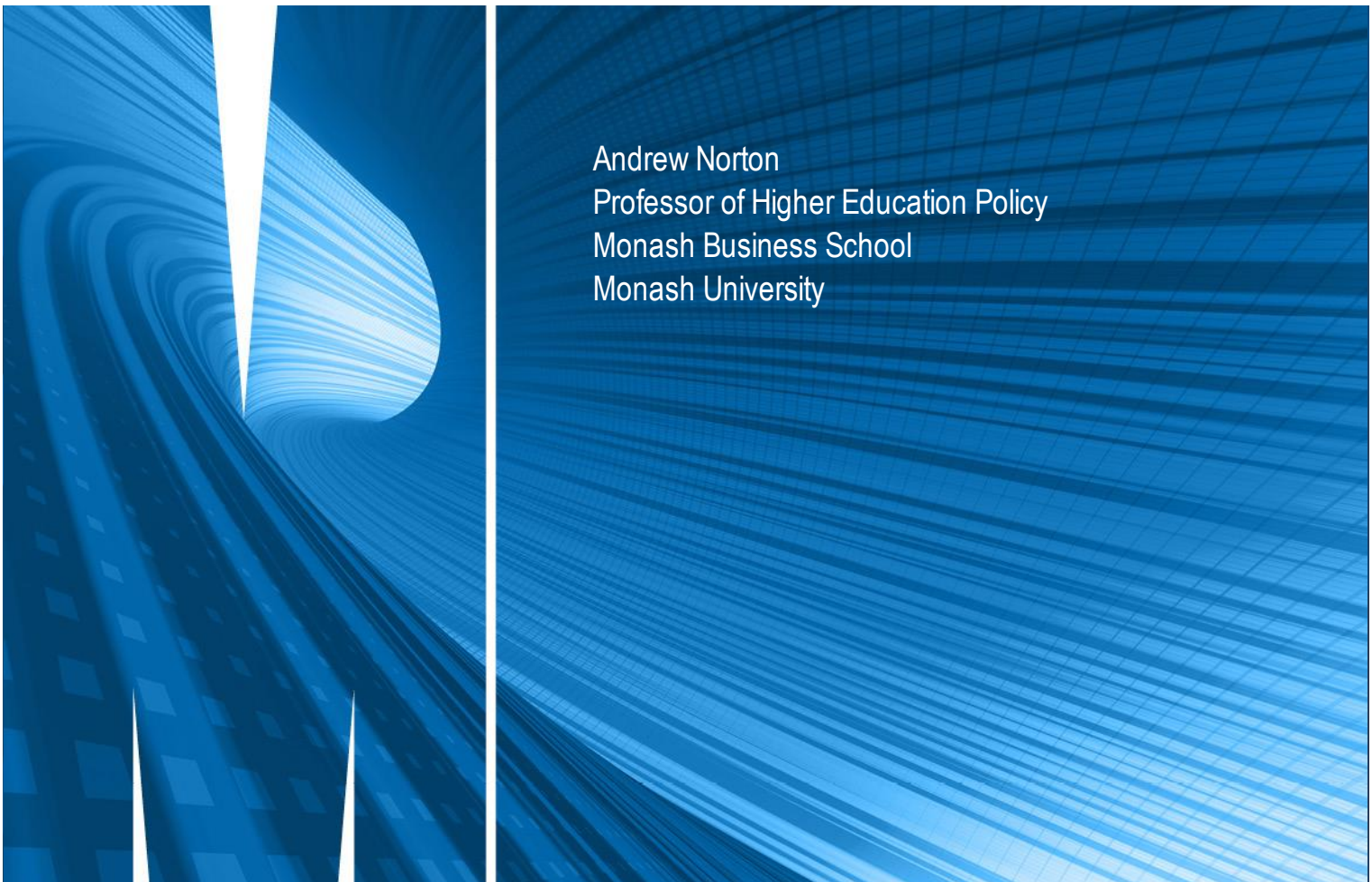
Higher education students in IT, engineering and management and commerce



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INTRODUCTION

This report was commissioned by Future Skills Organisation (FSO), the Jobs and Skills Council (JSC) established by the Australian Government to address critical skills gaps in the finance, technology and business sectors. FSO's focus is on vocational education (VET), but higher education also serves its industries. This report is an initial analysis of higher education trends in the broad fields of education of management and commerce, information technology and engineering and related technologies. This report is an initial analysis of higher education trends in the broad fields of education of management and commerce, information technology and engineering and related technologies.

For each of these fields of education the report provides information on commencing students, attrition rates, course completions, and early career employment outcomes. It covers domestic and international students, and both undergraduate and postgraduate qualifications.

A short period of time was available to complete this report. It uses data that was publicly available in March 2025, as more detailed data could not be obtained before deadline. Trends documented in this report raises obvious questions about their causes and implications. Some possible answers are suggested, but these issues require more thorough investigation.

The report also briefly outlines relevant parts of higher education and migration policy, and how these policy drivers affect the decisions of education providers and students.

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EXECUTIVE SUMMARY

This report examines higher education trends in management and commerce, IT and engineering courses. It focuses on commencing student numbers, as a lead indicator for future course completions; attrition rates, as a measure of loss of potential graduates along the way; and course completions. Graduate employment outcomes are used as a guide to employer demand for these graduates. In most cases, 2023 is the latest available data.

IT and engineering both increased their domestic commencing bachelor-degree enrolments in the 2021 to 2023 period, defying a general decline since 2022 in domestic undergraduate enrolments. Despite a history of high attrition from IT courses, an upward trend in IT domestic bachelor degree completions is set to continue. As of 2023, domestic engineering bachelor-degree completions were stable on recent years. But the increase in commencing engineering enrolments, combined with a history of relatively low attrition from engineering courses, should see course completions increase in the coming years.

Domestic commencing bachelor degree enrolments in management and commerce, by contrast, continued a longer-term decline in the 2021 to 2023 period. At the subject level the main areas of falling enrolment are accounting and sales and marketing. The domestic supply of bachelor-degree management and commerce graduates will continue to trend down.

For domestic postgraduate coursework commencing students, management and commerce was in 2023 below its peak but without the clear downward trend evident for bachelor-degree students. Commencing engineering postgraduate coursework commencements were soft but not in major decline. Domestic IT coursework commencements are up on pre-COVID-19 levels, although in 2022 and 2023 down on their 2021 peak.

International student enrolments, which were severely affected by COVID-19 border closures, show a boom-bust-boom pattern. Multiple policy changes since late 2023, which are intended to reduce the onshore international student population, could add a further bust to this pattern. The largest international enrolment swings happen in postgraduate coursework degrees.

While off their border closure lows, international commencing bachelor degree enrolments in management and commerce had not, as of 2023, recovered to their 2019 levels. Whatever is affecting these courses it is not restricted to the Australian market.

In 2022 and 2023 recent graduates found work more easily than they had in recent times. Despite high job vacancies in IT, however, recent domestic IT graduates have similar short-term full-time employment rates as domestic graduates overall. Engineering graduates do best in finding work of the three fields discussed in this report. International graduates have lower rates of finding full-time employment than domestic graduates.

Despite these job search difficulties, former international students are an important part of the Australian labour market. As of 2021, former international students made up between 6% and 15% of the workforce in a range of occupations served by IT, business and engineering courses.

In all three fields of education more than 70% of commencing postgraduate coursework students are from overseas. In IT, 59% of commencing bachelor degree students are from overseas, and in management and commerce just under half, 49%.

This high reliance on international students is a vulnerability for IT, business and engineering faculties as government policy changes.

It is harder to assess the implications for domestic labour markets of an eventual decline in international graduates if commencing enrolments fall significantly in 2025 and beyond. The large number of international students who will complete degrees in the next few years, however, means that no shortage is imminent.

CHAPTER 1 HIGHER EDUCATION AND MIGRATION POLICY

1 THE HIGHER EDUCATION SECTOR

As of March 2025, 210 higher education providers were registered by the Tertiary Education Quality and Standards Agency (TEQSA). This includes 38 public universities, several private universities, and a larger number of colleges, institutes and academies. This latter group tend to specialise in particular disciplines, occupations or student types. As of 2023, 66 providers offered both higher education and vocational education.[1]

In 2023 higher education enrolments totalled 1.6 million. This includes over half a million international students.

Unlike vocational education, higher education is not generally organised around occupations. It lacks standardised qualification names. Courses with the same name can have different content. Universities and some other higher education providers are self-accrediting, able to regulate the content of their own courses. Non-self-accrediting providers submit their course content for approval by TEQSA. Freedom to set course content is, however, constrained in practice by about 100 occupational regulatory agencies and professional admission bodies.[2]

With a few exceptions, higher education's organisational structure means that funding and statistical reporting does not operate at the course or occupation level. Generally reporting is by field of education. Along with a practice of limited reporting of higher education statistics by the Department of Education, this has implications for investigating skills supply for the finance, technology and business sectors. This report works around the constraints where it can to offer a guide to relevant trends. It focuses on the following broad fields of education: information technology, engineering and related technologies, and management and commerce.

2 STUDENT FUNDING IN HIGHER EDUCATION

There are three main sources of funding for higher education students. These are the Commonwealth Grant Scheme (CGS), upfront fees mainly paid by international students, and student loan schemes.

Domestic students in public universities

Almost all domestic undergraduates in public universities are in 'Commonwealth supported places'. Funding rates are based on discipline areas. These apply at the subject rather than the course level. The public subsidy is known as a 'Commonwealth contribution', and paid out of the CGS. The student fee is known as a 'student contribution', which is set by the higher education provider up to a legislated maximum. Student contributions can be paid upfront or through the income-contingent HECS-HELP loan scheme. The 2025 funding levels in the disciplines covered in this report are shown in Table 1.

Table 1: Full-time equivalent funding for Commonwealth supported students, 2025

Discipline	Commonwealth contribution	Student contribution	Total funding
Engineering	$19,041	$9,314	$28,355
Computing	$15,526	$ 9,314	$24,840
Business, finance	$1,286	$16,992	$18,278

Source: Department of Education, Indexed rates for 2025

From the CGS, the government allocates each university an annual 'maximum basic grant amount' (MBGA), The MBGA is the largest amount of Commonwealth contribution revenue the university can earn, based on the student places delivered. Within this constraint, the funding system as legislated is flexible. Universities can move funding between disciplines and between qualifications, in the Australian Qualifications Framework range from level 5 (diplomas) to 8 (coursework masters degree).

Indigenous students enrolled in bachelor degrees are funded on a demand driven basis, outside the constraints of the MBGA.

Student contribution revenues are not capped. In practice this means universities receive student contribution revenue only for some students if they have used their full MBGA.

Medicine is an exception to an otherwise flexible system. Its student numbers are controlled.

The last two governments have also allocated additional funding for specific courses and sometimes student categories (equity group students). These have included places in IT, engineering and business. Specific allocations of student places other than in medicine involve a workaround in the funding legislation, which is not designed to target resources in this way.

[1] (Norton, 2023) chapter 1 explains higher education institutions in more detail.
[2] (PhillipsKPA, 2017)

For postgraduate courses, universities can offer places to domestic students as either Commonwealth-supported or full-fee (places with no Commonwealth subsidy and a market-set fee). If they choose the latter, the student can take out an income-contingent loan under the FEE-HELP scheme.

Although the fixed MBGA and ad hoc allocations to specific courses put some constraints on university decision making, under the current system the number of domestic students in IT, engineering and management and commerce is primarily the result of student demand and university decisions, not government policy.

How universities determine the internal distribution of their Commonwealth funding is not well understood. Interview-based research in which I am a co-investigator, which is still underway, suggests that student demand and the occupations and regions the university serves are significant factors.

The more significant constraint on universities in responding to student or labour market demand is work placements, such as for clinical training. Placements are in limited supply and where these are mandatory create caps on enrolments. As universities seek to incorporate work-integrated learning into more courses this may limit the higher education system's capacity to respond to other demands.

Domestic students in other higher education providers

A small number of Commonwealth supported places are allocated to private universities and non-university higher education providers, including two TAFEs registered to offer higher education qualifications. Long-term allocations are made for teaching and nursing courses, with occasional ad hoc places in other fields.

All private universities and most non-university higher education providers are registered to offer their domestic full-fee students FEE-HELP loans. At the provider level there are no funding limits on domestic student numbers or FEE-HELP lending.

International students

International students pay fees that typically exceed, sometimes by large amounts, the funding rates for Commonwealth supported students in the same course.[3]

Favourable migration policies attract international students. These include the right to work while studying, post-study work rights especially for higher education graduates, and permanent migration opportunities. Nearly 80% of international students from India and Nepal cite the possibility of migrating as a reason for choosing Australia.[4] Fields believed to increase a student's prospects of remaining in Australia to work have proved attractive to international students.

