

UNIVERSITIES AUSTRALIA

2022 HIGHER EDUCATION FACTS AND FIGURES

JUNE 2022

(DATA AS OF 6 MAY 2022)

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1 FUNDING AND UNIVERSITY FINANCES

1.1 AUSTRALIAN GOVERNMENT FUNDING

The Australian Government provides funding to universities through several main funding programs:

- The *Commonwealth Grant Scheme (CGS)* that provides funding to support a range of university activities, principally teaching and learning for Australian domestic students.
- Research funding through the *National Competitive Grant Program* and research block grants that support research and research training.
- Other grants made under the *Higher Education Support Act 2003 (HESA 2003)* to support equity and participation in higher education.
- *Higher Education Loan Program (HELP)* payments. Under the HELP scheme, the Australian Government pays student fees to higher education providers, which are repaid by students through income-contingent loans through the taxation system.

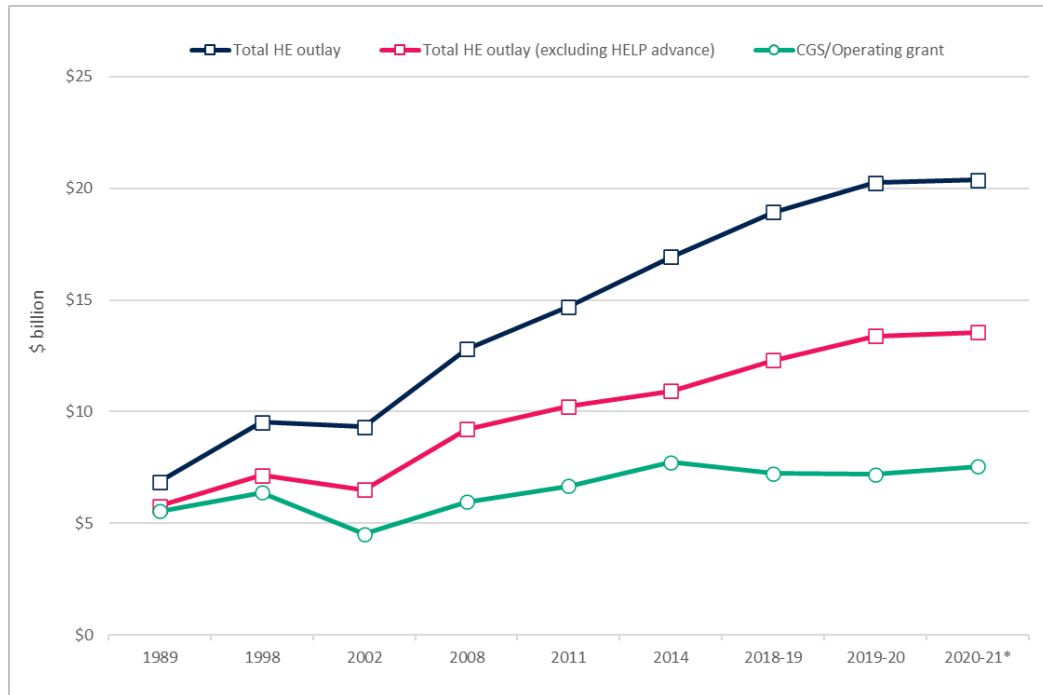
1.1.1 AUSTRALIAN GOVERNMENT HIGHER EDUCATION OUTLAYS

Total Australian Government outlays in higher education spending (including research) has almost tripled over the past three decades, from \$6.9 billion in 1989 to \$20.4 billion in 2020–21 (in 2020 dollars). However, most of the growth is due to the growth in HELP loans – of which 80 per cent are expected to be repaid in the future. Direct teaching and learning grants (i.e., the Commonwealth Grant Scheme) increased by just 36 per cent over the same period (Figure 1). It is also evident from Figure 1 that total government higher education outlay has plateaued in real terms between 2019–20 and 2020–21.

