

Where Have All the Economics Students Gone?

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Abstract

The size and diversity of the economics student population has declined sharply since the early 1990s, raising concerns about economic literacy in society and the long-term health of the economics discipline. Interest in studying economics at university is low, even for those who studied economics in Year 12. This article investigates what students are choosing to study at university – if not economics – using new microdata from the Universities Admissions Centre. While Year 12 economics students tend to enrol in economics at university at much higher rates than other students, they are more likely to study a commerce and finance or arts and social science course than an economics course. Possible initiatives to increase the flow of high school students into university economics include tailored advocacy to emphasise the connections between economics and other preferred fields of study, and a greater focus on encouraging students to study economics subjects within a commerce and finance degree. It may also be worth exploring whether any lessons can be applied from initiatives to promote the take-up of STEM (Science, Technology, Engineering, Mathematics) courses, given the relative rise in enrolments in those subjects over recent years.

Introduction

Enrolments in economics at both high school and university are low relative to most other subjects. But this was not always the case, with economics being one of the most popular subjects in high school three decades ago (Dwyer 2017). Along with the decline in enrolments, there has also been a decline in the diversity of the economics student population. As a result, there is a growing uniformity among economics students, and this also extends to those who become economists or apply economics in their careers (Dwyer 2024). These trends are concerning because they suggest a decline in economic literacy in the population, which could in turn affect the quality of future economic research and public policy.

In 2016, the RBA established a public education program to support economics educators and students, both at the high school and tertiary level. Lovicu (2021) examined the transition from high school to university economics using data from the Universities Admissions Centre (UAC), finding that interventions to increase the number and diversity of students studying economics in Year 12 can strengthen the pipeline of students into university economics. This article builds on this previous work by exploring new data from UAC, which sheds light on what university courses students are choosing to study, if not economics.¹ These insights can be used to inform choices about how best to encourage a higher take-up of economics courses at the tertiary level.

The university admissions process

UAC processes applications for admission to most universities in New South Wales and the Australian Capital Territory. UAC uses students' results in the Higher School Certificate (HSC) to calculate their Australian Tertiary Admissions Rank (ATAR), with admission to most university courses then determined by a student achieving a minimum selection rank.² The application process begins with students submitting up to five preferences for university courses in order of priority. UAC will then gauge demand and supply for each course and set ATAR cut-offs for entry. Students are offered a place in the course they preference most highly, provided their selection rank is above the course cut-off. There are multiple rounds of offers, but students can only receive one offer per offer round.³ After students have accepted an offer, they can approach the university to enrol in the course. Each course preference submitted by a student will therefore have one of three outcomes: 'enrolled in', 'were offered a place in but did not accept', or 'did not receive an offer'.

The data

The UAC dataset contains de-identified unit record (i.e. individual-level) information and is an updated and richer version of the aggregated dataset used by Lovicu (2021). It now contains the full (unordered) list of course preferences submitted by every student from 1999 to 2023, alongside their demographic characteristics, the subjects they studied in Year 12 and their overall academic performance. These data provide information about how students make their decisions about what to study at university. They also provide insights into students' level of interest in different courses.

Figure 1 contains a stylised illustration of how these levels of interest can be categorised.

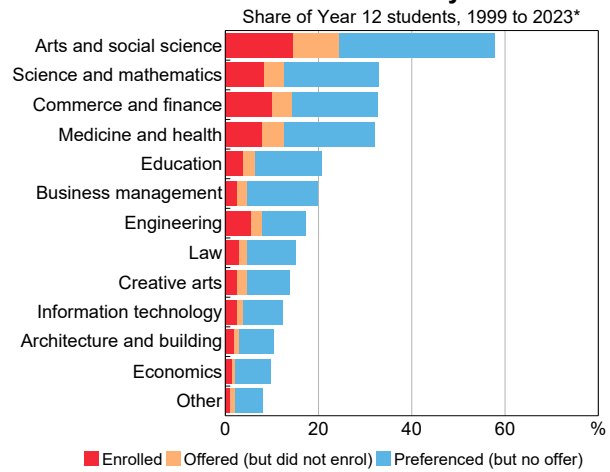
Field of study classification

Determining how many students study a certain subject at university is not straightforward because some subjects can be undertaken in several courses. For instance, a major in economics can be completed through commerce, finance and, in some cases, arts degrees, but data on which subjects are studied as majors would need to be collected from a broad sample of universities to gain reliable insights into how prevalent this is. Therefore, this article follows Lovicu (2021) in using dedicated economics courses offered by universities as a *lower-bound* proxy for economics majors.⁴ For all other courses, this article relies on universities' own classifications.⁵ Double degrees that allow students to graduate with two qualifications are treated as counting towards two fields of study.⁶

University course preferences

Between 1999 and 2023, only around 10 per cent of all Year 12 students included an economics course among their preferences to UAC, with just 1 per cent of all students actually enrolling in one (Graph 1). By contrast, arts and social science was the most commonly preferred field of study, with science and mathematics, commerce and finance, and medicine and health also very popular.