As of January 2025, 200,000 former international students were present in Australia on temporary graduate visas.[5] At the time of the 2021 census, nearly 600,000 former international students lived in Australia as citizens or permanent residents.[6] These former students are an important part of domestic labour supply in some occupations. This is discussed further in Chapter 6.

Policy on international students has changed significantly since late 2023. Policymakers realised that a post-COVID boom in enrolments had exacerbated long-term issues in the sector, including provider and student integrity, and was intersecting with accommodation availability and cost, which had become major political issues. The government began implementing a long list of reforms to fix integrity problems and bring international student numbers back down again.[7] These include making it harder to get a student visa, discouraging student visa applications by more than doubling the application fee, making it harder to get a temporary graduate visa, and discouraging temporary graduate visa applications by shortening how long former students can stay in Australia.

Most international student migration changes were implemented by regulation, but 2024 legislation to cap enrolments failed to secure Senate support. The intended caps were, however, later reused for visa processing purposes. For 2025 the higher education sector has an indicative cap of 176,000 new commencing students.[8] Once offshore visa applications for an education provider reach 80% of its indicative cap, visa applicants face a visa processing go-slow. For political reasons, with the threat of formal legislated caps returning to the Parliament, most providers are expected to keep enrolments near their indicative cap level.

The unsuccessful 2024 legislation to cap total international student numbers also included the power to cap by course, with the intention of aligning international enrolments with Australian skills shortages. It is not known whether this policy idea will be pursued again.

[3] (Norton, 2023), pp., 39-40, 113-114
[4] (SRC, 2024b), p. 61
[5] (DHA, 2025)
[6] (ABS, 2023b)
[7] (Norton, 2024), pp. 17-18
[8] (DofE, 2024a)

CHAPTER 2 BROAD TRENDS IN HIGHER EDUCATION

Trends in finance, technology and business courses are best seen in the context of broader higher education trends. Population and labour market trends affect the entire education sector, as do major events such as the COVID-19 pandemic.

1 DEMAND FOR HIGHER EDUCATION

As Figure 1 shows, both domestic demand for bachelor degree courses and supply, as measured by commencing enrolments, increased significantly in the 2010s. The peak year for both was 2017. After 2017, aggregate demand and supply both fell other than for an increase during the COVID-19 pandemic. Unfortunately, partly due to Department of Education IT problems, no national applications data has been published for the years 2022-2024. As can be seen in Figure 1, not all applicants receive offers or enrol if they do.

Several factors explain this overall decline in demand. For demographic and school retention reasons, Year 12 enrolments fell after 2017 and did not fully recover until 2024.[9] As a result, fewer young adults had the basic qualification for university entry. Commencing bachelor-degree enrolments by students aged 19 years or less fell by 4% between 2017 and 2023. The decline was much larger for students aged 20-24 years (-18%) and 25 years or more (-27%). All age groups had temporary enrolment recoveries during the COVID-19 pandemic.

This pattern of demand is consistent with higher education demand being counter-cyclical – increasing when employment opportunities are limited and decreasing when employment is easy to find. The increase in mature-age enrolments during COVID-19 shows potential for enrolment growth. But underlying demand from mature-age students may be lower than it was in past decades. Enrolment growth under a previous demand driven funding system pushed the higher education participation rate at age 19 from 30% in 2007 to above 40% in 2016, where it remained until 2022.[10] More people achieving their higher education goals by their early twenties may limit mature-age demand for undergraduate education.

Another factor affecting undergraduate demand may be employment outcomes for graduates. Recent employment data is discussed later in this chapter and throughout the report, but an earlier graduate employment survey shows that 2014 was the worst year for graduate full-time employment in a survey that goes back more than 40 years.[11] Persistent negative publicity on graduate employment plausibly affected people with doubts about whether higher education was the right choice for them.

While no official national data on higher education demand is available after 2023, more partial sources suggest that it is up in 2025.[12] This would be consistent with the recovery in Year 12 enrolments.

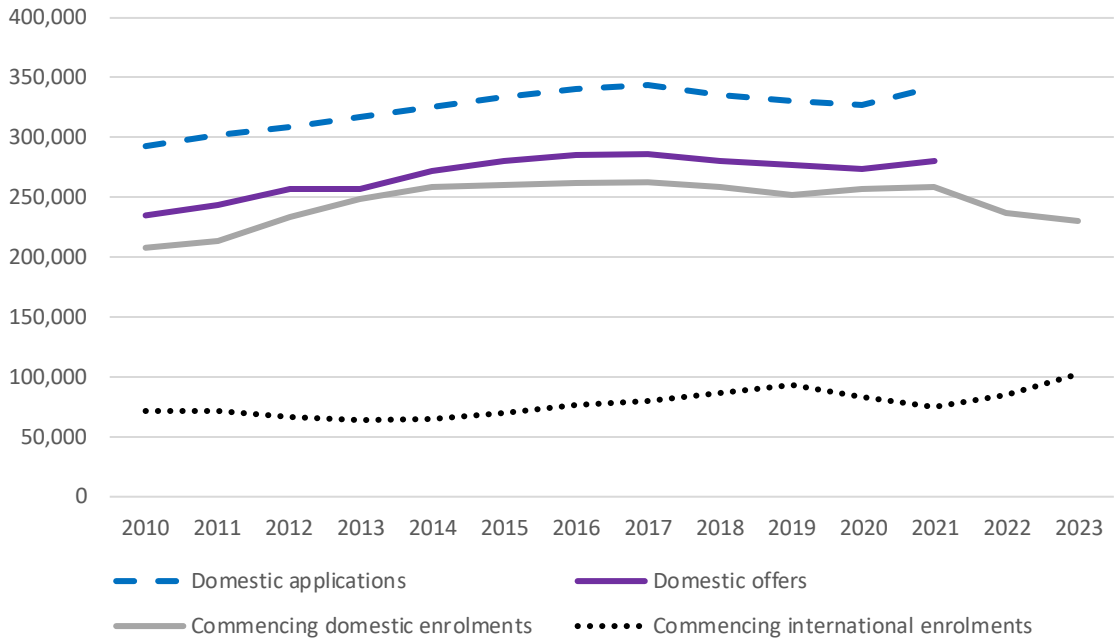
International students enrol at both onshore campuses within Australia and offshore campuses run by Australian universities or their partners. In 2023, 22% of international students were enrolled at offshore campuses.[13] Some students start their studies on an offshore campus and complete their course in Australia. International graduates who complete their degrees offshore, or return home immediately after completing their degrees in Australia, are relevant to the education system but not to subsequent domestic labour supply.

For onshore international students more recent data is available than for offshore internationals or domestic students. November 2024 year-to-date onshore commencing higher education enrolments were up 3% on the same time in 2023. The most important source countries were China (33% of enrolments), India (19%) and Nepal (9%).[14] New higher education student visas granted in 2024 were, however, down 13% on 2023, suggesting that the international student boom was ending before the indicative caps were imposed.[15]

International student enrolments in bachelor-degree courses (Figure 1) have not grown by as much as postgraduate enrolments, discussed below. However, the combination of undergraduate international student enrolment growth and domestic decline pushed up the international student enrolment share. It 2023 31% of commencing bachelor degree enrolments were international students.

[9] (ABS, 2025)
[10] (Norton, 2023), pp. 33-34
[11] See the chart and discussion at (Norton, 2023), pp. 135-136
[12] (Ross, 2025)
[13] (DofE, 2024b)
[14] (DofE, 2025)
[15] (Norton, 2025a)

Figure 1: Demand and supply trends for bachelor degree courses



Sources: Department of Education, Undergraduate applications, offers and acceptances. Department of Education, uCube and Student enrolments pivot table

Domestic postgraduate coursework – graduate certificates, graduate diplomas and masters by coursework – commencing enrolments declined in the second half of the 2010s (Figure 2). They then increased significantly during the COVID-19 disruption, before falling back, but to higher levels than before COVID-19.

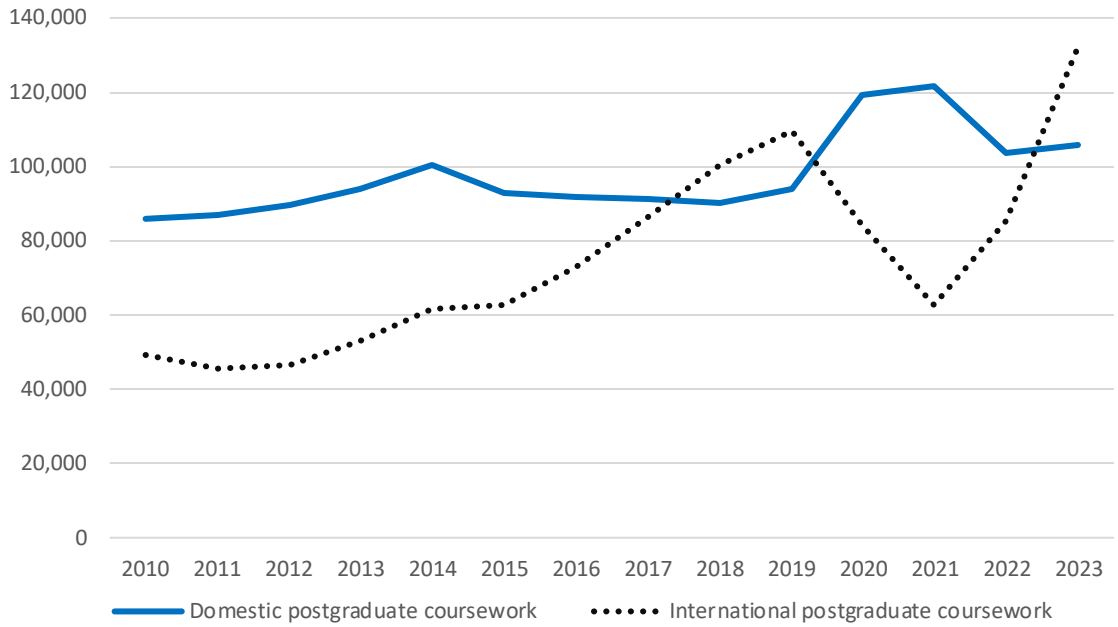
Except for the COVID-19 border closure period, international postgraduate coursework commencing enrolments have grown more rapidly than enrolments in undergraduate courses. Cost and migration factors are likely drivers. A two-year masters degree satisfies the requirement to spend two years onshore in Australia to receive a temporary graduate visa at a lower cost than a three or four year-bachelor degree. Until recently, a masters degree also led to a longer temporary work visa than a bachelor degree.[16]

In 2018, 2019 and 2023 most commencing postgraduate coursework students were international, driven by two of the fields discussed in this report, IT and management and commerce.

Since the 2000s more universities have offered masters degrees aimed at initial entry to a profession. This makes it harder to track which enrolments support career entry and which promote career development.

[16] For a comparison of the old and new temporary graduate visa lengths see (Australian Government, 2023), p. 68.

Figure 2: Domestic and international postgraduate coursework commencements



Source: Department of Education, uCube and Student enrolments pivot table

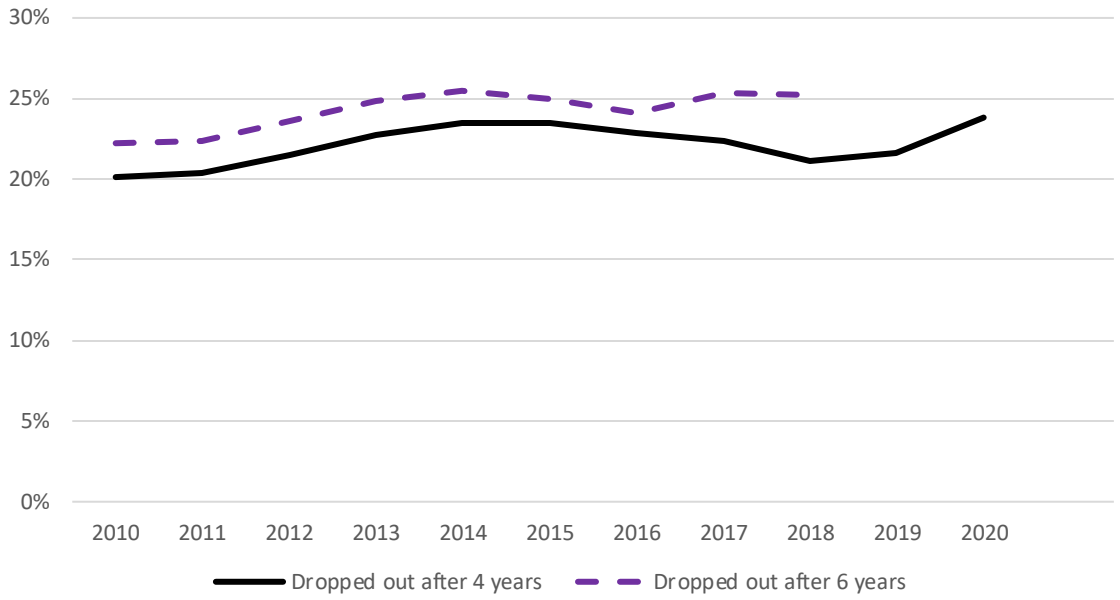
2 ATTRITION AND COURSE COMPLETION

For domestic bachelor degree students, since the commencing class of 2013, typically around one quarter have not completed a course and are not currently enrolled at the end of six years (Figure 3). Domestic students are counted as retained if they remain enrolled anywhere in the system – not necessarily in their original course or higher education provider. For the 2017 and 2018 commencing cohorts the attrition after four years had improved compared to earlier cohorts, but was unchanged at the six-year mark. This suggests that more students are leaving without finishing at a late stage in their studies, The upward movement in attrition after four years showing for the class of 2020 may be an echo of the COVID-19 related enrolment increase that year – people who enrolled because they could not find work but left when the labour market recovered.

