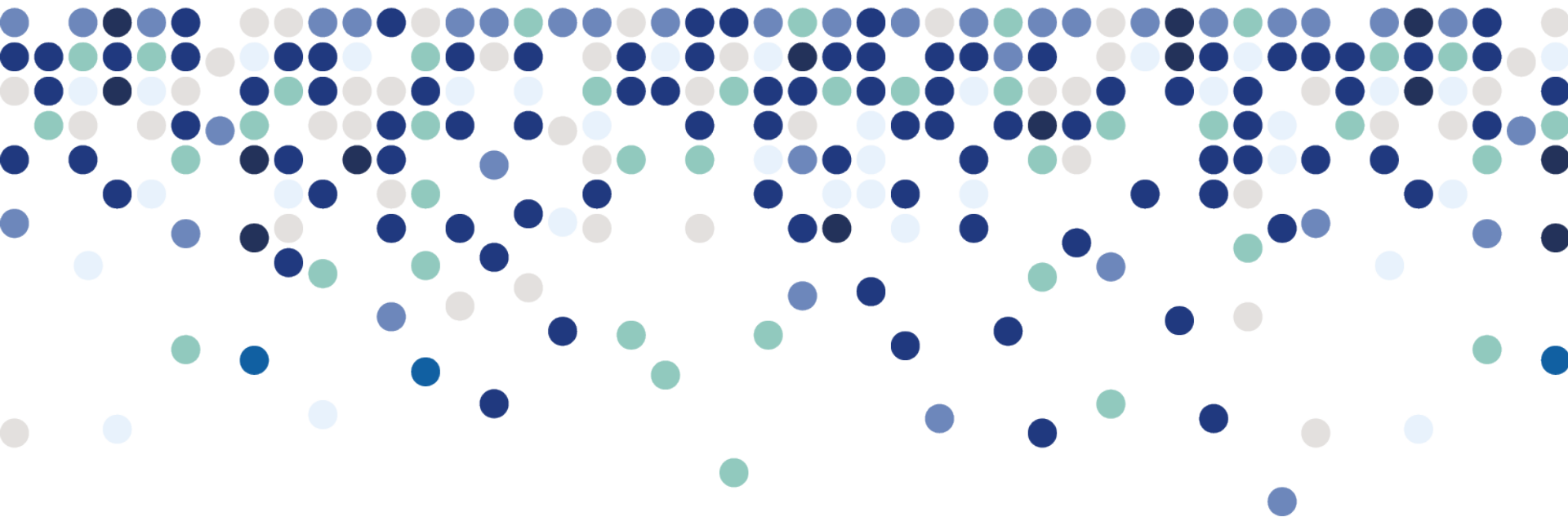


The change in the premium: females



Summary

- For males, both LFS and the cohort studies suggest a fall over the twenty-year period (of a similar magnitude).
- The decline is also a recent phenomenon particularly impacting those born in the late 1980s/early 1990s.
- For females, both datasets also indicate a fall (though the timing of the change is more difficult to ascertain).



6. Concluding thoughts



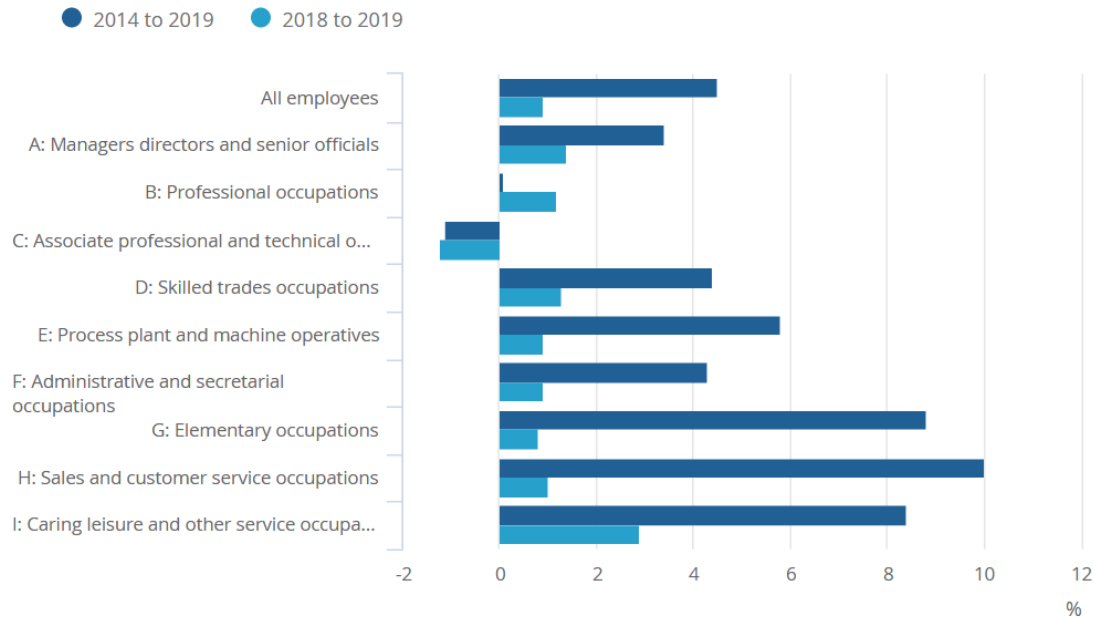
What might explain the fall?

