

How English-domiciled graduate earnings vary with gender, institution attended, subject and socio-economic background

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Motivation

- Relative graduate earnings have remained high despite expansion in student numbers
- But variation in graduate outcomes has increased
- Our research questions are therefore:
 - ***What is the extent of inequality in graduate earnings:***
 - *by institution?*
 - *by subject?*
 - *by socio economic background?*

Data

- Individuals domiciled in England who received loans from the Student Loans Company (SLC)
 - Loan take up 85-90%
- Merging data
 - Income tax data from HMRC
 - Borrowing records from the SLC
 - HESA course level data

Data

- 260,000 students who borrowed from the SLC between 1998 and 2010
- A 10% sample of PAYE and Self Assessment records from 2001/02 to 2012/13 tax years
- Institutions with 1000+ loans are included individually - there are 170
- Subject studied
- Amount borrowed

Data

- HESA data to enable us to compare similar institutions/courses
 - Average HESA tariff
 - Ethnicity
 - POLAR
 - % living at home
 - % privately educated
 - Mean parental occupational class

Data

- Measure of parental income
- Individuals borrowing the maximum amount available to wealthier households
- Identifies top fifth of households of those applying to HE

Confidentiality Issues

- Understandable sensitivity on this issue
 - Earnings do not measure the “value added” by institutions
 - Earnings are not the only benefit from higher education
- Employment outcomes already published at institutional level
 - Key information set (KIS)
- Avoid league tables

Methodology

- Measure labour market success (employment and earnings) so include those with low or nil earnings
- Need to account for differences in student intake, particularly differences in prior achievement
- Need to move closer to a value added model
- Can use HESA data to take account of the profile of the student intake

Caveats

- Allow for average differences in student intake not individual ability
- Not necessarily causal
- Will include drop outs
- Will understate earnings of those moving abroad

What did we find?

- Graduates are much more likely to be in work, and earn considerably more than non-graduates.
- Non-graduates were twice as likely to have no earnings as graduates ten years on (30% against 15% for the cohort commencing their studies in 1999 and observed in 2011/12).
- Among those with significant earnings
 - median earnings for male graduates were £30,000 and £22,000 for non-graduates
 - median earnings for female graduates were £27,000 and £18,000 for non-graduates