Until recently, international students did not have stable student ID numbers that tracked them across higher education providers. The attrition figures reported for them show what percentage of commencing bachelor-degree students have neither completed nor remain enrolled at their original education provider. Typically, 19-20% of commencing international students have left without a degree by six years after starting.[17] For domestic students at the six-year mark, around 25% have left the higher education system without completing a degree. As some international students change higher education providers and complete at their new institution, international students must have significantly lower attrition rates than domestic students.

[17] (DoE, 2024)

Figure 3: Domestic attrition rate, commencing bachelor degree students, by year of commencement

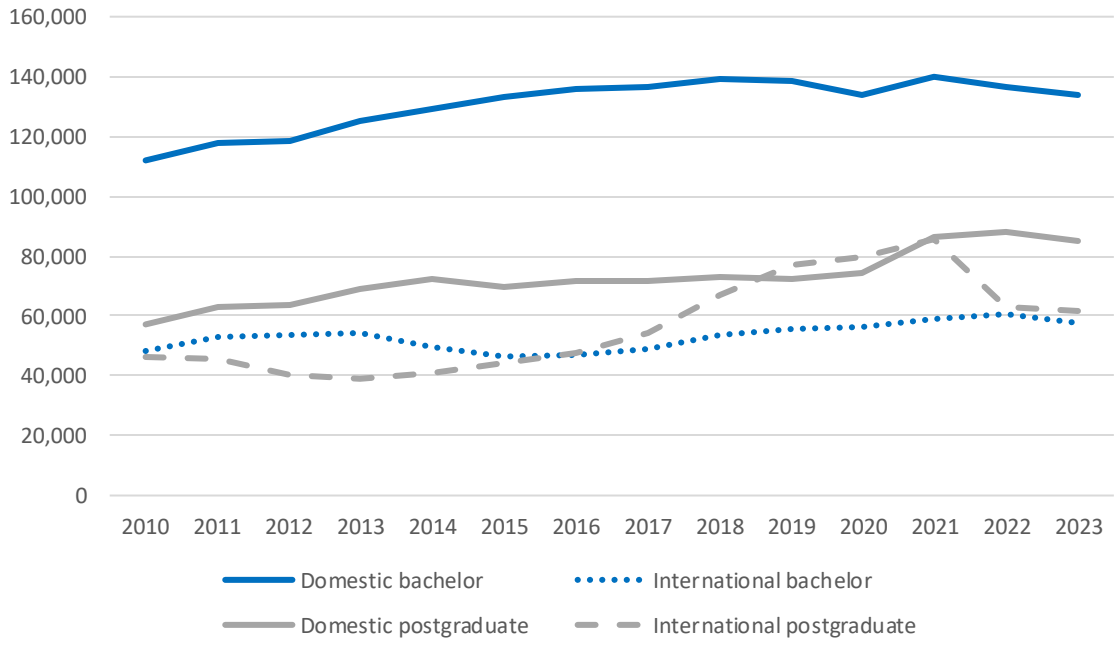


Source: Department of Education, Completion rates of higher education students, 2005-2023

Increased domestic student attrition, increased domestic part-time study, and COVID-19 all complicate the relationship between course commencements and completions. After peaking at 139,924 bachelor degree completions in 2021, the completions consequences of falling commencing students and higher attrition show in a 2022 and 2023 downward trend (Figure 4).

While international bachelor degree completions fell in 2023, increased commencements (Figure 1) and relatively low attrition suggest a near-term recovery. Postgraduate coursework completions reflect the ups and downs of commencing enrolments (Figure 2). Prior to COVID-19, international postgraduate coursework completions exceeded domestic completions, a pattern likely to repeat itself as the post-COVID surge in international enrolments moves towards course completions in 2024 and 2025.

Figure 4: Bachelor and postgraduate coursework degree completions



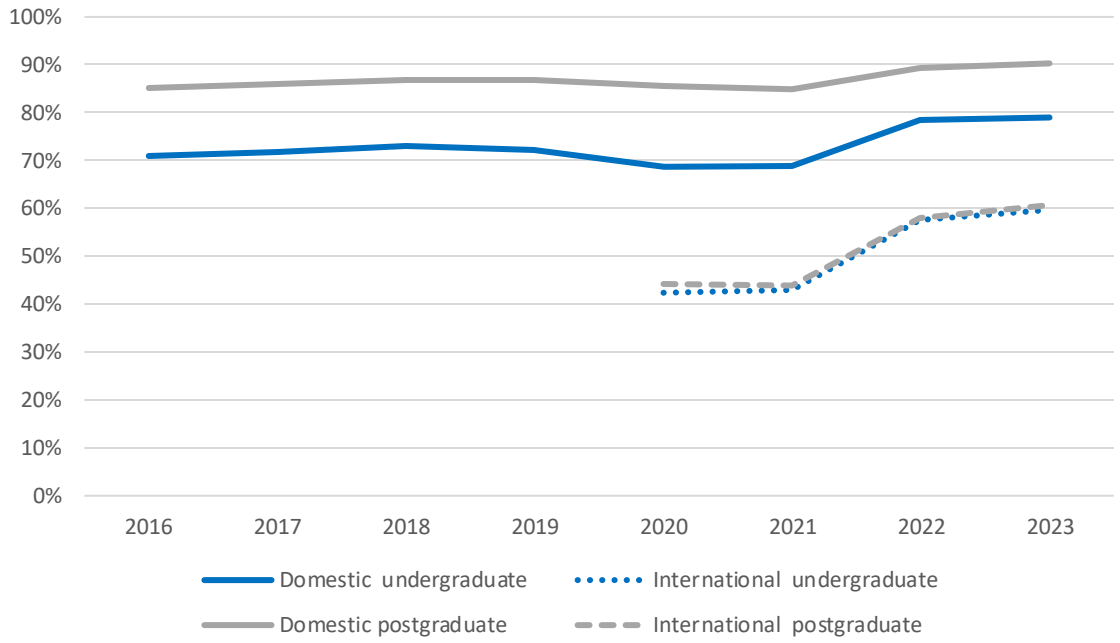
Sources: Department of Education, uCube and Award course completions pivot table

The Department of Education has discontinued regular reporting of postgraduate coursework attrition. No six-year data is available after the 2016 commencing cohort. For domestic students the postgraduate attrition rate was around 21%, so slightly lower than for bachelor degrees. For international postgraduates it was around 19%, similar to international bachelor degree students.

3 GRADUATE EMPLOYMENT OUTCOMES

Unsurprisingly, short-term graduate outcomes – measured by surveys approximately four months after course completion – fluctuate with the labour market. Figure 5 shows a lift in graduate full-time employment rates during the strong labour market after COVID-19 restrictions were lifted. International graduates face much more difficulty finding full-time work than domestic graduates. These figures include international graduates who have left Australia, but survey research indicates that many Australian employers are reluctant to hire temporary visa holders.[18] Domestic new graduates with postgraduate qualifications consistently have the best full-time employment outcomes, but the survey results do not distinguish between graduates who did and did not have full-time employment prior to course completion. In 2023, 48% of domestic postgraduate students were employed full-time, compared to 17% of bachelor-degree students.[19] As a visa condition international students can only work part-time during semester, and so their results are not inflated by full-time jobs already held.

Figure 5: Short-term graduate full-time employment, as a % of those seeking it



Sources: Social Research Centre, Graduate Outcomes Survey – National Report and Graduate Outcomes Survey – International Report

In the medium term, approximately three years after graduation, employment outcomes improve for both domestic and international graduates. Between 2017 and 2023 the overall rate of full-time employment, among those graduates looking for it, ranged from 89% to 95% for those with an undergraduate qualification and 92% to 95% for those with a postgraduate qualification. International graduate three-years-out data is only available for 2022 and 2023, with full-time employment rates around 85% for people with either undergraduate or postgraduate qualifications.[20] While the three-year international graduate results are significantly improved on soon after course completion, they remain lower than for domestic graduates and show no major advantage to holding a postgraduate qualification.

[18] (Coates, Wiltshire and Resenbach, 2023), pp. 21-23
[19] (ABS, 2024)
[20] (SRC, 2024) and predecessor editions.

CHAPTER 3 FINANCE AND BUSINESS

Finance and business degrees fall under the broad field of education 'management and commerce', which will be used to analyse student enrolments, completions and outcomes.

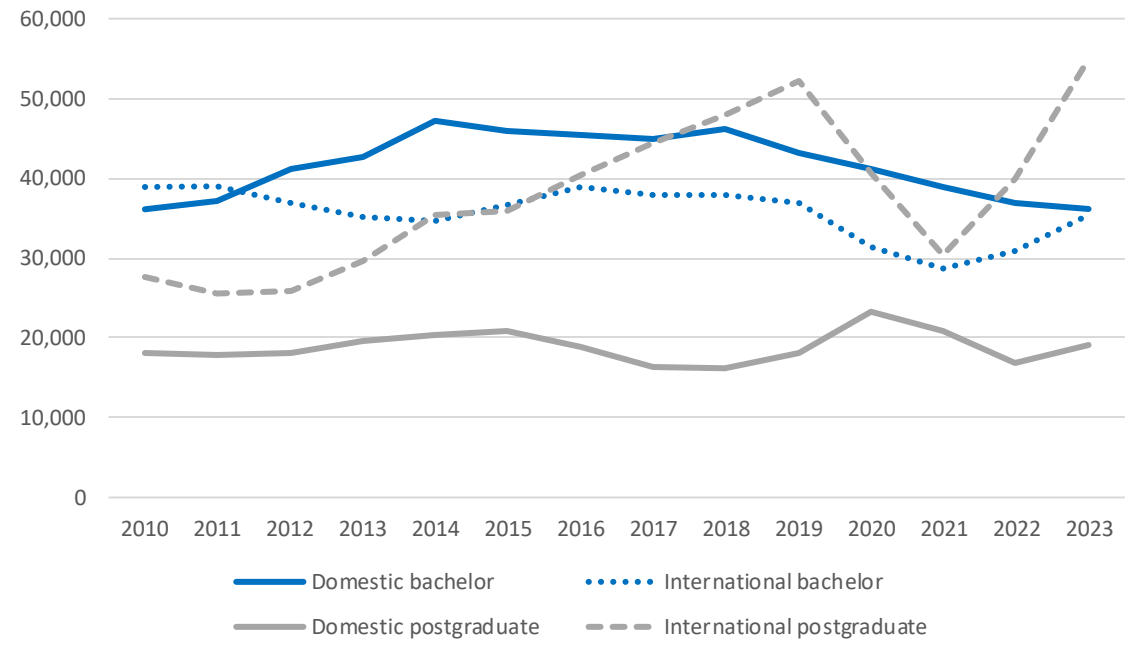
1 DEMAND FOR MANAGEMENT AND COMMERCE COURSES

Since the mid-2010s domestic demand for management and commerce bachelor-degree courses has been weak.[21] As shown in Figure 6, the peak year for domestic commencing enrolments – the main lead indicator for eventual completions – is 2014. Apart from a once-off enrolment increase in 2018 enrolments have declined since. For international bachelor degree students, the peak year is 2016. Improved international enrolments in 2022 and 2023 may be a new upward trend or just a return to pre-COVID-19 levels.