- Based on our evidence, we cannot rule out the hypothesis of the model on the UK's changing firm structure.
- Other factors could also be at play, including;
 - 1) The impact of the Great Recession.
 - 2) The rising proportion of first/upper second class awards.
 - 3) The (lack of) pay increases in occupations typically containing a higher proportion of graduates.

Annual Survey of Hours and Earnings

Figure 9: Over the past five years weekly earnings have grown most in the lowest-paid sectors

Growth in real gross weekly earnings by occupation for 2019 from 2018 and 2014, UK



Source: [Figure source:](https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2019)

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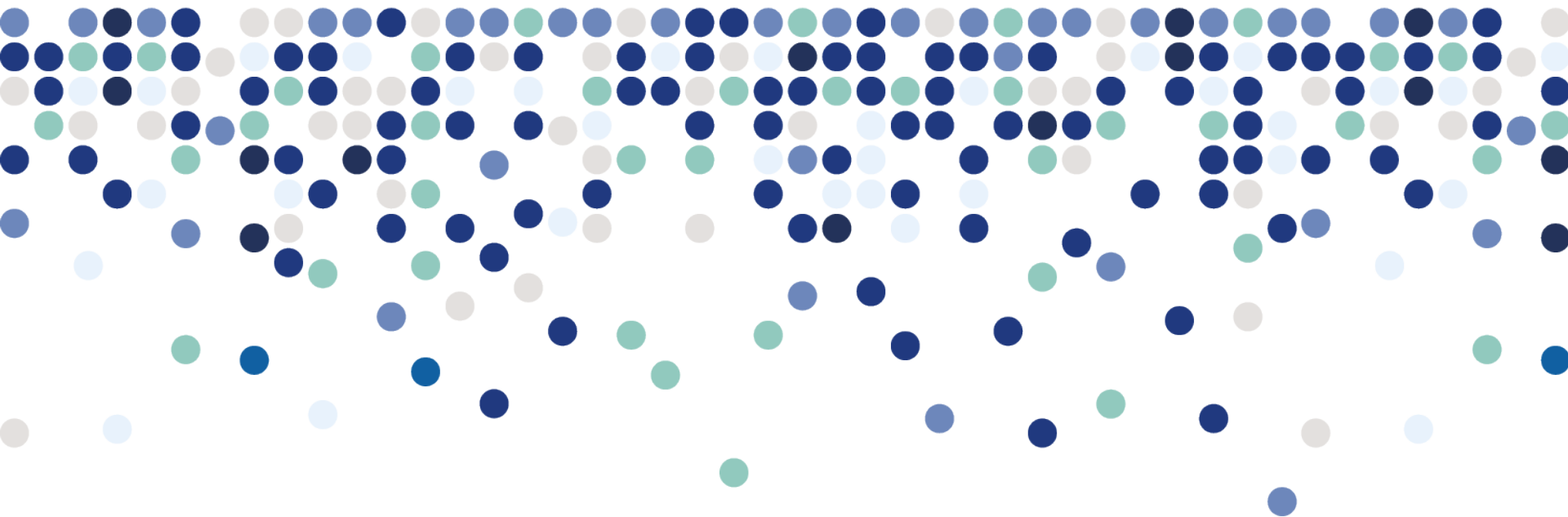


7. Further information



Further information

- The full paper can be found on the *Oxford Economic Papers* website: <https://doi.org/10.1093/oep/gpae014>
- Find out more about HESA research at <https://www.hesa.ac.uk/data-and-analysis/research>
- Stay informed of future HESA research publications at: <https://communications.hesa.ac.uk/hesa-research-releases>
- Comments and questions on the study can be sent to pressoffice@hesa.ac.uk.



8. Questions