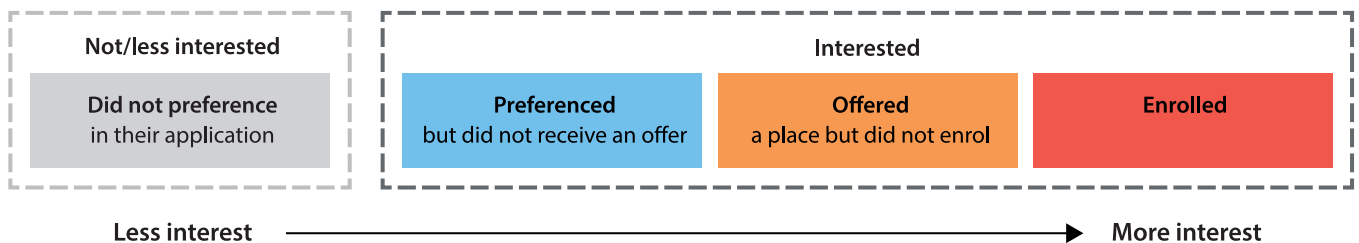
Graph 1
Course Preferences by Field of Study



* Year 12 students applying through UAC. Some applicants did not enrol in a course. Double degrees count towards two fields of study.
Sources: RBA; UAC.

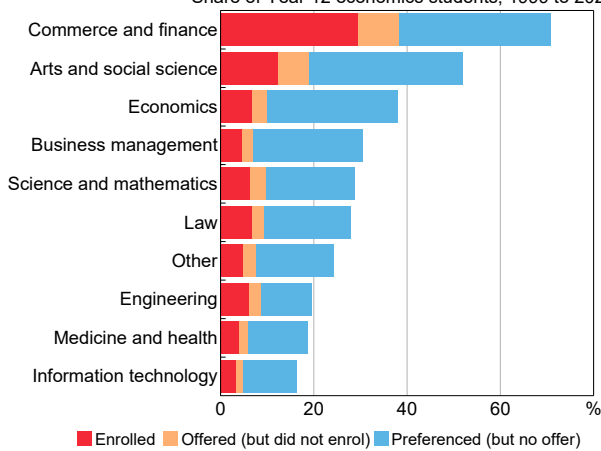
Figure 1

Students' Interest in a University Course



Focusing just on Year 12 *economics* students, commerce and finance has been by far the most popular field of study, with around 70 per cent of this group including a commerce or finance course as at least one of their preferences between 1999 and 2023 (Graph 2). There is also considerable interest in arts and social science, which was preferred by around half of Year 12 economics students over this period. Economics was the third most preferred field of study, with almost 40 per cent preferring an economics course.

Graph 2
Course Preferences by Field of Study
Share of Year 12 economics students, 1999 to 2023*



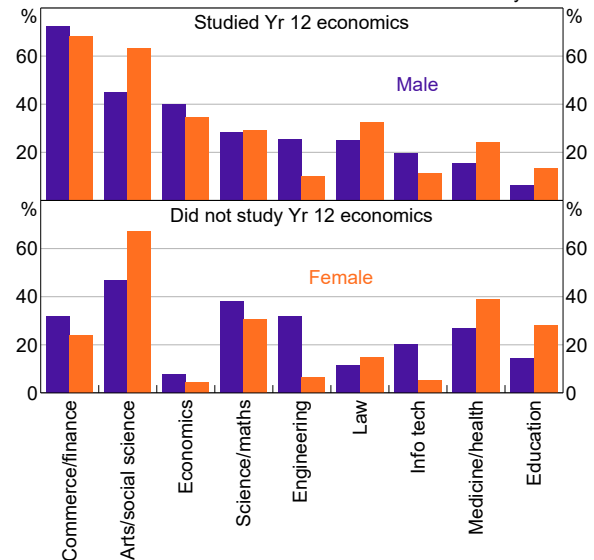
* Year 12 economics students applying through UAC. Some applicants did not enrol in a course. Double degrees count towards two fields of study. Sources: RBA; UAC.