For postgraduate coursework programs in management and commerce, domestic student enrolments enter a decline at roughly the same time as the bachelor degree students. But domestic postgraduate coursework enrolments show more fluctuation than undergraduate numbers. The more striking aspect of Figure 6 is that international postgraduate coursework students outnumber domestic students in every year. In 2023, 73% of postgraduate enrolments in management and commerce were from overseas. For commencing bachelor degree courses, international students in 2023 were 49% of the total.

Domestic undergraduate applications up to 2021, the last year in which the Department of Education reported the data, show reduced demand over the same years as the enrolment data.[22] This makes it unlikely that the downward trend in domestic bachelor degree enrolments was due to universities favouring more lucrative international students. Most domestic management and commerce postgraduate students pay market-set fees supported by FEE-HELP loans, so for universities the domestic/international financial trade-offs are smaller than for undergraduate courses.

Figure 6: Commencing enrolments for management and commerce bachelor degrees and coursework postgraduate degrees



Source: Department of Education, uCube and Student enrolments pivot table

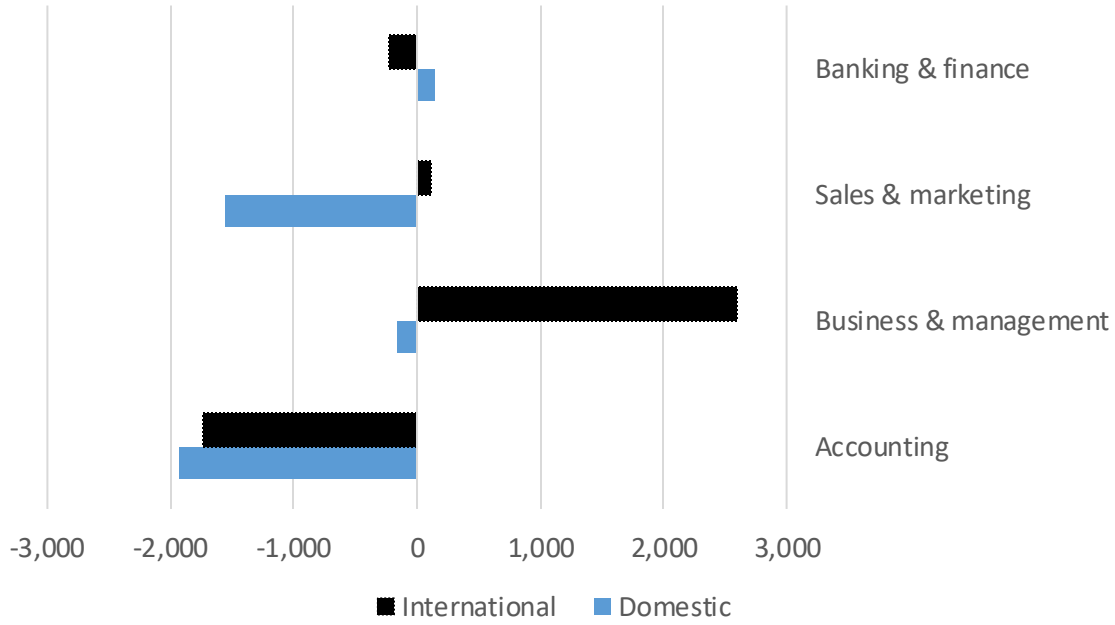
The Department of Education publishes full-time equivalent subject enrolments with more detailed fields of education than its course-level data. This data can identify whether the decline in enrolments is general or driven by subfields of management and commerce. Figure 7 shows the four largest commencing bachelor degree narrow fields of education within the broad field of management and commerce.

[21] (DofE, 2021)
[22] (DofE, 2021)

Accounting is the worst affected field overall, down nearly 40% for both domestic and international students between 2014 and 2023. As students intending to major in accounting are likely to do other business-related subjects in their first year, the full-time equivalent numbers reported in Figure 7 would translate into larger numbers of headcount students.

Other fields have more mixed results. For domestic students sales and marketing enrolments declined by 35% between 2014 and 2023 but remained roughly the same for international students. For international students, enrolments in general business and management subjects increased by more than 30%, against a small decline for domestic students. Banking and finance subject enrolments are stable overall on a 2014 to 2023 comparison but have declined against their own peak year of 2017. For domestic students banking and finance subject enrolments have increased as a percentage of falling total enrolments.

Figure 7: Change 2014 to 2023 in full-time equivalent commencing bachelor degree places by management & commerce narrow field of education



Source: Department of Education, Selected student statistics, commencing student load tables

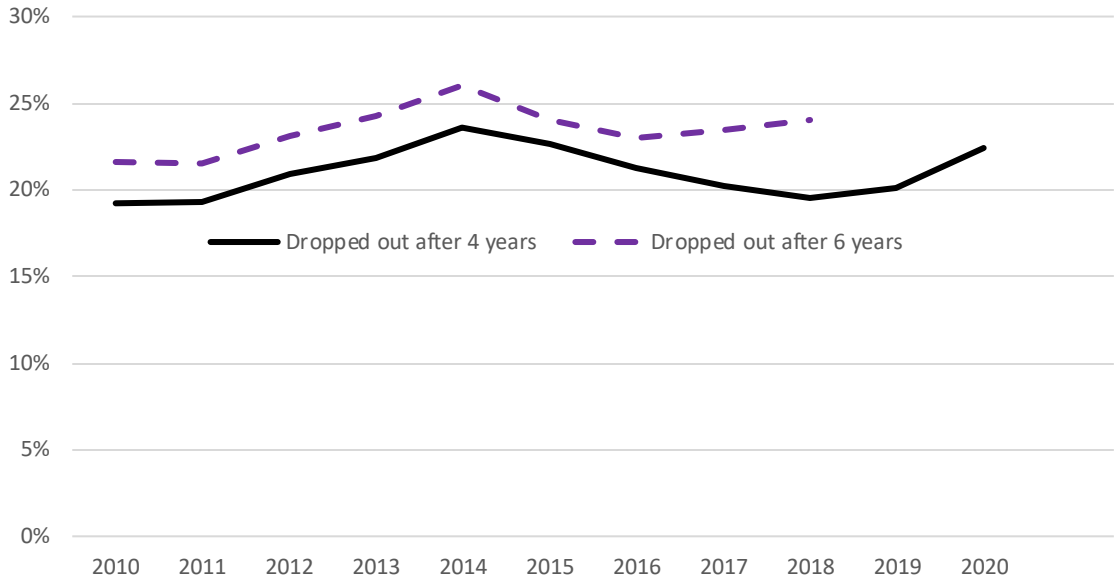
For postgraduate coursework, a Department of Education change to enrolment reporting practices in 2023 makes the narrow field of education figures not precisely comparable to 2022. This change should make 2023 figures slightly lower than 2022 on a consistent basis.[23] For accounting we observe significant increases in enrolments for both domestic and international students in 2023 compared to 2022, although international enrolments remain below their peak. For domestic postgraduates, the other major fields reported on for bachelor degree students in Figure 7 trended down. For international postgraduates, the major increase in headcount enrolments has lifted full-time equivalents in all management and commerce sub-fields.

2 COURSE ATTRITION AND COMPLETION IN MANAGEMENT AND COMMERCE

For domestic bachelor degree students in management and commerce degrees attrition at the four and six-year points after commencing (Figure 8) is usually slightly lower than for the overall bachelor degree cohort (Figure 3). We can expect that around three-quarters of students who commence a bachelor degree in management and commerce will graduate, although not necessarily with the degree they started.

[23] Prior to 2023, the available categories for narrow field of education data were 'Masters' and 'Other postgraduate' (such as graduate certificates and graduate diplomas). The 'Masters' category includes Masters research courses, which are out of scope. However, Masters by research has low enrolments. In 2022, 102 students enrolled in management and commerce commencing Masters by research. In total postgraduate coursework enrolments of more than 56,000 this is too small to affect the broad trends analysis in this report. From 2023, reporting is for a combined 'postgraduate coursework' category that excludes masters by research.

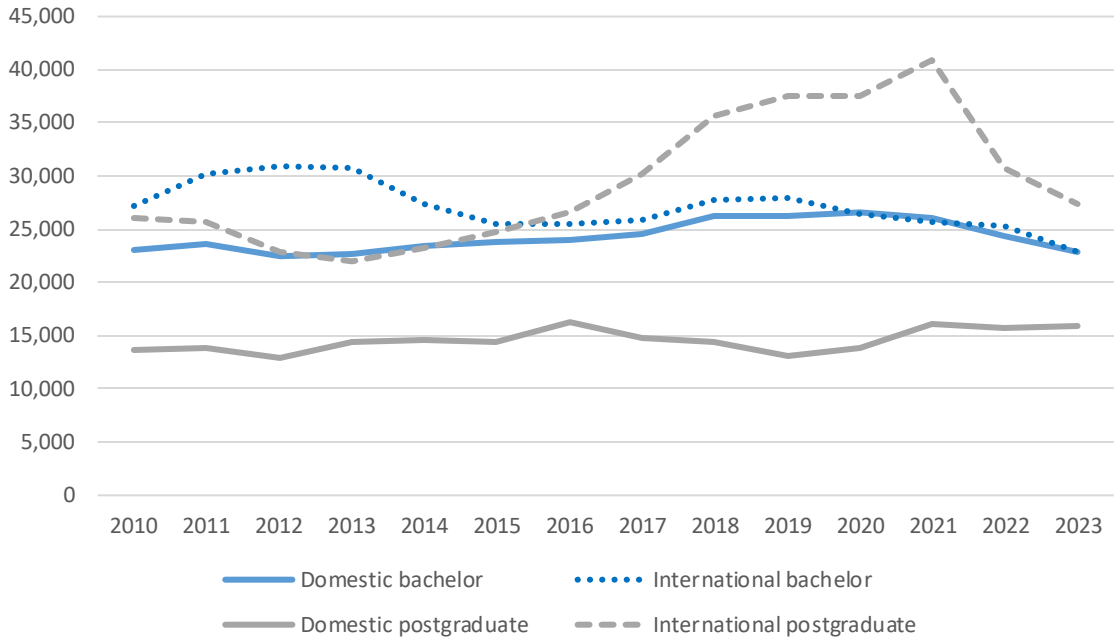
Figure 8: Domestic attrition rate, commencing bachelor degree management and commerce students, by year of commencement



Source: Department of Education, Completion rates of higher education students, 2005-2023

Although management and commerce domestic commencing bachelor degree students outnumber their international contemporaries in most years (Figure 6), for degree completions international students outnumber or roughly match domestic students, as seen in Figure 9. International student attrition rates are lower than for domestic students (see the previous chapter), although we lack course-specific data. As expected given commencing enrolments, international postgraduate coursework completions significantly exceed domestic completions.

Figure 9: Management and commerce course completions, domestic and international, bachelor and postgraduate coursework



Source: Department of Education, uCube and Award course completions pivot table

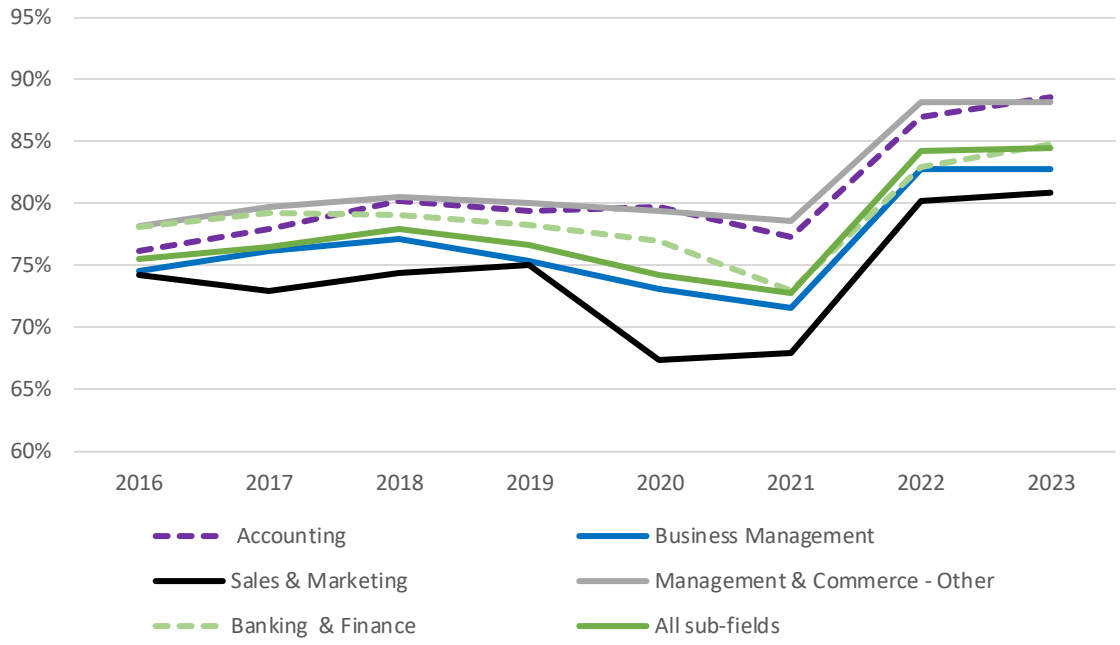
3 GRADUATE EMPLOYMENT OUTCOMES IN MANAGEMENT AND COMMERCE

Approximately four months after course completion, people with undergraduate qualifications in management and commerce are typically slightly more likely than graduates generally to have found full-time employment (Figure 10 compared to Figure 5). Their employment prospects enjoyed a significant boost from tight labour markets in 2022 and 2023. Fewer students completing courses and looking for work than in previous years may also have helped (Figure 9).