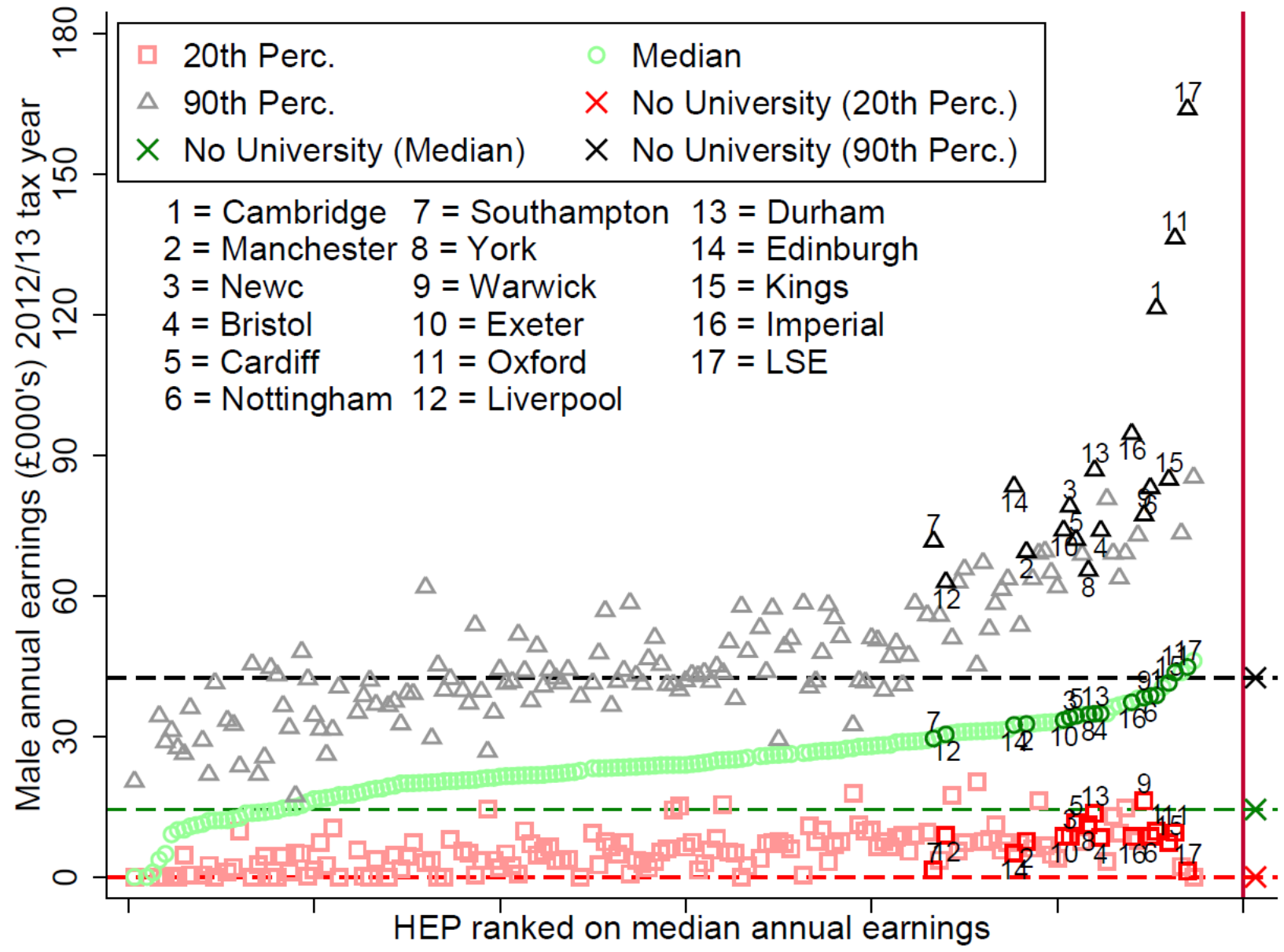
What did we find?

- The raw gap between those from a higher-income background and the rest is around 30% for males and 24% for females at the median.
- Students from higher-income backgrounds earn about 10% more than other students even after taking account of subject and institution