HELP loans as a share of total higher education outlays increased from less than 16 per cent in 1989 to 34 per cent in 2020–21. Excluding HELP loans, higher education (HE) spending has more than doubled, from \$5.8 billion to \$13.5 billion, over the same period.

Despite the growth in funding, Australian Government total higher education spending as a percentage of GDP only increased from 0.88 per cent in 1989 to just under one per cent in 2020–21. Excluding HELP loans, higher education grants for teaching and learning and research have declined from 0.74 per cent of GDP in 1989 to 0.65 per cent in 2020–21 (Figure 2).

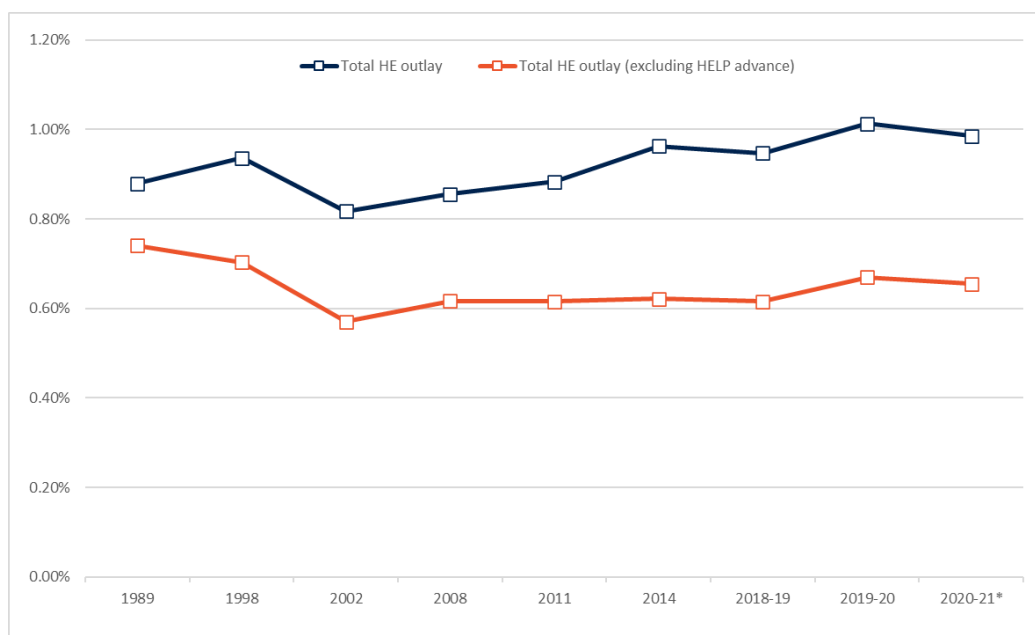
Figure 1: Australian Government higher education spending, in 2020 dollars



Source: Data from 1989 to 2014 are from Department of Education and Training 2015, *Higher Education in Australia: A Review of reviews from Dawkins to today*. Data for 2018–19, 2019–20 and 2020–21 are from the Department of Education, Skills and Employment’s Portfolio Budget Statements and HELP loan amounts are from the HESA Determinations as of 27 April 2022.

Note: Total higher education funding includes CGS or operating grants, HELP advance, research grants, other appropriations for higher education support under the *Higher Education Support Act 2003*, and grants administered by the Australian Research Council.