University course preferences by demographic characteristics

Female students who studied Year 12 economics were less likely to include an economics course in their preferences than their male counterparts over the 1999–2023 period. Instead, female high school economics students were more likely to show interest in arts and social science, medicine and health, and law than their male peers; these patterns were also evident for the broader Year 12 student population (Graph 3). However, this gender gap in levels of interest in tertiary economics is less pronounced than in STEM (Science, Technology, Engineering, Mathematics) fields, such as engineering. Lower levels of enrolments in economics among females has persisted even though they consistently outperformed males in ATAR scores throughout this period, and so were less likely to have a ‘performance gap’ deterring them from studying economics at university (Lovicu 2021). Interested female

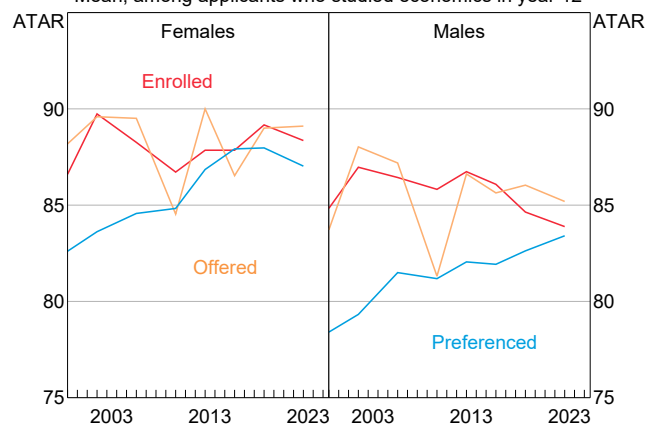
Year 12 economics students who ultimately chose not to enrol in an economics course had, on average, higher ATARs than males who enrolled in economics (Graph 4).

Graph 3
Interest in Field of Study by Sex
Share of Year 12 students interested in field of study*



* Interest defined as those who enrolled in, were offered or preferred a field of study. From 1999 to 2023. Sources: RBA; UAC.

Graph 4
ATAR for Students Interested in Economics*
Mean; among applicants who studied economics in year 12



* Interest defined as those who enrolled in, were offered or preferred economics. Sources: RBA; UAC.

Econometric analysis shows that students who are interested in economics at university tend to belong to advantaged socio-economic groups, including students from non-government schools and central Sydney schools. By contrast, students from government schools have a higher probability of showing interest in STEM courses than students from non-government schools, whereas students from outside of central Sydney are

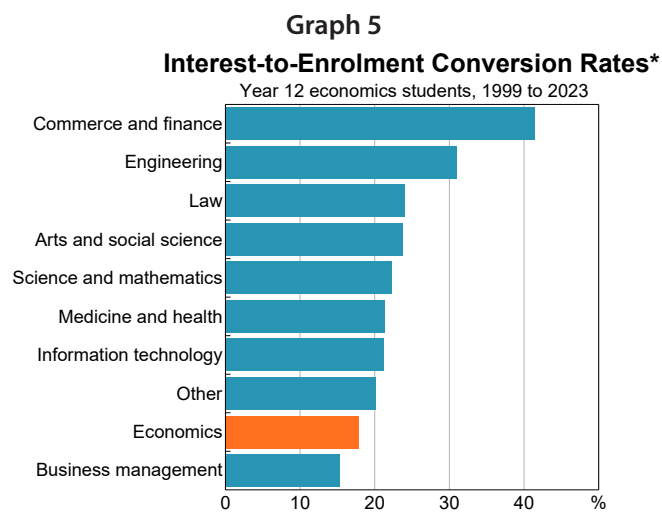
more likely to be interested in health and medicine compared with students in central Sydney (see Appendix A for more information).

University course enrolments

In addition to the initial application stage (which signals whether students are interested in a field of study), another key stage in the transition from high school to university is whether students' interest is converted into actual enrolments.

Conversion from preferences to enrolments

Economics has a lower rate of conversion from preferences to enrolments than most other fields of study. Of the Year 12 economics students who included an economics course as a preference between 1999 and 2023, only around 18 per cent ended up enrolling in economics; this share has also declined over time (Graph 5). By contrast, around 40 per cent of Year 12 economic students who preferred a commerce and finance course between 1999 and 2023 ultimately enrolled in that course.

