

# **The gender dilemma: can our past inform the future?**

## **Gender differences in performance and engagement of BSc Economics students**

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See this project presented by the researcher: <https://youtu.be/ZKORiCUayrw>  
If this project has informed your practice, let us know at [lse.changemakers@lse.ac.uk](mailto:lse.changemakers@lse.ac.uk)

### **Background**

The aim of this project has been to test empirically whether studying at the male-dominated LSE Department of Economics hampers engagement and performance of its underrepresented female students.

My motivation for this project has come from conversations with female peers in Economics who would often say sentences similar to this one: "I am one of the only two women in my EC202 class, so I only speak up when I'm fully certain what the correct answer is." It seemed to me, at least anecdotally, that women taking Economics often felt very conscious of being a part of an underrepresented group and pressured to prove their competence in a male-dominated classroom, which might depress their engagement and affect their performance.

### ***Looking backwards...***

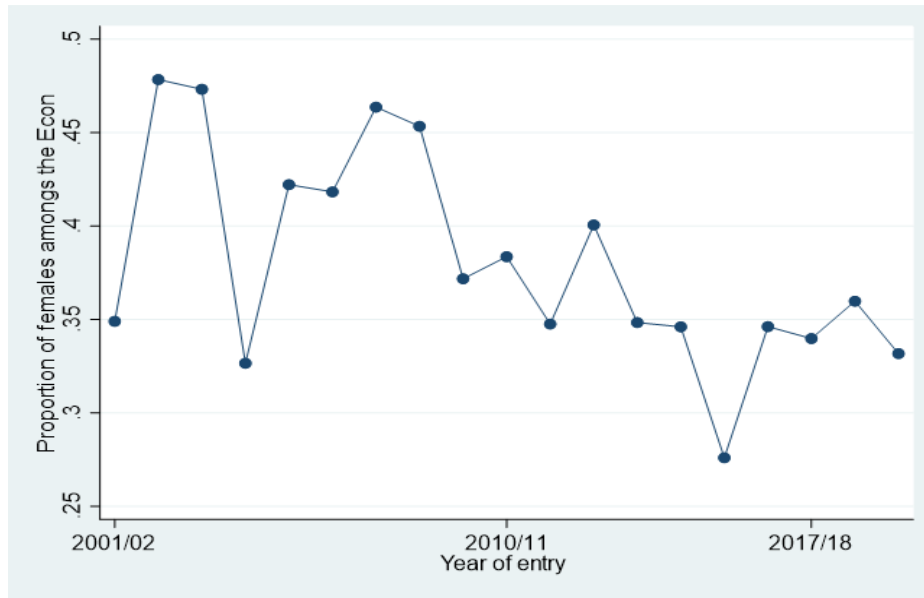
#### **Methodology and data I**

The first part of the project was to analyse a data set provided by LSE's Data Management Plan Team from Digital Curation Centre. This was anonymised data on the performance of 4,130 BSc Economics students over the last 19 years. The dataset contained exam scores from all the modules these students have ever taken at LSE and background information on them including socioeconomic class, year of study, year of entry, exact names of the modules taken and, of course, gender.

From this data set I wanted to obtain summary statistics to track the proportion and ethnicity of females in the Department of Economics over years and above all to check whether there were any gender differences in mean exam performance using a method called panel data regression. All of the data analysis was performed in STATA.