Figure 2: Australian Government higher education spending as a percentage of GDP

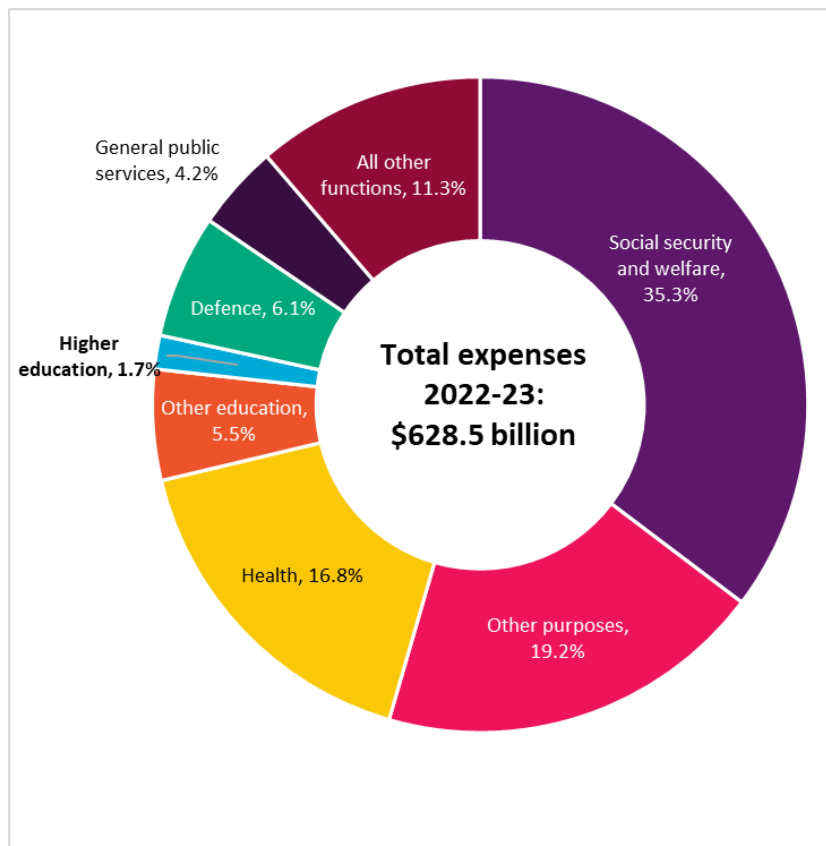


Source: See Figure 1.

According to the 2022–23 Federal Budget papers, Australian Government expenditure for higher education sub-function – excluding research and HELP – is estimated at \$10.4 billion or 1.7 per cent of Australian Government’s total expenses in 2022–23 (Figure 3). Government expenses under the higher education sub-function are expected to decrease by 5.4 per cent in real terms from 2021–22 to 2022–23 and decrease by 3.6 per cent in real terms from 2022–23 to 2025–26. This declining trend mainly reflects lower government outlays under the Commonwealth Grant Scheme (CGS) as a result of the *Job-ready Graduates* higher education reform package.¹

The Commonwealth Grant Scheme (CGS) – the largest government funding program for the university sector – no longer features in the top 20 Government expenses in 2022–23. CGS is expected to decline by -2.7 per cent in nominal terms, from \$7.56 billion in 2021–22 to \$7.35 billion in 2022–23. CGS is expected to increase by just 4.4 per cent by the end of forward estimates period, to \$7.68 billion in 2025–26.²

Figure 3: Australian Government expenses by function, 2022–23



Source: UA analysis based on Australian Government 2022, *Budget 2022–23: Budget Strategy and Outlook Budget Paper No. 1.*, p.141–151.

Note: Expenses under higher education sub-function does not include funding for research, HELP advance to universities on behalf of students and annual HELP expenses incurred by Government in providing concessional loans.

¹ Australian Government 2022, *Budget 2022–23: Budget Strategy and Outlook Budget Paper No. 1.*, p.150.

² Australian Government 2022, *Portfolio Budget Statement 2022–23: Education, Skills and Employment Portfolio*, p.52.