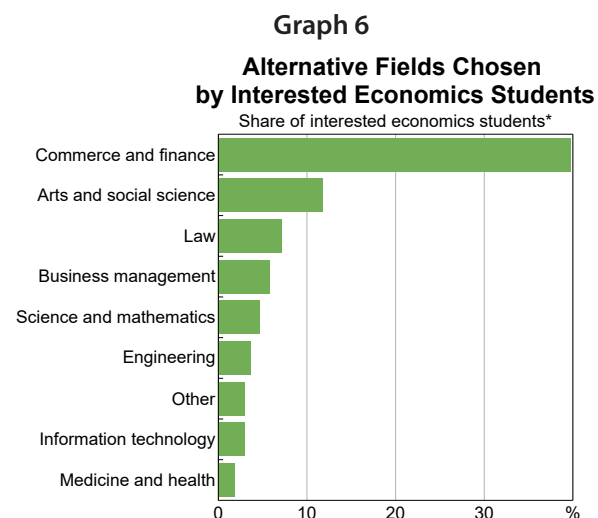


* Share of students who preferred a field of study and enrolled in it.
Sources: RBA; UAC.

A significant majority of Year 12 economics students who preferred an economics course at university were not made an offer for that course. One reason for this could be that interested students did not meet the cut-off for the course (a 'performance' gap). Previous work found little evidence that this is the case for female students and more socially advantaged groups, but found more evidence of this for males and those from less advantaged groups (Lovicu 2021).

Another reason could be that students preferred another course more highly than the economics course and received an offer for that preferred course (an 'interest gap'). Liaison with UAC indicates that students are less likely to put economics courses as their top preference, with the most common first preference ahead of an economics preference being management and commerce.

The vast majority of the interested students who did not end up enrolling in economics went on to study commerce and finance (Graph 6). Within this group, around 70 per cent enrolled in commerce and finance courses with a higher ATAR cut-off than the economics course that they preferred, indicating an 'interest gap' in economics.⁷ One explanation could be that commerce and finance is perceived to be more interesting, employable and as offering greater earnings potential than economics (Livermore and Major 2020).⁸ Commerce and finance may also be seen as having a broader scope, whereas economics may be seen as more specialised than other courses. Perhaps consistent with this, economics has one of the highest rates of double degree enrolments, at around 40 per cent, only surpassed by those who study law (which is rarely offered as a single stand-alone degree).⁹ Course availability at universities is also relevant to student choices, and particularly so for students from lower socio-economic backgrounds, for whom distance from home is a concern (Cooper, Baglin and Strathdee 2017; Donnelly and Gamsu 2018). Around twice the number of universities in New South Wales and the Australian Capital Territory offer commerce and finance courses than those that offer economics courses.



* Year 12 economics students who preferred an economics course but did not enrol in it. Some applicants did not enrol in a course. From 1999 to 2023.
Sources: RBA; UAC.

Enrolments in university courses over time

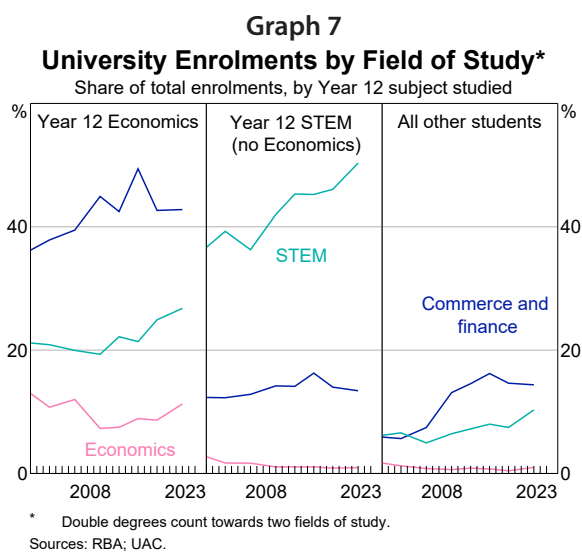
With both a low interest in economics among high school students, and a low conversion rate from this interest to university enrolments, economics courses have made up a small share of total enrolments at university over the past two decades. From 1999 to 2016, a decline in the share of students enrolling in economics courses coincided with an increase in the share of students enrolling in commerce and finance courses (Graph 7).