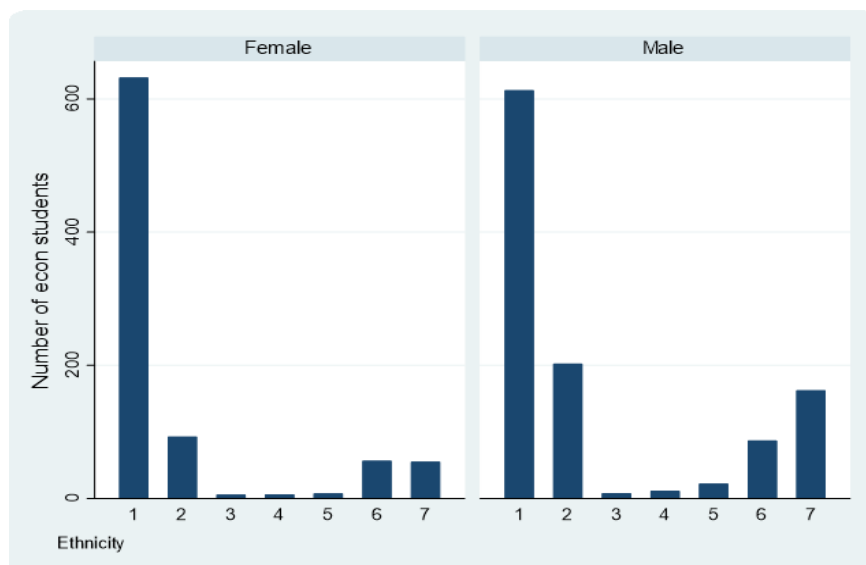
#### **Findings I**

From the summary statistics I have learnt that now there are *less* women in the Department of Economics than there were 20 years ago and though this proportion has been varying yearly it has never reached 50% level and a downward trend is clearly visible.



*Proportion of females amongst the BSc Economics students by year of entry*

- Furthermore, the majority of female students in the Department are of Chinese ethnicity. Were it not for the Chinese female students the gender ratio amongst the Economics would have been even more skewed.
- My main finding has been that females significantly perform 9 marks better than males. To derive this result I built a regression model in which I controlled for unobserved individual characteristics that might be guiding student's behavior and the fact that the exams were happening throughout different academic years. I controlled for such fixed effects and restricted the data to look only at economics modules to derive my result.



*Number of BSc Economics students by ethnicity: 1 - Chinese, 2 - South-East Asian, 3 - Arab, 4 - Black, 5 - Mixed, 6 - No info, 7 - White*

## ***...to feed forwards***

### **Methodology and data II**

Having obtained a clear picture on what the situation in the Department has been through data analysis I needed to reconcile the fact that females have anecdotally found it difficult to engage with the curriculum due to being underrepresented within their course with the fact that they perform better than males in examinations.

I have formed the hypothesis that women might have different study behaviour than males to overcompensate for a more difficult in-classroom experience. In order to test this hypothesis I have circulated a survey in a departmental newsletter in which I have asked the questions listed below (amongst other). Then I have analysed the answers to see if there were any gender differences in these experiences and study patterns.

- How many hours per week, on average, do you spend studying for economics modules?
- How many hours per week, on average, do you spend studying for non- economics modules?
- Do you feel like you speak more in class than your peers?
- Do you feel comfortable speaking in class when asked?
- Do you feel comfortable expressing your opinion freely?
- Has the online learning environment made it more difficult for you to communicate with academic staff?
- How many times per week, on average, do you attend office hours?
- How many times per week, on average, do you talk to your academic mentor?

### **Findings II**

From the survey data analysis I have learnt that females and males report similar amounts of hours per week spent on economics and non-economics modules. Furthermore, females, on average, feel that they speak more in class than their male peers. But they feel less comfortable to speak when asked and less comfortable to express their views and opinions freely. Also, they report that the online learning environment has made it more difficult for them to communicate more strongly than males do. Females report attending, on average, 2 office hours per week, while males report, on average, zero.

### **Findings summary**

Combining the results from the data set on exam performance and the survey data the following conclusions can be drawn:

Females are strongly underrepresented in the Department of Economics and we see no improvement in their representation over the past 20 years. The majority of females in the Department are of Chinese origins.

Females, however, despite being in the underrepresented group and despite feeling less comfortable to speak when asked and less comfortable to express their views and opinions freely, still speak up more in class than their male peers and achieve better exam results.

## Recommendations

- The results of the survey I have presented above are only preliminary since, by circulating the survey in a departmental newsletter, it was not possible to get a large enough sample to make them statistically significant. Only 15 answers have been collected. Hence, in order to understand female students' experience better I recommend that the EDEN centre in its large survey next year asks some of the questions I have asked in my smaller survey. Those questions can be found in the Methodology and Data II section.
- I recommend that the Economics Department explores ways to make women more comfortable to speak and participate in class
- I recommend that the Economics Department explores ways to increase female representation amongs BSc Economics students