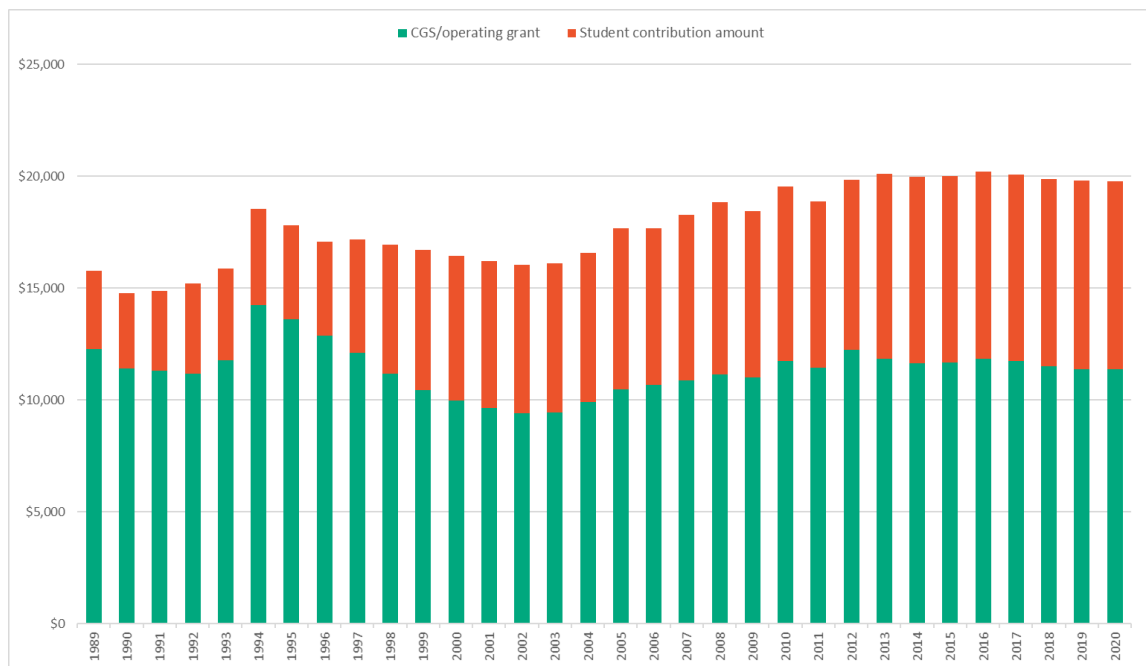
1.1.2 FUNDING PER COMMONWEALTH SUPPORTED PLACE

Total funding – i.e., Commonwealth Grant Scheme (CGS) and student contributions amount – received by universities for an average Commonwealth supported place (CSP) has increased by 25.4 per cent in real terms since 1989 to an estimated \$19,770 per place in 2020. It declined after 1994 to a low point in 2002 but then recovered to a peak of \$20,196 per place in 2016. However, since 2016 total revenue per place has declined by 2.1 per cent due to the introduction of a nominal cap on total government funding announced in 2017–18 Mid-Year Economic and Fiscal Outlook.

The share of this revenue paid by the government has declined over time, from 77.8 per cent in 1989 to 57.6 per cent in 2020, with the government contribution amount – CGS – declining 7.1 per cent in real terms, from \$12,260 per student in 1989 to \$11,390 per student in 2020. Over the same period, the student contribution amount has increased by almost 140 per cent from \$3,500 to \$8,380 per student.

Once government’s *Job-ready Graduates* package is fully implemented, total funding per place – i.e., CGS and student contributions – will decline by -5.8 per cent, assuming universities maintain their 2018 discipline mix.

Figure 4: Total funding per Commonwealth supported place, in 2020 dollars



Source: Data from 1989 to 2015 are from UA communications with Department of Education, Skills and Employment (DESE) following the May 2016 Budget. Data for 2016 to 2020 are from *Higher Education Support Act* (HESA) Determinations as of 27 April 2022.

1.1.3 PUBLIC VS PRIVATE CONTRIBUTION FOR COMMONWEALTH SUPPORTED PLACES

For students that receive a Commonwealth supported place, the Australian Government funds their course of study through a combination of a direct Commonwealth contribution, paid through the Commonwealth Grant Scheme, and a student contribution. Students can choose to pay their student contribution upfront or receive a loan from the Australian Government to pay it through the HECS-HELP scheme.

Under the *Job-ready Graduates* package, in 2022, the average public contribution per place for new students will fall from the previous 58 per cent of base funding per place to 51 per cent (or \$9,703 per place) while average student contribution will increase from the previous 42 per cent to 49 per cent (or average \$10,051 per place). The public–private contribution split for most disciplines widens under the *Job-ready Graduates* package (see Table 1). For example, the share of private contribution will increase further for Management and Commerce, Arts, Society and Culture (excluding languages), Law, Economics and Communications, with the government contribution declining to just seven per cent for these disciplines.