Nothing in this graduate employment time series explains why accounting has lost enrolments. Of the management and commerce sub-fields, its short-term employment outcomes are usually the best or second-best. In an earlier graduate employment survey, accounting outcomes had declined from the late 2000s through to the final survey in 2015.[24] Accounting graduates were, however, still more likely to find full-time work than graduates in other business fields or graduates as a whole. Similarly, job advertisement data shows a decline for accountant jobs on late 2000s and early 2010s levels but nothing unusual, other than a COVID-19 dip in 2020.[25] For sales and marketing, the other field with significantly reduced domestic commencing enrolments (Figure 7), short-term employment outcomes have consistently been worse than in other management and commerce fields and suffered most during the COVID-19 period.

[24] (GCA, 2016)
[25] (JSA, 2025a)

Figure 10: Management and commerce undergraduate qualification full-time employment rate, as a % of those seeking it



Source: Social Research Centre, Graduate Outcomes Survey

Short-term employment outcomes for domestic postgraduate coursework management and commerce graduates are consistently good, with around 90% of those looking for full-time work having secured it. As noted in chapter 2, however, holding full-time work while enrolled in a postgraduate course is common for domestic students.

International graduates with qualifications in business and commerce have outcomes similar to those shown in Figure 5 for all graduates. This is not surprising as management and commerce is the most popular field for international students, and therefore a major driver of sector-level outcomes. A postgraduate degree does not result in better short-term employment outcomes for international graduates compared to a bachelor degree.

Over the medium term, three years after completion, full-time employment outcomes improve for all graduates. For graduates with management and commerce bachelor degrees, full-time employment rates three years out are typically three to four percentage points higher than bachelor degree graduates generally. For postgraduate coursework qualifications the advantage is smaller.[26]

Recent graduate outcomes surveys have asked employed graduates about whether their skills are being used. For management and commerce graduates with undergraduate qualifications and who are working full-time, over the 2016-2023 period the proportion reporting not fully utilising the skills ranged between 32% and 35%. This is above the overall figure for all fields of education, which has ranged between 27% and 29%.[27] It is unclear whether these figures are significant. Realistically, not all graduates can find well-matched employment in a short period of time, and not all employers will quickly trust their new graduate employees with work that fully utilises their potential.

Alongside surveys of graduates, there is also an annual employer satisfaction survey. Its recruitment method, graduates nominating their supervisors, has an obvious source of bias. Yet one persistent feature of the employer satisfaction survey is worth noting. Supervisors are more likely to rate a graduate's qualification as important or very important for the job than the graduates themselves. In 2023, 41.5% of management and commerce graduates, but 48% of their supervisors, rated their qualification as important for their job.[28] Possibly supervisors, also familiar with non-graduate employees, see benefits to degrees that are unclear to the graduates themselves.

[26] (SRC, 2024) and preceding years.
[27] (SRC, 2024c)
[28] (SRC, 2024a)

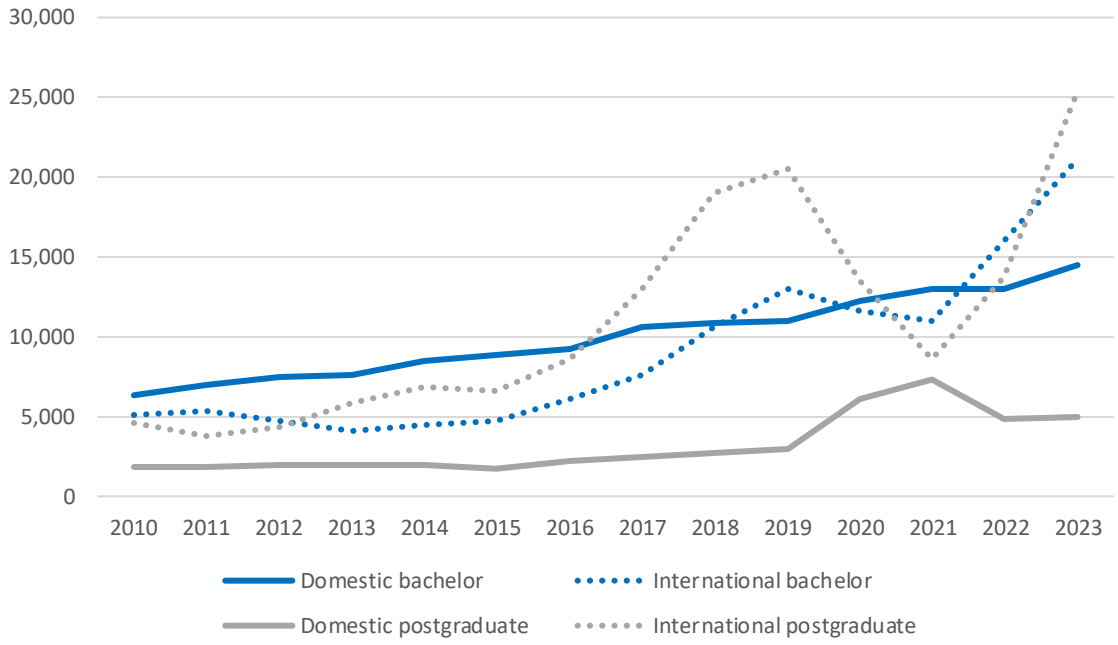
CHAPTER 4 INFORMATION TECHNOLOGY

1 DEMAND FOR IT COURSES

Domestic IT commencing bachelor enrolments have enjoyed a long period of growth (Figure 11). Numbers continued to increase in 2022 and 2023 while total commencing bachelor degree enrolments fell (Chapter 2). As for domestic postgraduate coursework enrolments overall, IT commencing domestic postgraduate enrolments spiked up during the COVID-19 period before falling back, but to a higher level than before COVID-19.

IT courses are popular with international students. They outnumbered domestic students in postgraduate programs in the whole 2010 to 2023 period shown in Figure 11. In bachelor-degree programs, commencing international enrolments increased by more than 400% between 2015 and 2023. Despite growth in domestic numbers, apart from the severe disruption caused by border closures, international students are a growing proportion of total enrolments. In 2023 one factor driving international student growth in IT may have been the federal government's decision to extend the length of temporary graduate visas for two years for graduates in degrees linked to skills shortages. Hundreds of IT courses were on the list of degrees eligible for the additional two years but no general business courses.[29] This program ceased to operate from 1 July 2024.

Figure 11: Commencing enrolments for information technology bachelor degrees and coursework postgraduate degrees



Source: Department of Education, uCube and Student enrolments pivot table

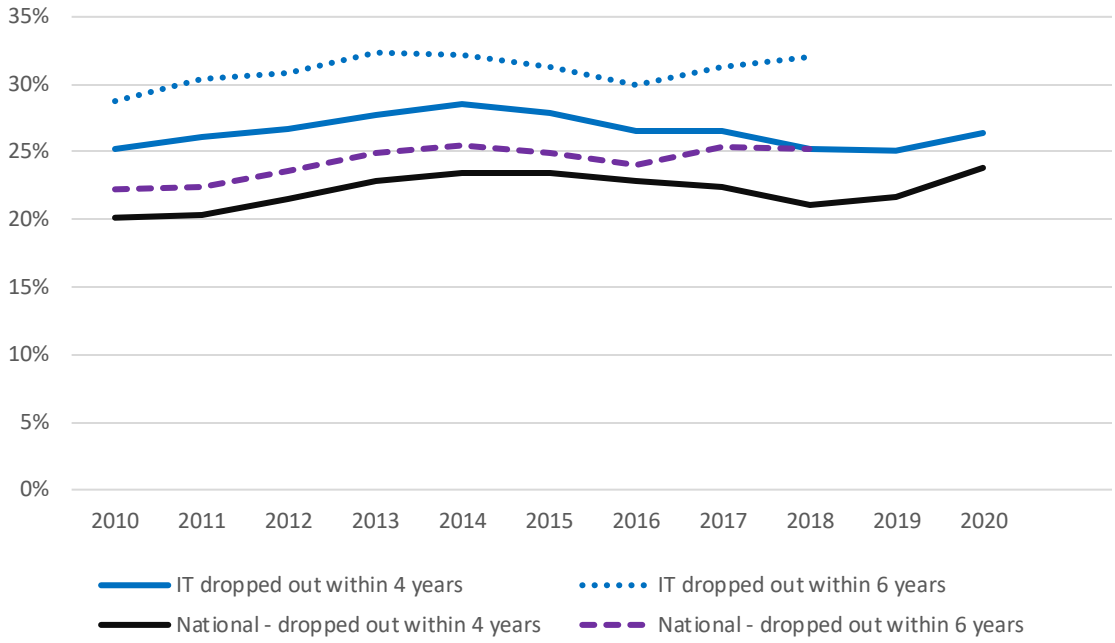
IT subject-level enrolment data does not show areas of significant decline, as observed for accounting and sales and marketing in the management and commerce broad field.

2 COURSE ATTRITION IN IT AND POSSIBLE EXPLANATIONS

Attrition from a bachelor degree is consistently higher from IT courses than for students overall, or the two other broad fields discussed in this report, management and commerce and engineering. At the six-year mark, for every 100 commencing IT bachelor degree students six or seven more of them have left higher education without completing any degree than for students generally (Figure 12).

[29] (DofE, 2023)

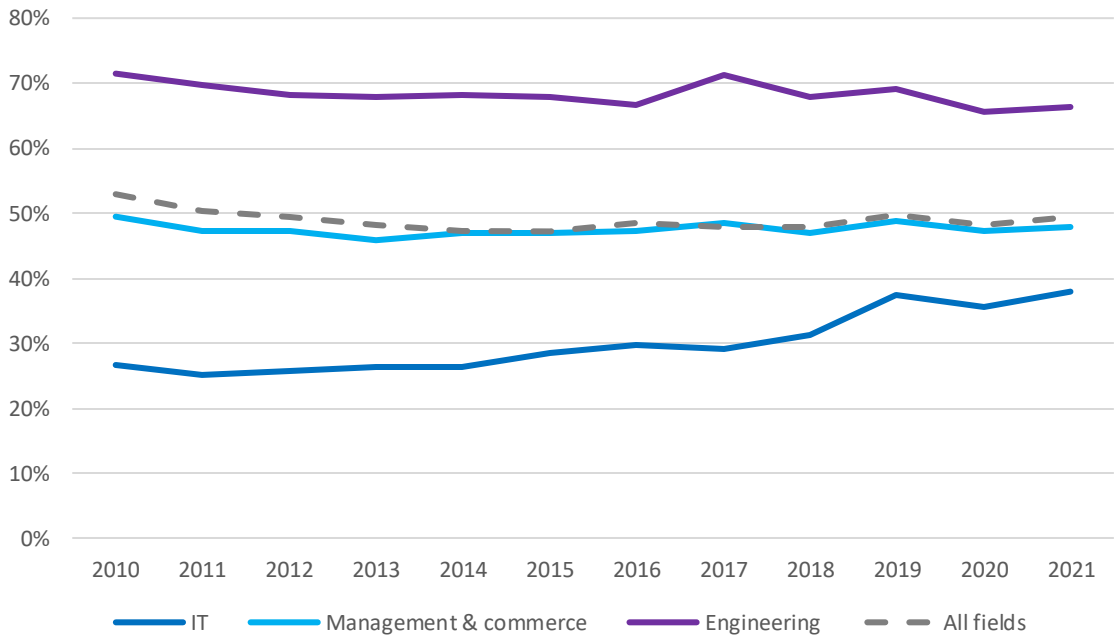
Figure 12: Domestic attrition rate, commencing bachelor degree IT students compared to national rates, by year of commencement



Source: Department of Education, Completion rates of higher education students, 2005-2023

One reason for high IT student attrition courses is lower academic preparation than commencing students in general or, for the purposes of this report, for students in management and commerce or engineering. The ATAR, which ranks students in their age cohort according to their school results, has a strong relationship with attrition.[30] Figure 13 shows the share of students with an ATAR of 80 or more, so applicants in the top 20% of their age cohort by academic achievement. IT consistently has a lower share of its students from this group than other courses. The proportion of IT students in this top 20% has however increased since 2018, which like the increase in total commencing enrolments suggests improved perceptions of IT study.