More recently, there has been a modest pick-up in the share of students enrolling in economics, but an even more marked increase in the share of students who are choosing STEM fields. This shift into STEM courses is evident across all students, regardless of whether they studied STEM subjects in high school. The fastest growth in recent years has been in information technology (including courses like computer science), consistent with the rapid pace of advancement and strong growth in employment opportunities. Changes in the university fee structure in 2021 that lowered domestic student fees for university degrees in areas of national priorities – including STEM and health-related courses – may have also influenced students' decisions about what to study (Department of Education 2024). By contrast, economics (alongside commerce and law) has not been identified as an area of 'national priority' nor potential employment growth.

Implications for promoting the study of economics at university

Initiatives to promote the study of economics that are targeted at key decision points for students are likely to have the greatest impact. In addition to efforts to encourage Year 9 and 10 students to take up economics in their final years of high school, advocacy to Year 12 economics students could help to boost the share of these students who ultimately enrol in economics courses at university level. Students may particularly benefit from receiving more information on possible career paths and employability of economics graduates, and how economics differs from and complements business-related disciplines. Advocacy could also be tailored to different demographic groups, given that different groups have different preferences for other fields of study. For example, advocacy to females could emphasise that economists work on a breadth of social problems that are also seen in arts and social science, while outreach to males and those in government schools where STEM is more popular could highlight that economics offers opportunities to solve complex problems using mathematical and analytical frameworks.

Given the popularity of commerce and finance courses among Year 12 students, another initiative could be to focus on efforts to encourage students to study an economics major (or units of study) within these courses. Some commerce and finance courses offer a compulsory economics unit in the first year, providing an opportunity for a large pool of students to engage with economics, including students who did not study economics at high school and students who are interested in economics but their university does not offer a specialised economics course. This approach could be extended to target students enrolled in arts and social science courses at universities that offer economics electives within those courses, particularly given the very large pool of students undertaking these courses. Advocacy to these groups could not only support the pipeline of potential economics graduates, but also help to increase economic literacy in the wider community.



Finally, it is worth exploring whether there are lessons from initiatives to promote STEM courses that could be applied to economics. A wide range of initiatives have been put in place by government agencies and the private sector to support the study of STEM and to address the skills shortages that are emerging from insufficient student participation in STEM. While there remains considerable work ahead (including on gender diversity elements), there are clear signs that it has improved student engagement with STEM overall (Dwyer 2017; Department of Industry, Science and Resources 2024). Conversely, there has been limited public awareness of falling economics enrolments until more recently. Measures similar to those taken for STEM to support economics education by educators, institutions and governments as a whole could support the economics pipeline and promote a robust and inclusive economics discipline.

Conclusion

This article finds that students' interest in economics at university is low compared with other fields of study. Students who studied economics at high school are more likely to pursue commerce and finance or arts and social science than economics at university. Although interest in university economics has picked up a little over recent years, STEM courses have become even more popular. These findings suggest that tailored advocacy, a greater focus on promoting economics subjects within other degrees, and adopting similar initiatives to those taken for STEM to support economics education could increase the uptake of economics courses at university. Uplifting the number and diversity of students studying economics is important for the long-term health of the economics discipline. It would also have significant public benefits, including by raising the quality of public discourse, increasing economic literacy to allow individuals, as well as future public policymakers and business leaders, to make more informed decisions.

Appendix A: Regression model specification and output

The regression model of student interest in each field of study was specified as follows:

$$\Pr(\text{interest_field_of_study}_k = 1) = \beta_0 + \beta_1 \text{male}_i + \beta_2 \text{nongovernmentschool}_i + \beta_3 \text{centralSydney school}_i + \beta_4 \text{year12economics}_i + \beta_5 \text{year12STEM}_i + \beta_6 \text{ATAR}_i + \lambda_t + u_{it}$$

where:

| | |
|---------------------------------------|--|
| $\text{interest_field_of_study}_k$ | Dummy variable equal to 1 if interested in field of study k (where interest is defined as having enrolled in, were offered a place, or preferred a field of study); 0 otherwise |
| male_i | Dummy variable equal to 1 if male; 0 if female |
| $\text{nongovernmentschool}_i$ | Dummy variable equal to 1 if studied at non-government school (independent or Catholic); 0 if studied at a government school (selective or non-selective) |
| $\text{centralSydney school}_i$ | Dummy variable equal to 1 if studied at school in central Sydney (this encompasses the inner ring of Sydney and parts of the middle ring with a number of suburbs with high socio-economic status, including City and Inner South, Eastern Suburbs, Inner South West, Inner West, North Sydney and Hornsby, Northern Beaches, Ryde); 0 if studied outside of central Sydney but within New South Wales/Australian Capital Territory. |
| year12economics_i | Dummy variable equal to 1 if studied economics in Year 12; 0 otherwise |
| year12STEM_i | Dummy variable equal to 1 if studied STEM but not economics in Year 12; 0 otherwise |
| ATAR_i | Australian Tertiary Admissions Rank (/10) |
| λ_t | Year dummies |

Table A.1: Probability of Student Interest in Field of Study^(a)

Logit model, average marginal effects^(b)

| Variables | Commerce and finance | | Science and Law mathematics Engineering | | | Arts and Medicine social science health technology | | |
|---------------------------------|----------------------|---------|---|-------------|-------------|--|----------|------------|
| | Economics | finance | Law | mathematics | Engineering | social science | health | technology |
| male_i | 0.03*** | 0.07*** | -0.03*** | 0.02*** | 0.20*** | -0.16*** | -0.13*** | 0.11*** |
| $\text{nongovernmentschool}_i$ | 0.01*** | 0.01*** | -0.00 | -0.04*** | -0.02*** | 0.00 | -0.01*** | -0.02*** |
| $\text{centralSydney school}_i$ | 0.03*** | 0.05*** | -0.00 | -0.00** | 0.01*** | 0.08*** | -0.04*** | 0.02*** |
| year12economics_i | 0.26*** | 0.41*** | 0.07*** | 0.07*** | 0.10*** | -0.14*** | -0.10*** | 0.11*** |
| year12STEM_i | 0.01*** | 0.02*** | -0.04*** | 0.27*** | 0.21*** | -0.16*** | 0.06*** | 0.12*** |
| ATAR_i | 0.01*** | 0.01*** | 0.05*** | 0.03*** | 0.02*** | 0.01*** | 0.00*** | -0.02*** |
| $\text{Pseudo } R^2$ | 0.1683 | 0.0809 | 0.0848 | 0.0916 | 0.2219 | 0.0533 | 0.0357 | 0.1196 |

(a) Interest is defined as having enrolled in, were offered a place, or preferred a field of study.

(b) ***, **, and * denote statistical significance at the 1, 5, and 10 per cent levels, respectively.

Sources: RBA; UAC.

Endnotes

- * The author is from Communications Department. The author would like to thank Michelle Wright, Tanya Livermore and Stephanie Parsons for comments on this article.
- 1 Data used in this publication is and remains the copyright of Universities Admissions Centre (NSW & ACT) Pty. Ltd and may not be used in any form except with prior approval in writing of UAC.
 - 2 The ATAR is a number between 0.00 and 99.95 that indicates a student's position relative to all of the students in their cohort. For example, an ATAR of 80.00 means that a student is ranked 20 percentage points below the top of their cohort (Universities Admissions Centre 2024). The selection rank is equal to a student's ATAR plus any adjustment factors for which the student is eligible.
 - 3 If a student adjusts their preferences between offer rounds, they may then receive multiple offers. See Lovicu (2021) for more details on the university admissions process.
 - 4 While a few universities have changed their offerings of dedicated economics courses over the sample period – by introducing or removing them – the total number of participating institutions with UAC that offer economics courses each year has remained relatively stable.
 - 5 Universities follow the Australian Standard Classification of Education (ASCED) to classify the fields of education of their courses. This article has broken down some broader fields of study to highlight narrower fields of study of interest. For example, the broader field of 'society and culture' is split into economics, law, and arts and social science. 'Management and commerce' is split into commerce and finance, and business management (which includes courses like human resource management and marketing).
 - 6 From 2010 onwards. The data only contain the field of study of the main degree in a double degree prior to 2010.
 - 7 From 2010 onwards. The other 30 per cent that did not meet the ATAR cut-off could have a performance gap and possibly also an interest gap.
 - 8 However, the data show this is not the case. Economics graduates typically have higher full-time earnings than graduates from most other fields of study, including business. But the unemployment rates of economics graduates tend to be slightly higher than business graduates (Guttman and Bishop 2018).
 - 9 Arts and social science is the most frequently paired field of study with economics in a double degree, followed by commerce and finance.

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