Table 1: Relative government and student contribution by discipline, 2022

Funding clusters	Australian Government contribution	Maximum student contribution amounts	Total resourcing	Relative government and student contribution
Law, Accounting, Administration, Economics, Commerce, Communications, Society and Culture	\$1,109	\$14,630	\$15,739	7 : 93
Education, Postgraduate Clinical Psychology, English, Mathematics or Statistics	\$13,369	\$3,985	\$17,354	77 : 23
Allied Health, Other Health, Built Environment, Computing, Visual and Performing Arts, Professional Pathway Psychology or Professional Pathway Social Work	\$13,369	\$8,021	\$21,390	63 : 37
Nursing, Indigenous and Foreign Languages	\$16,396	\$3,985	\$20,381	80 : 20
Engineering, Surveying, Environmental Studies or Science	\$16,396	\$8,021	\$24,417	67 : 33
Agriculture	\$27,243	\$3,985	\$31,228	87 : 13
Medicine, Dentistry or Veterinary Science	\$27,243	\$11,401	\$38,644	70 : 30
Pathology	\$27,243	\$8,021	\$35,264	77 : 23

Source: Department of Education, Skills and Employment (DESE) 2021, *Indexed Rates for 2022*, <https://www.desse.gov.au/higher-education-loan-program/approved-hep-information/funding-clusters-and-indexed-rates>

1.1.4 OTHER FUNDING TO SUPPORT TEACHING AND LEARNING

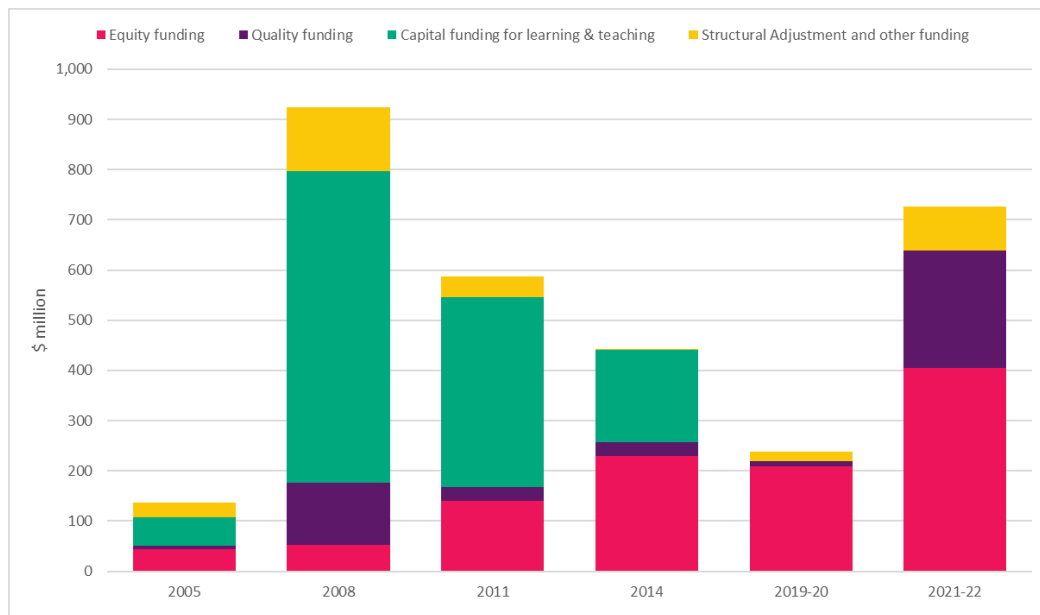
In addition to the direct CGS funding that subsidises tuition costs for Commonwealth supported students, the Australian Government also provides other indirect funding to universities to support teaching and learning activities under the *Higher Education Support Act 2003*. These funding sources have been variable and were minimal before the *Job-ready Graduates* package (see Figure 5).