Figure 13: Share of course offers to applicants with an ATAR of 80 or more



Source: Department of Education, Undergraduate applications, offers and acceptances Power BI

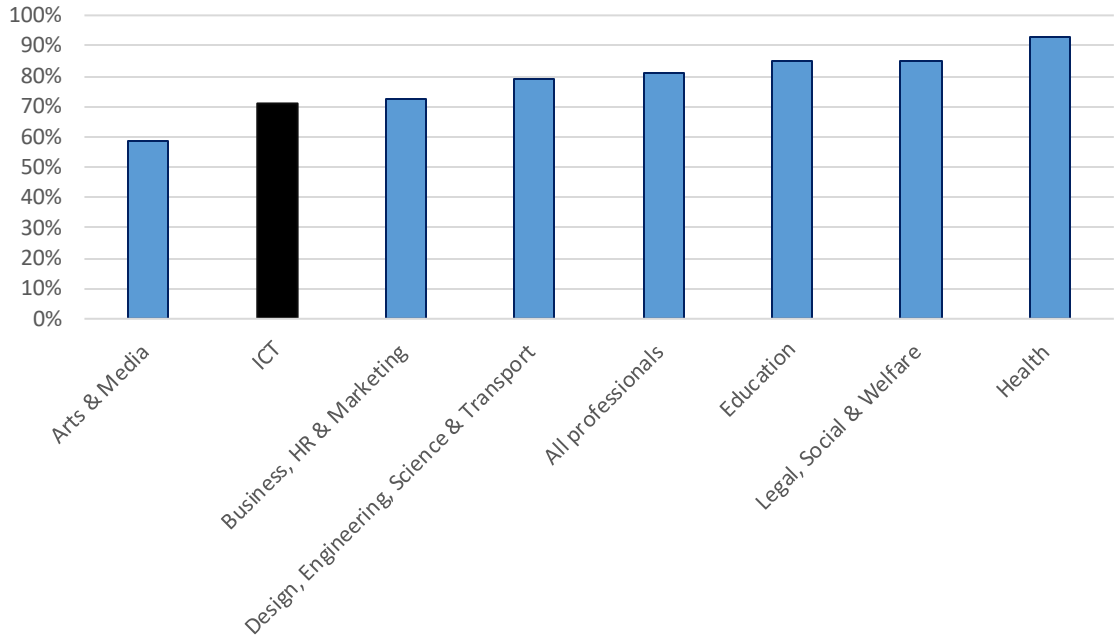
[30] (DoE, 2024)

Using enrolment and attrition data up to the mid-2010s, statistical analysis showed that IT had the highest risk of non-completion, even after controlling for low ATAR and other factors known to be associated with higher attrition levels, such as part-time enrolment, mature age study and male gender.[31]

Along with relatively high attrition levels, Figure 12 shows that IT has a strong version of an overall trend – for the 2017 and 2018 commencing cohorts a divergence between an improving four-year attrition rate and a deteriorating six-year attrition rate.

While high attrition from IT courses is a concern, it has one potential benign explanation. Employers of IT graduates may be more willing to hire staff without bachelor degrees for professional roles. Figure 14 shows 71% of information and technology professionals aged under 40 have a bachelor degree or higher, the second-lowest rate among the major professional occupation groupings. For the 2017 and 2018 commencing cohorts, the elevated six-year compared to four-year attrition figures were caused by people leaving university in 2022 and 2023. Figure 15 shows a large lift in advertised job vacancies for ICT professionals in those years. Some employers may have reduced qualification requirements to help fill these vacancies.

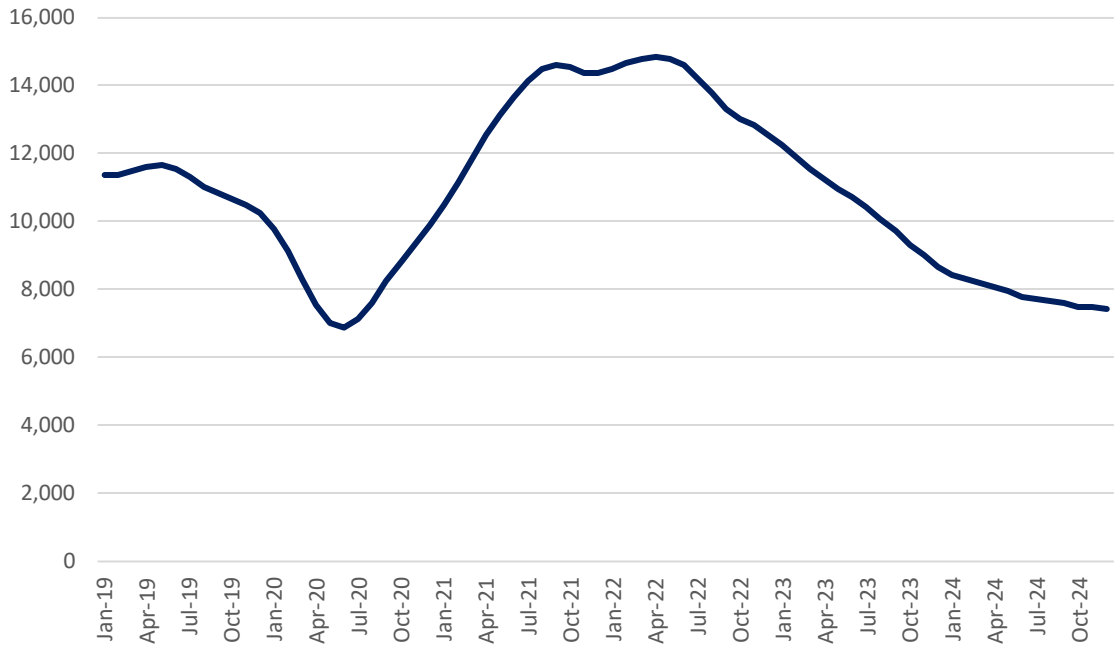
Figure 14: Rates of holding a bachelor degree or above in professional occupations, persons aged under 40 years, 2021



Source: ABS, 2021 Census, TableBuilder Pro
Note: Australian citizens only. The under-40 demographic was chosen because older workers entered the labour force when degrees were less necessary than is typically the case now.

[31] (Cherastidtham, Norton and Mackey, 2018)

Figure 15: Job vacancies for ICT professionals

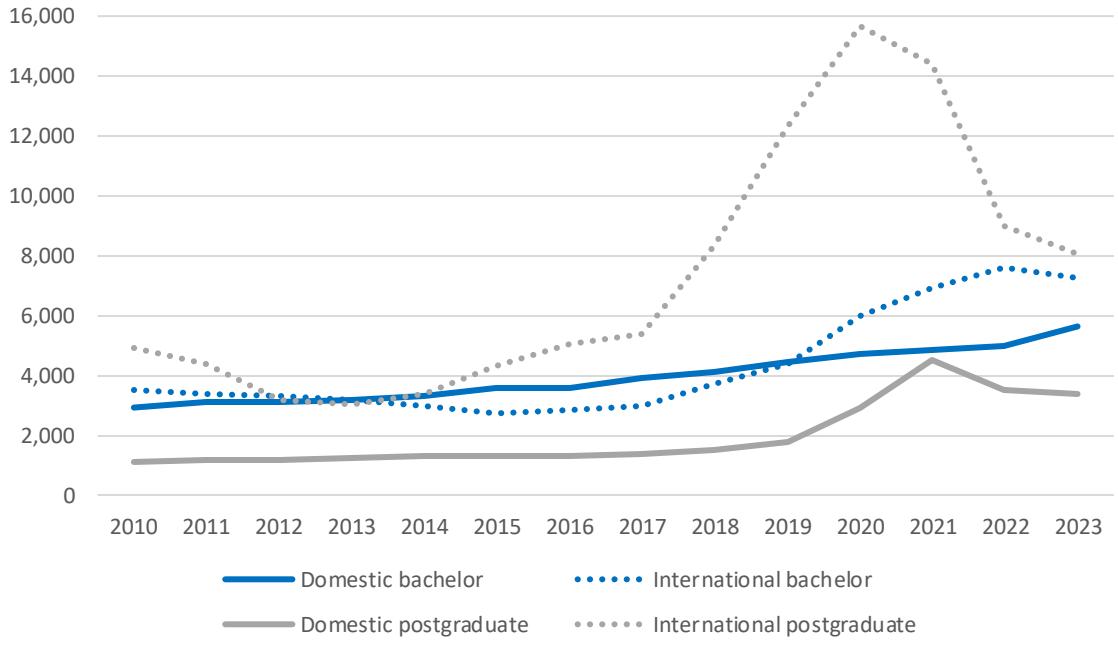


Source: Jobs and Skills Australia, Internet vacancy index

3 COURSE COMPLETIONS IN IT

IT course completions reflect, with time lags, the broad pattern of course commencements. Domestic bachelor degree completions have increased despite the losses caused by attrition. From an IT labour market perspective, the main concern is the high international share of enrolments and completions. Adding together bachelor and postgraduate completions, international students were responsible for more than 70% of IT graduations in 2019 and 2020. While this share fell back below 70% in the 2021 to 2023 period, it will return to that level or above as high international commencements in 2022 and 2023 finish their degrees in subsequent years.

Figure 16: IT course completions, domestic and international, bachelor and postgraduate coursework



Source: Department of Education, uCube and Award course completions pivot table

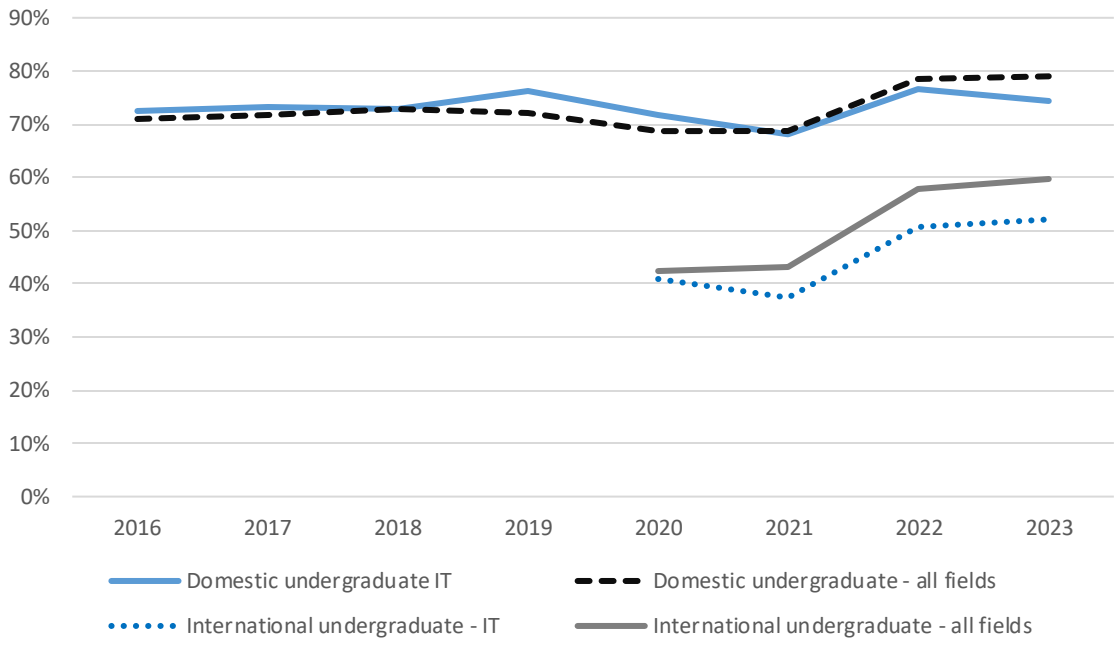
4 GRADUATE EMPLOYMENT OUTCOMES IN IT

Despite skills shortages being common in IT-related occupations the labour market performance of recent IT graduates with undergraduate qualifications has consistently been ordinary. Typically, the IT graduate full-time employment rate about four months after completion is similar to the overall rate (Figure 17). In the 2021 to 2023 period IT domestic graduates under-performed in the labour market relative to graduates as a whole. International IT graduates are less successful in finding full-time work than international students generally.