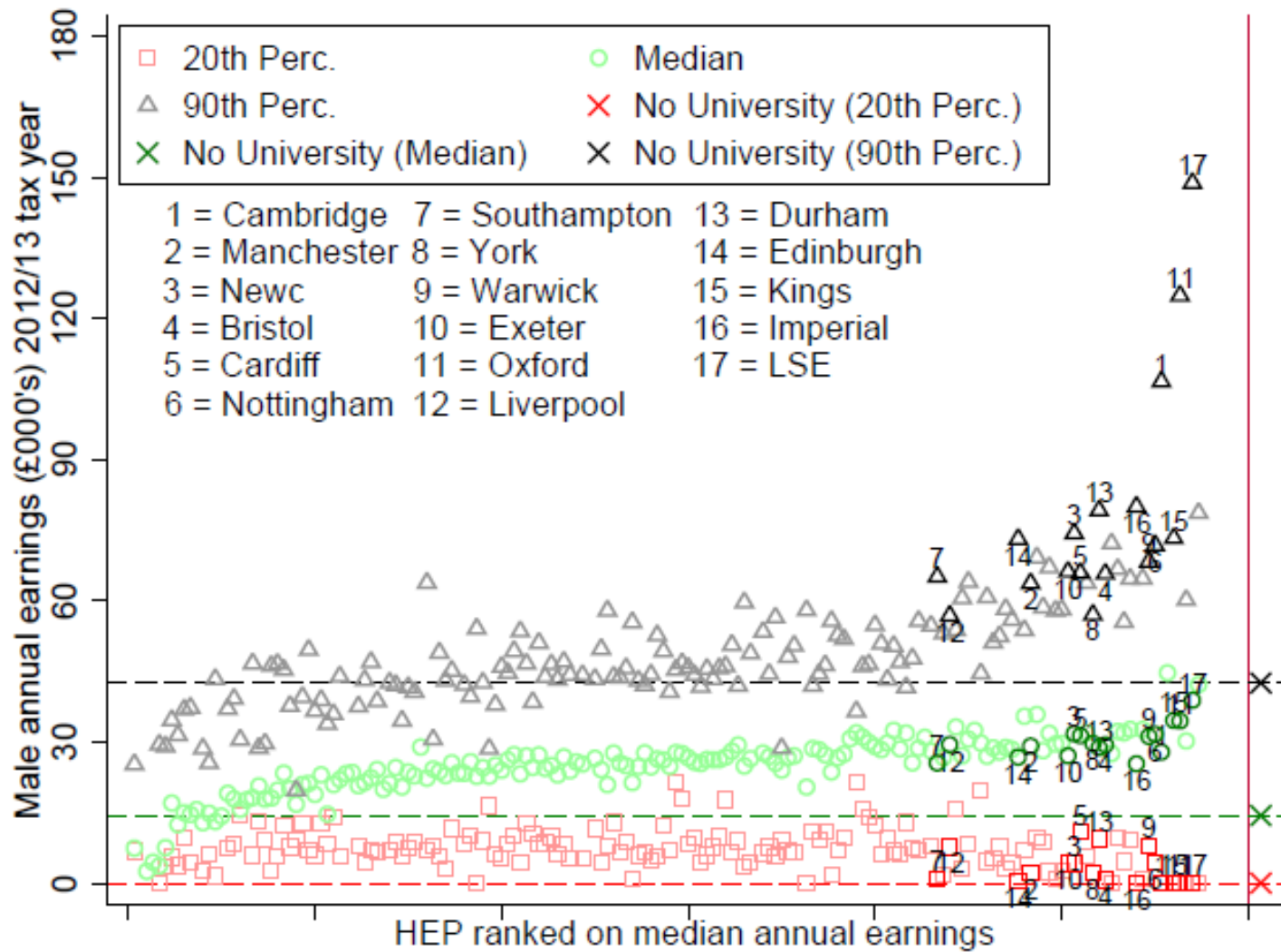
What did we find?

- Big differences in earnings according to which university was attended
- Largely but not entirely driven by differences in entry requirements