Funding to support quality and innovation in teaching was increased prior to 2008 and the funding declined to \$10.7 million in 2019–20. However, following the *Job-ready Graduates* package, this funding has increased to \$233.9 million in 2021–22, mainly due to the National Priorities and Industry Linkage Fund (NPILF).

Additional funding to promote equity in the provision of higher education accompanied the introduction of the demand driven system. This funding quadrupled to around \$200 million a year, mainly to support the participation and success of students from disadvantaged backgrounds. Following the *Job-ready Graduates* package, this funding is estimated to increase from \$208.2 million in 2019–20 to \$405.5 million in 2021–22 mainly due to the introduction of Indigenous, Regional and Low SES Attainment Fund (IRLSAF). While the IRLSAF framework is yet to be finalised, it would combine the existing funding for the Higher Education Participation and Partnership Program (HEPPP), National Priorities Pool, Regional and Enabling Loadings and relevant elements of the National Institutes Grant. Some of the specific grants to promote student equity are discussed in the following sections.

As part of the government’s response to the 2008 global financial crisis and to help support the expansion of student places under the demand driven system, there was a large injection of capital funding for teaching-related purposes and funding for structural adjustment from around 2008 to 2012. There are currently no new capital grants for teaching-related purposes.

Figure 5: Other government funding to support teaching and learning, by purpose, nominal dollars



Source: Actual data for 2005 to 2014 are from Department of Education, Skills and Employment (DESE) administrative data and data from 2019–20 onwards are from Australian Government’s *Portfolio Budget Statement: Education, Skills and Employment Portfolio* (various years).

Higher Education Participation and Partnerships Program

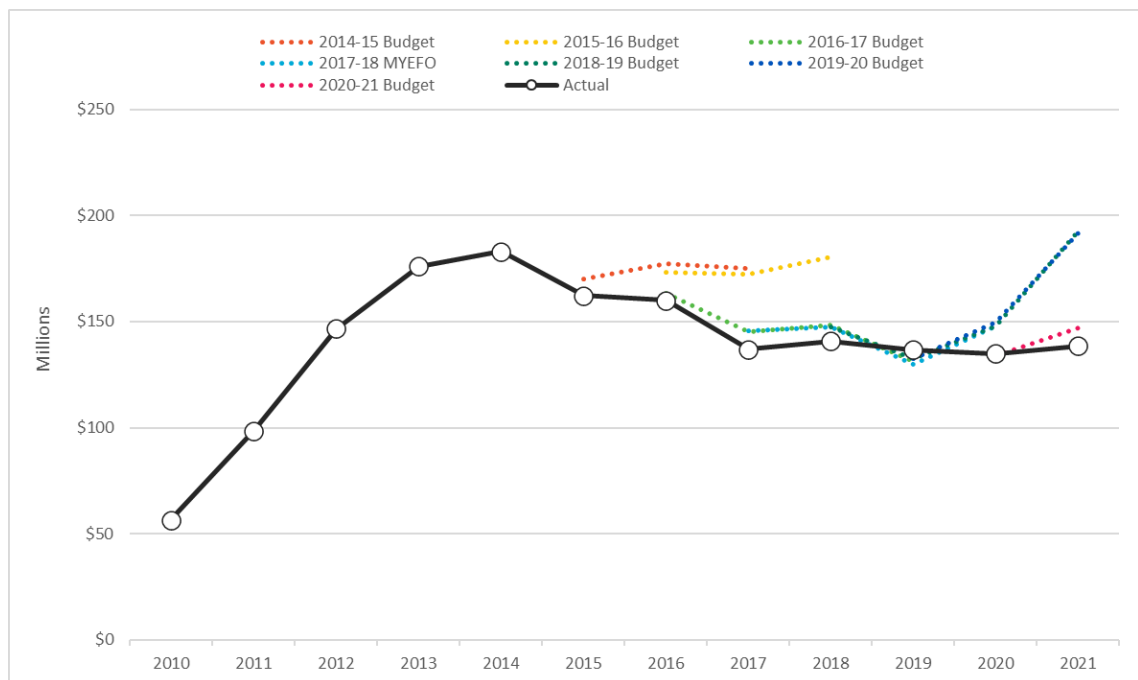
The Higher Education Participation and Partnerships Program (HEPPP) – when it was first introduced in the 2009–10 Budget – provided funding to assist universities listed in Table A of the *Higher Education Support Act 2003* to undertake activities and implement strategies that improve access to undergraduate courses for people from low socio-economic backgrounds, as well as improving the retention and completion rates of those students.