For domestic IT postgraduate qualifications, the short-term full-time employment rate is much higher than for undergraduate qualifications, in 2023 88% compared to 74%, but the rate is consistently below that of all new holders of postgraduate qualifications. International IT postgraduates have lower full-time employment rates than IT undergraduates.

Previous research found issues with IT course content and IT graduate personal attributes.[32] Whether that remains the case now, a more recent factor is that IT completions increased while course completions in other fields decreased. While not all international IT graduates are in the Australian labour market, total IT completions – domestic plus international – more than doubled between 2017 and 2021. Completions have declined since then, but in 2023 were still nearly 80% above 2017 levels. IT graduates are in a labour market that is becoming more competitive, while fewer completions in other courses made their labour markets less competitive. The IT enrolment surge in 2022 and 2023 will produce another spike in completions, raising the risk of negative employment outcomes continuing into future years.

Figure 17: IT undergraduate qualification full-time employment rate, as a % of those seeking it



Source: Social Research Centre, Graduate Outcomes Survey

In the medium term, three years after course completion, IT graduates – like graduates generally – improve on their short-term full-time employment outcomes. For domestic graduates, the full-time employment rate exceeds 90% in most years over the 2017 to 2023 period. For international graduates, there is only data for 2022 and 2023, with full-time employment rates around 85%.[33]

With annual fluctuations, around a quarter of IT graduates with an undergraduate qualification report not fully utilising their skills at work. This is less than for business and management graduates, and usually less than for graduates generally.[34]

As with management and commerce, IT employers are more likely than IT graduates to rate the graduate's qualification as important for their job.[35]

[32] (Norton and Cakitaki, 2016), pp. 92-94
[33] (SRC, 2024) and preceding years.
[34] (SRC, 2024c)
[35] (SRC, 2024a)

CHAPTER 5 ENGINEERING

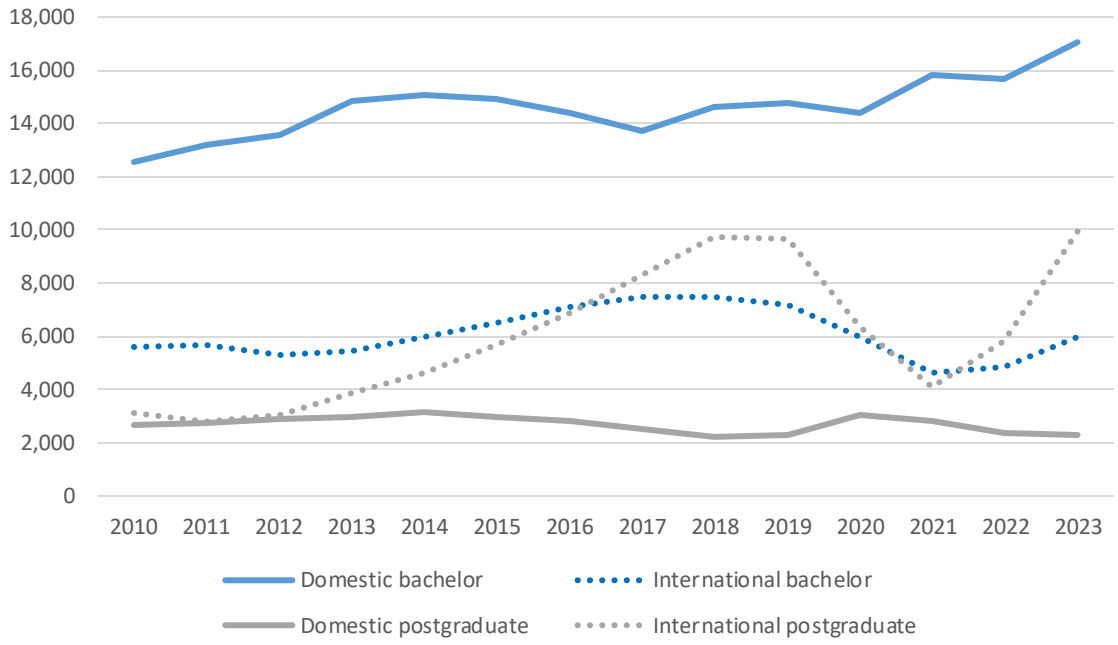
1 DEMAND FOR ENGINEERING COURSES

As with IT, engineering has defied the trend towards lower commencing bachelor degree enrolments (Figure 18). Like IT and business, engineering has a COVID-19 increase in domestic postgraduate study followed by a decrease. Overall, however, domestic engineering postgraduate commencements fluctuated in a narrow range in the 2010 to 2023 period.

International commencing enrolments, especially in postgraduate courses, show the same boom-bust-boom pattern as management and commerce and IT. Like IT, hundreds of engineering courses conferred eligibility for an extra two years stay in Australia on a temporary graduate visa in the 2023-24 year.

At the bachelor-degree level, engineering relies less on international students than management and commerce or IT. In 2023, international bachelor degree students were 26% of all enrolments, compared to 49% in management and commerce and 59% in IT.

Figure 18: Commencing enrolments for engineering bachelor degrees and coursework postgraduate degrees



Source: Department of Education, uCube and Student enrolments pivot table

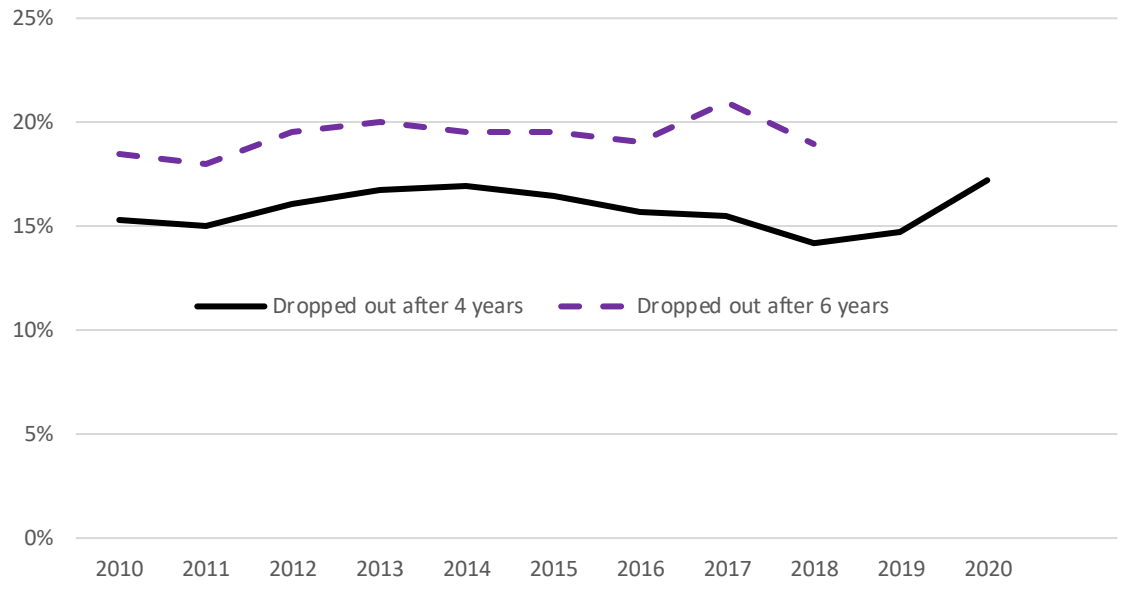
Subject-level narrow field engineering enrolment data consistently shows that, of the engineering specialities, electrical engineering has the largest full-time equivalent enrolments. Civil engineering and mechanical engineering have similar numbers of enrolments. The only major change in the 2010 to 2023 period is a fall in process and resources engineering enrolments, presumably reflecting less demand from the mining industry. These patterns are similar for domestic and international students.[36]

2 COURSE ATTRITION AND COMPLETIONS IN ENGINEERING

Bachelor degree engineering courses have much lower attrition than IT, typically over 10 percentage points lower at both the four and six-year points, and moderately lower than management and commerce, in 2023 five percentage points lower at both the four and six-year points. One reason for this is that the students entering engineering degrees typically have high ATARs (see Figure 13 for data). Another reason may be that graduates cannot work as engineers without completing their qualification. In IT and many business fields, employers have more discretion in deciding whether a qualification is a necessary condition of employment. Despite these factors, engineering is showing the same increase in attrition at the four-year point as is observed across the attrition data for students who commenced in 2020 (Figure 19).

[36] The largest category is 'other engineering and related technologies'. It is not possible on publicly-available data to determine whether this is driven by one of the sub-fields in this area, such as environmental engineering and biomedical engineering, or more general introductory subjects that cannot be classified to an engineering speciality.

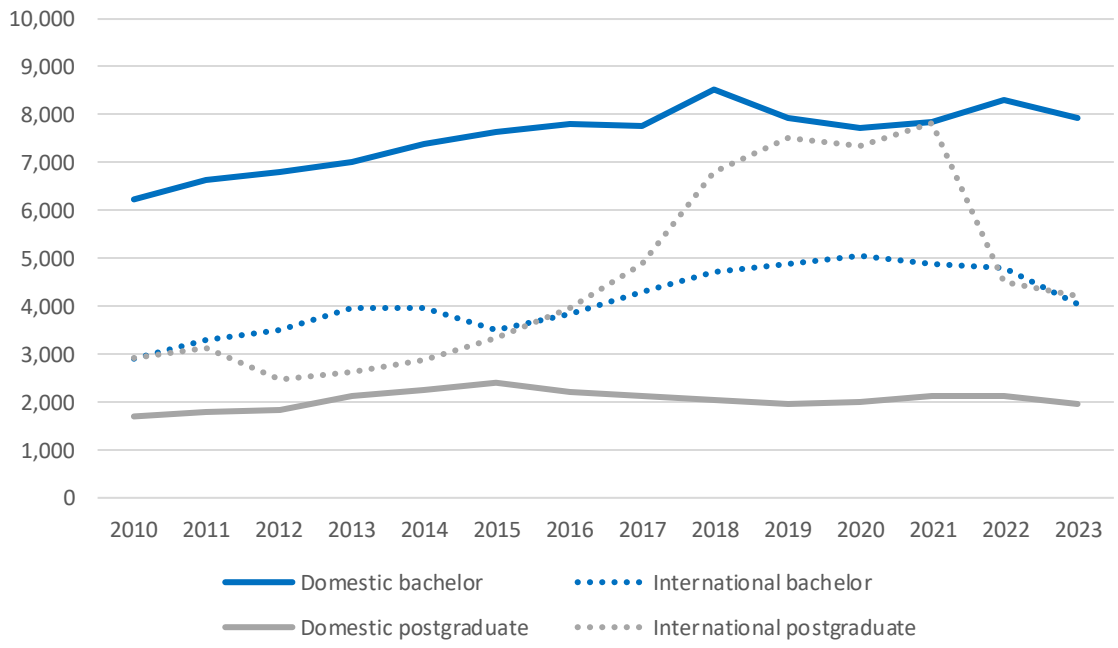
Figure 19: Domestic attrition rate, commencing bachelor degree engineering students, by year of commencement



Source: Department of Education, Completion rates of higher education students, 2005-2023

Engineering bachelor degrees take four years of full-time study, compared to three years for IT or management and commerce bachelor degrees. This delays the flow through of increased bachelor degree commencements into course completions (Figure 20). Overall, domestic bachelor and postgraduate coursework completions have been fairly stable since the late 2010s. The numbers for international students are volatile, but increased commencing enrolments in 2022 and 2023 will result in more completions in 2024 and beyond.