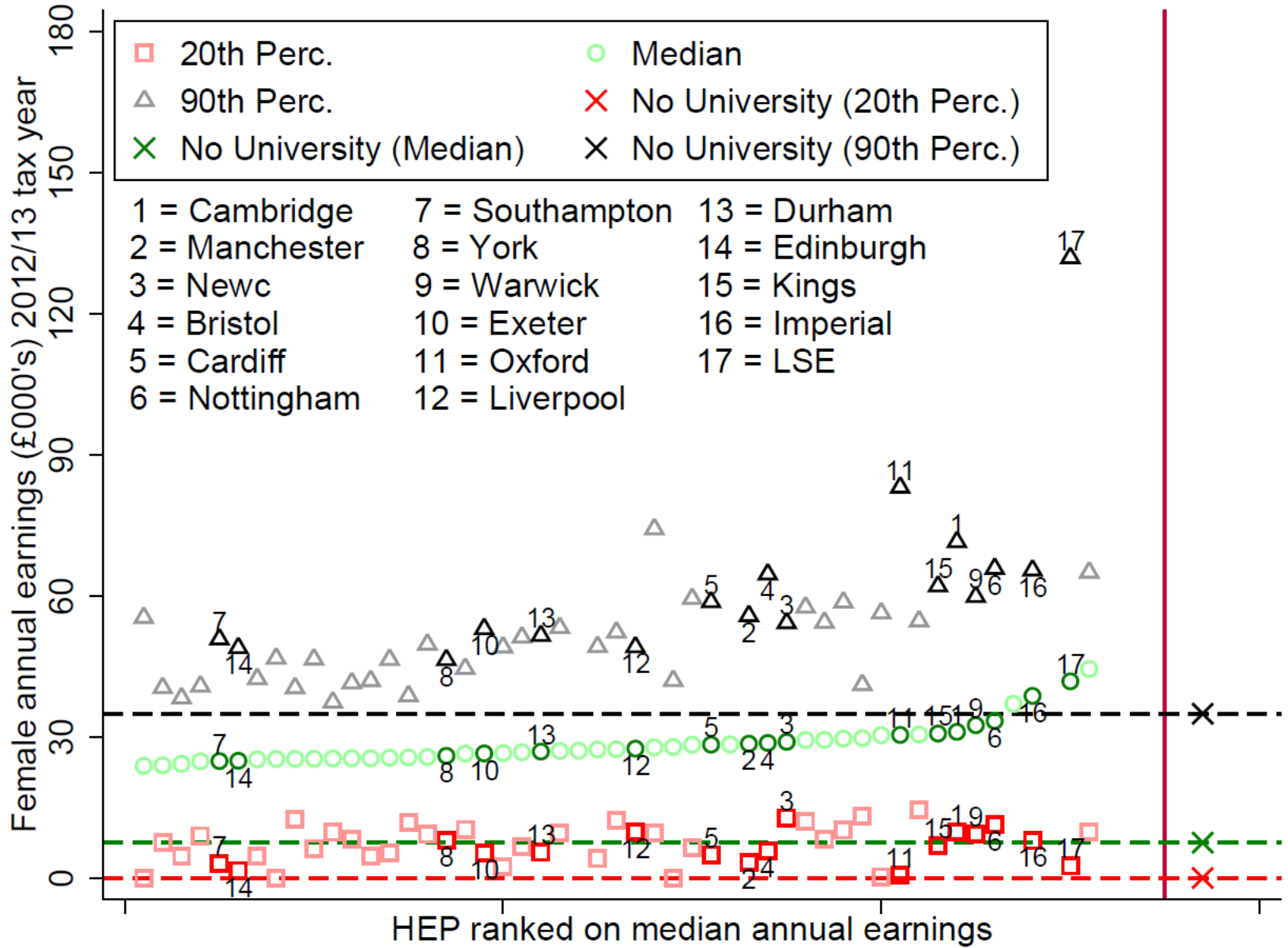
RAW DIFFERENCES



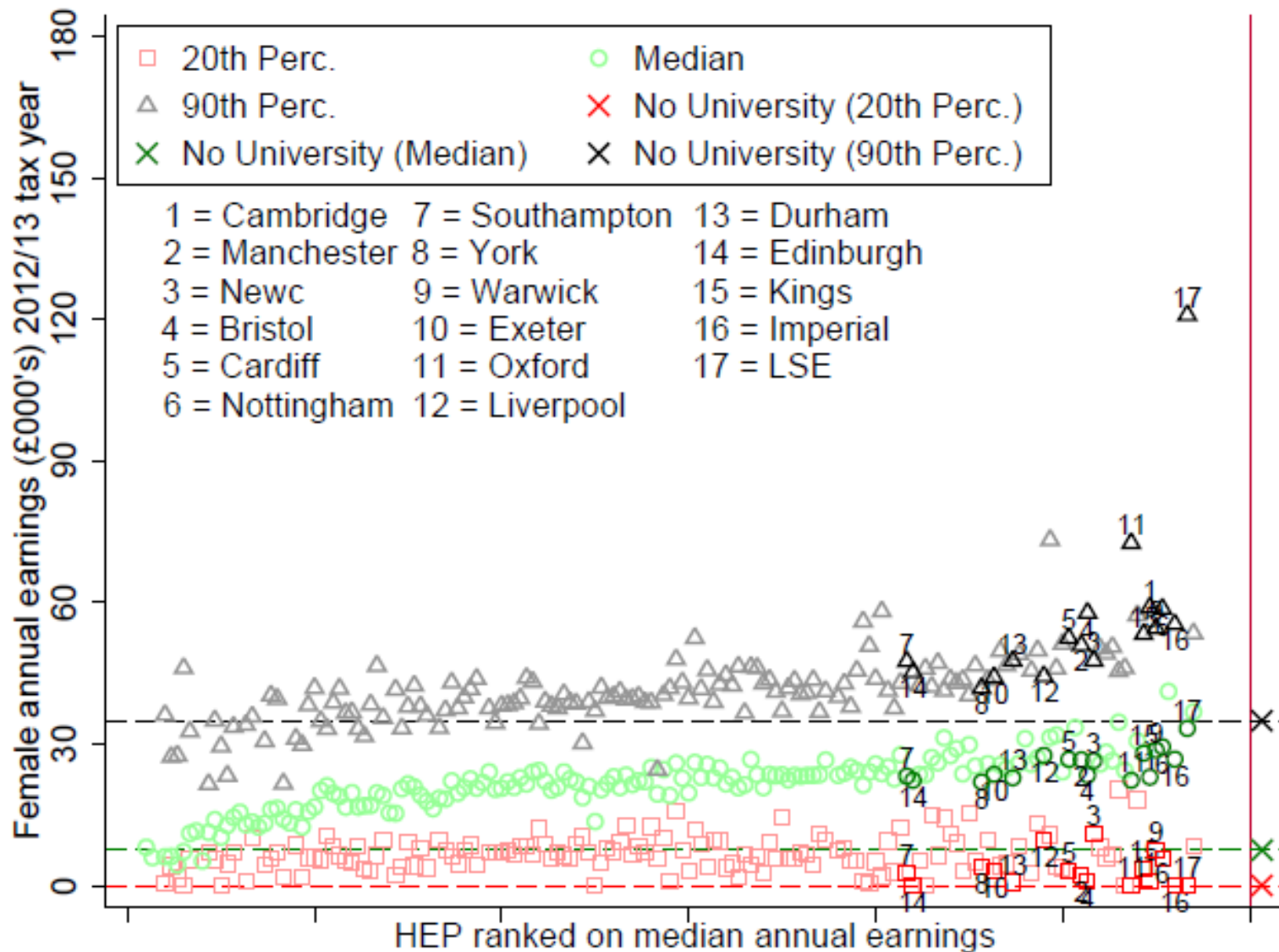
TRIES TO ALLOW FOR STUDENT INTAKE



RAW DIFFERENCES



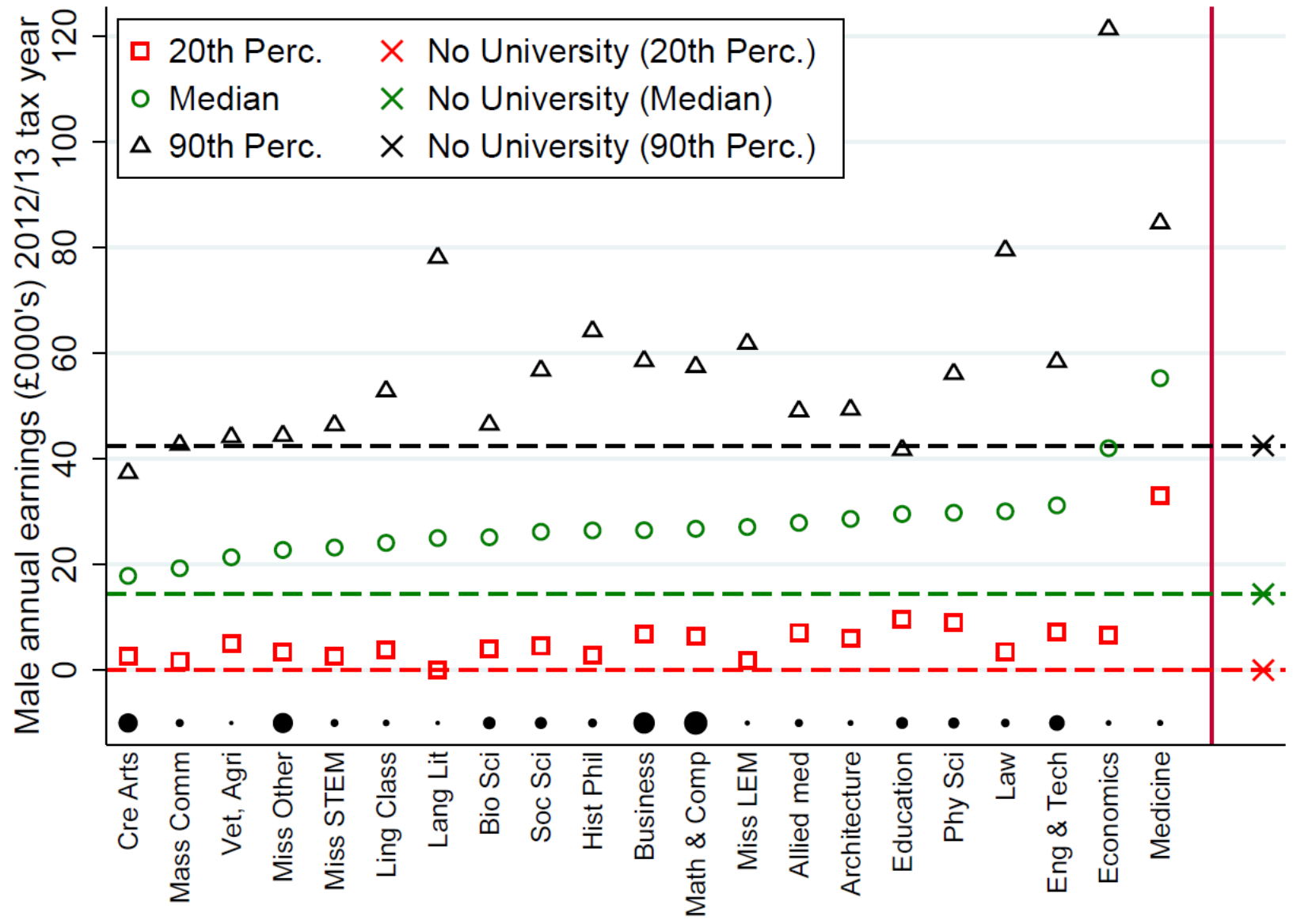
TRIES TO ALLOW FOR STUDENT INTAKE



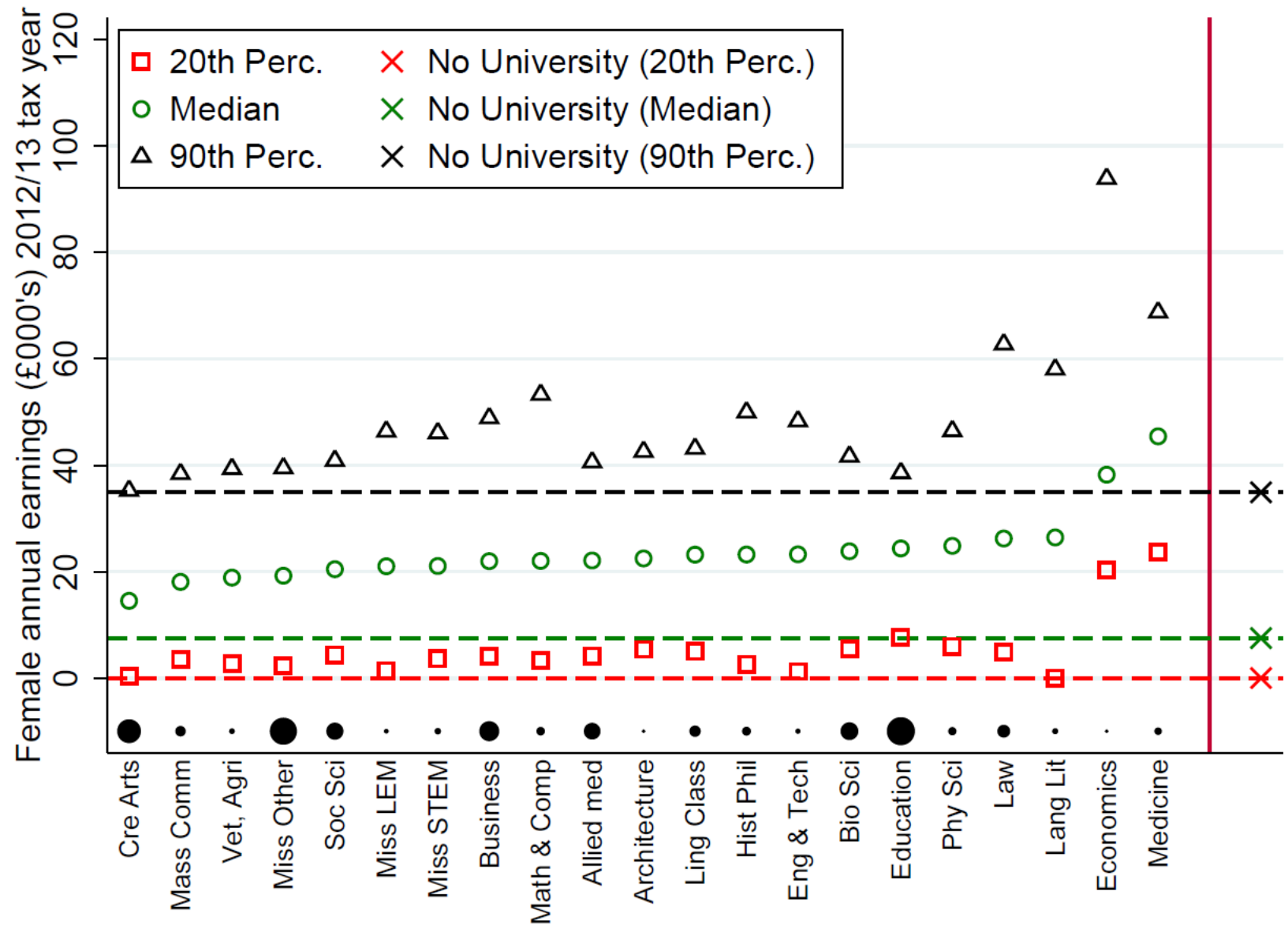
What did we find?

- Big differences in earnings across subjects
- When we account for different student intakes, only economics and medicine remain outliers

RAW DIFFERENCES



RAW DIFFERENCES



Conclusions

- Big earnings inequality amongst graduates
- Prior achievement and information matter because they influence which institutions students from poor backgrounds end up in
 - *Access to HE is not enough, access to HE that attracts higher earnings is key*
- Socio-economic background continues to impact upon outcomes even for graduates

What does this mean?

- Theory matters....
 - Human capital theory
 - Signalling theory
- Implications for public policy
- Implications for students

Implications for public policy

- These data can tell us where public subsidy is going
 - Graduates who study subjects such as creative arts earn less
 - If the numbers taking these subjects increase this may bring down the aggregate graduate earnings premium
- Our estimates are not causal so cannot tell you where it should go
- Who do we want to subsidise?

Implications for public policy

- These data might be used for the TEF but!!
 - Our estimates are not causal
 - Individual data to measure value added (LEO)
 - Data over a longer period to get stability
 - Data relate to the past and may not guide the future
 - Only useful as part of a wider set of measures
 - Unfortunate incentives.....

Implications for students

- A degree offers a pathway to relatively high earnings for many but not all graduates
 - Do students have a right to know what others have gone on to do from a particular degree?
- Poor students may need additional support to realise the full potential value of a degree?
 - Advice and guidance?
 - Postgraduate study?