Figure 20: Engineering course completions, domestic and international, bachelor and postgraduate coursework



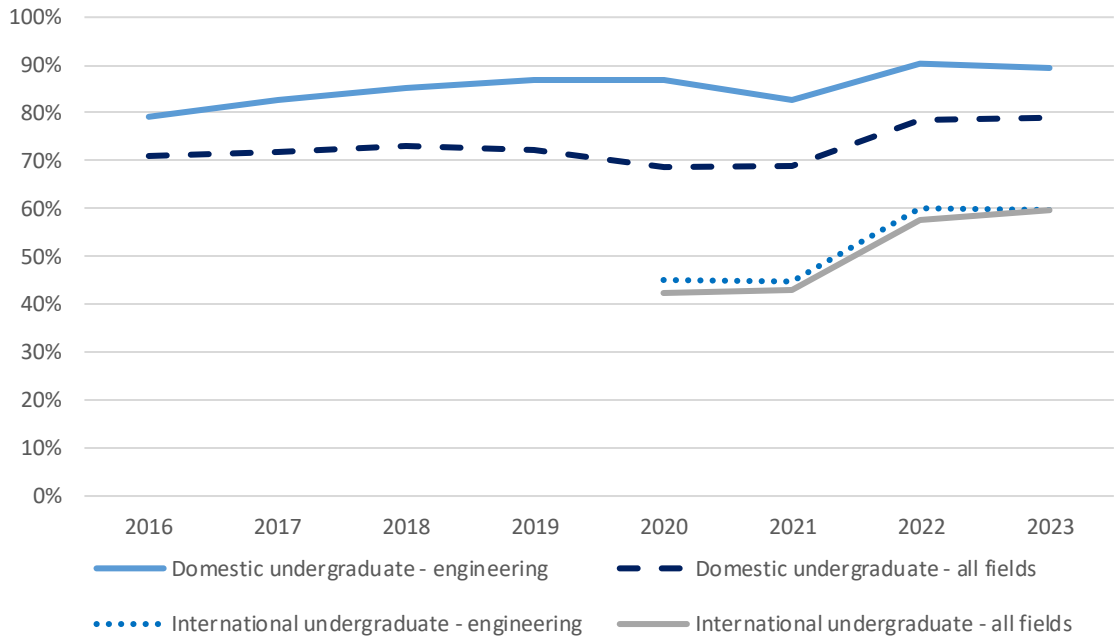
Source: Department of Education, uCube and Award course completions pivot table

3 GRADUATE EMPLOYMENT OUTCOMES IN ENGINEERING

Engineering graduates with undergraduate qualifications consistently achieve higher rates of full-time employment shortly after graduation than graduates generally, as seen in Figure 21. In the context of this report, engineering full-time employment rates are better than IT and management and commerce, other than accounting which in 2022 and 2023 had similar results. Engineering graduates also did better than other graduates in using their skills and education at work, with 21-22% giving negative answers since 2020, as compared to 28-29% for graduates generally. For international students with undergraduate qualifications engineering graduates do slightly better than other graduates.

Domestic engineering postgraduate coursework graduates, as observed for other disciplines, typically enjoy high rates of full-time employment. Postgraduate coursework qualifications held by international students, as noted for other disciplines, do not reliably lead to better short-term employment outcomes. As for other disciplines, the large number of former international students with these qualifications makes it harder for them all to find work quickly.

Figure 21: Engineering undergraduate qualification full-time employment rate, as a % of those seeking it



Source: Social Research Centre, Graduate Outcomes Survey

Three years after course completion, domestic engineering graduates with both undergraduate and postgraduate qualifications have high rates of full-time employment. In 2022 and 2023, more than 95% of these seeking full-time work had it. For international graduates results were significantly better after three years, with at least 85% of those seeking full-time work having achieved their goal.

CHAPTER 6 CONCLUDING COMMENTS

This primary purpose of this report was to provide a quick overview of key trends in management and commerce, IT and engineering. It offers limited analysis of the causes and implications of these trends. This concluding chapter outlines some general issues raised by the report.

1 HIGHER EDUCATION DATA

No current organisation is responsible for monitoring the relationship between higher education enrolments and demand for graduates at the field of education or occupation level. The 2021 Australia and New Zealand standard classification of occupations has 388 occupations classified as typically requiring a degree, but only five are specifically identified in the higher education enrolment and completions data.[37] Inferring future graduate supply from field of education data, as this report does, can identify broad trends but is less effective for tracking specialisations within broad qualification categories.

Timeliness of data is another significant issue. Unlike other Commonwealth government departments in the social services, Education has no scheduled data reporting. Most datasets referred to in this report – applications data is the exception, with no new data released since 2021 – eventually appear long after data collection but on no publicly set date. For the enrolment data especially, this creates problems for skills monitoring purposes. On current practices, a significant change in commencing student numbers during the semester 1 2025 intake may not be reported until the end of 2026, and would at best be available in the second half of 2026. If there is a problem, two years could be lost in providing a response. Trend data should be reported regularly, with the current annual statistical report the final, rather than the only, statement of each year's enrolments and completions.

Jobs and Skills Australia's work plan includes better tracking of higher education student outcomes and student movements between vocational education and higher education.[38] The skills focus of the proposed new Australian Tertiary Education Commission implies improvement on existing data practices.[39] But there is no clear agenda for change.

2 UNIVERSITY RELIANCE ON INTERNATIONAL STUDENTS

The enrolment data presented in this report shows that the relevant university faculties rely on international students, especially for their postgraduate courses. All three of management and commerce, IT and engineering have international postgraduate enrolment shares exceeding 70%. More than half of bachelor degree IT students are international students, and nearly half of management and commerce bachelor degree students (Figure 22).

As the last five years demonstrate, the international education market is prone to shocks. While less dramatic in their short-term effects than the March 2020 to December 2021 border closure, recent migration policy changes will have more long-lasting effects. Their main goal is to reduce Australia's population to ease pressure on accommodation availability and affordability. As the main solution to this problem, lifting housing supply, cannot be done in any short period of time, migration policy will be a demand-side method of mitigation for the foreseeable future.

The new status quo in international higher education is still evolving, with most policy changes less than 12 months old and the latest only introduced in December 2024. While de facto provider-level caps will place an upper limit on student numbers, other policies to block or discourage international students will prevent some education providers from enrolling up to their caps.

Higher education student visa applications data shows, unsurprisingly, that 2024 applications fell for migration-sensitive countries such as India, Nepal and Pakistan, while Chinese demand was little changed.[40] International enrolments are not reported by field of education and country of origin, but these patterns may have disproportionate impacts on some faculties. As a rough guide, among the former international students who have achieved permanent residence, Indian migrants significantly outnumber Chinese migrants in IT, while the reverse is the case for management and commerce qualifications. In engineering, their numbers are similar.[41]

The risk with a long-term reduction in international students is that courses that rely on them may close. Retrenched academic staff may not return if or when enrolments recover. These developments could disrupt the supply of necessary education and training for domestic students and the remaining international students.

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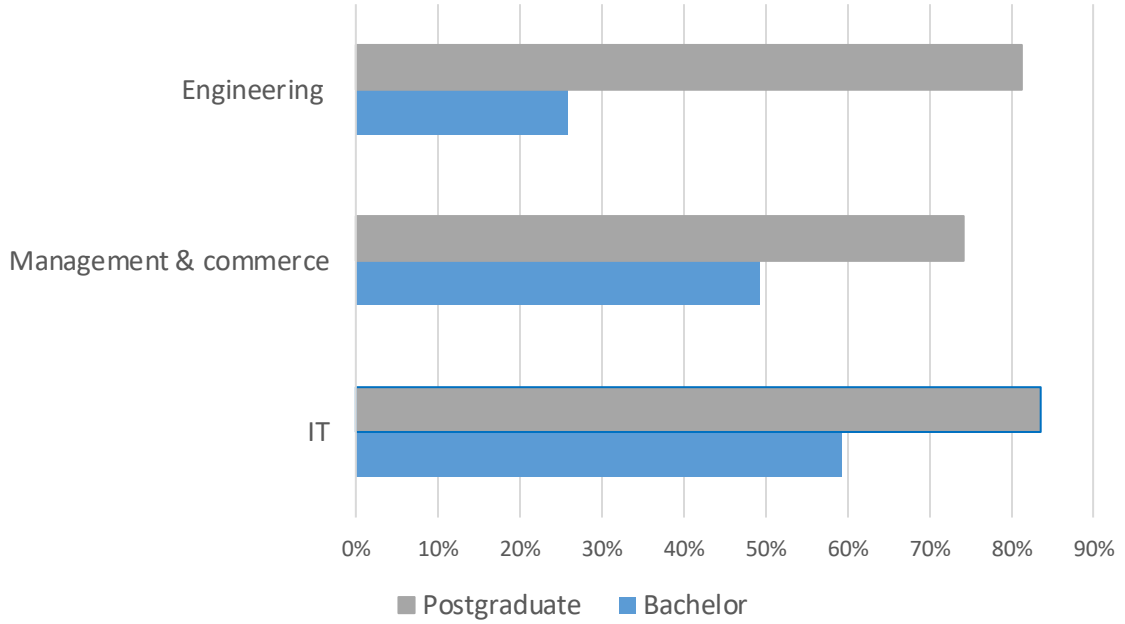
[37] (ABS, 2021),(DofE, 2024b) – the five are nurses, teachers, medical practitioners, veterinary practitioners, and dentists. In addition clinical psychology and aviation are reported as special interest fields.
[38] (JSA, 2025b), pp 18-19
[39] (Australian Government, 2024)
[40] (Norton, 2025b)
[41] (ABS, 2023a). People who first arrived in Australia on a student visa, field of education for a bachelor degree or above qualification.

Figure 22: International enrolment share 2023, engineering, IT, management and commerce

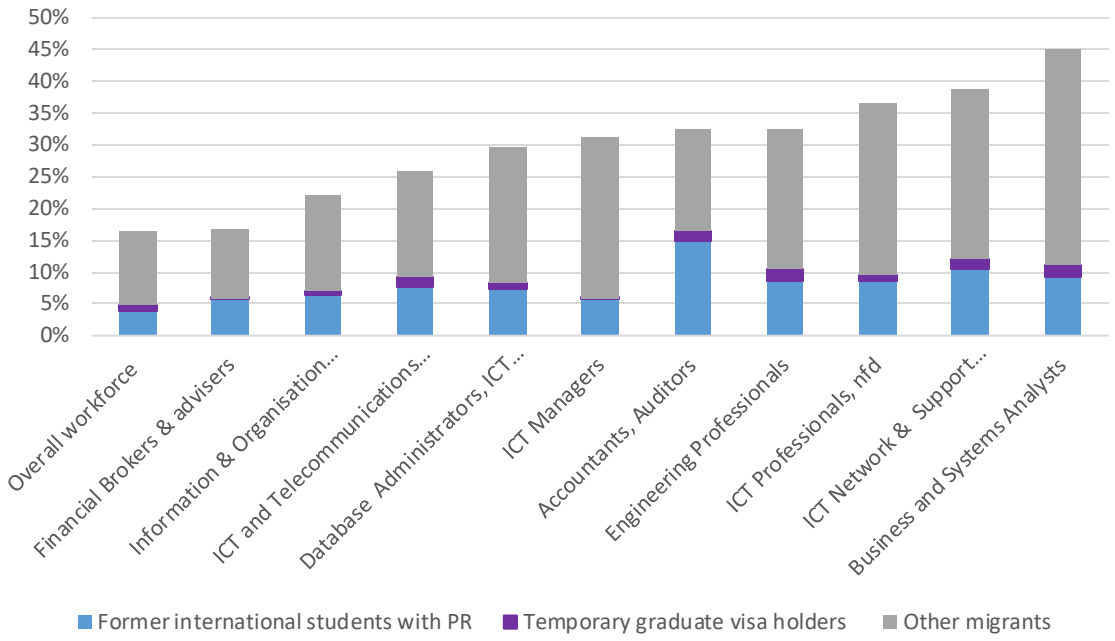


3 LABOUR MARKET RELIANCE ON FORMER INTERNATIONAL STUDENTS

ABS data shows that former international students are also an important part of the workforce in occupations associated with management and commerce, engineering and IT (Figure 23). There is no major imminent threat to this source of workers. While temporary graduate visas became slightly harder to get and shorter since 1 July 2024, the stock of resident visa holders in January 2025 was 200,420, double 2022 levels.[42] To date, there is no cap on temporary graduate visa holders, or on the temporary skill visas that former international students also use to remain part of Australia's workforce. But a significant and prolonged reduction in international student numbers would eventually constrain these sources of labour supply.

[42] (DHA, 2025)

Figure 23: Occupational reliance on international students and other migrants, % of all workers



Sources: ABS, 2021 Australian Census of Population and Housing; ABS, Australian Census and Migrants 2021; ABS, Australian Census and Temporary Residents 2021. TableBuilder version of all sources.

4 LOW DEMAND FOR MANAGEMENT AND COMMERCE

Changes to international education policy pose threats to engineering and IT, but demand from both domestic and international students seems strong. For management and commerce, international and especially domestic demand for undergraduate degrees, is weak. Postgraduate commencing enrolments, however, were in 2023 above pre-COVID-19 levels.

This report, written in a limited period of time, has not been able to identify a cause for the undergraduate trends or whether this signals a significant problem. The report has been able to clarify that the main drivers of the trend are the sales and marketing and accounting fields. The situation of undergraduate management and commerce education is worth further investigation.

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