As part of the *Job-ready Graduates* package, from 2021, HEPPP funding has been refocused to support students who are from regional and remote Australia, low socio-economic status backgrounds, and Indigenous students. HEPPP is expected to be combined with other funding streams to form the basis for IRLSAF in the near future.

When HEPPP was introduced in the 2009–10 Budget, funding was set at two per cent of Commonwealth Grant Scheme (CGS) funding and was budgeted to increase to four per cent by 2012–13, in line with the recommendations of the *Bradley Review of Higher Education* in 2008.

However, HEPPP funding was cut in the 2011–12 Budget and several times since – most recently in the 2016–17 Budget (see Figure 6). Total cuts of around \$250 million to 2019–20 have been announced since the 2011–12 budget. As a result, HEPPP has not reached the promised four per cent target. In 2019 to 2021, HEPPP was around 1.8 per cent of CGS (including enabling and regional loadings).

Figure 6: HEPPP funding – actual and budget cuts, nominal dollars



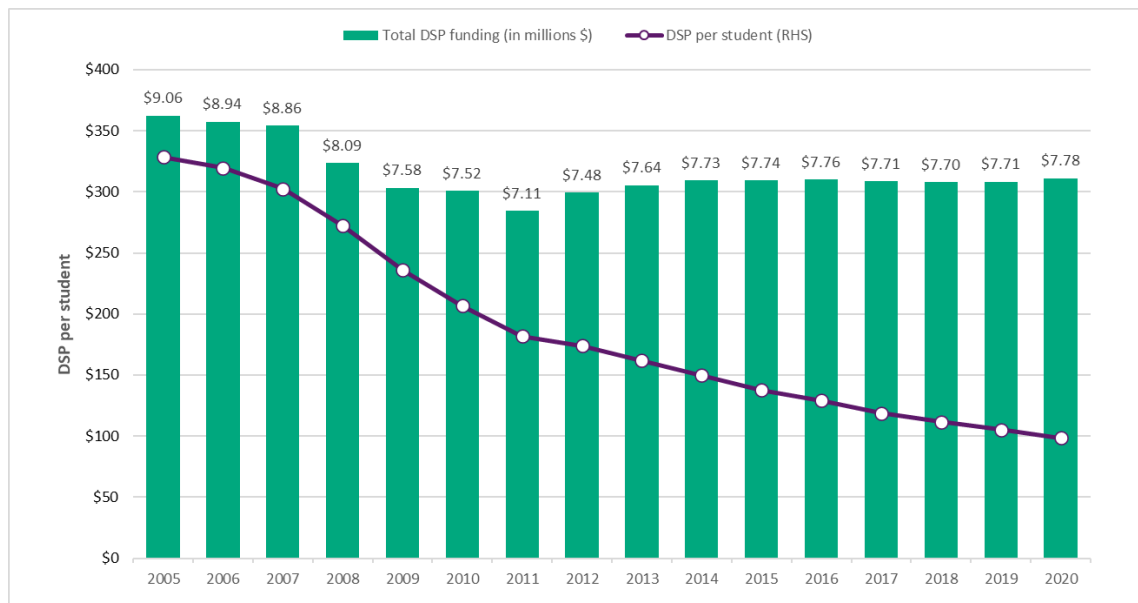
Source: Actual data for 2010 to 2015 are from Department of Education, Skills and Employment (DESE) administrative dataset and for 2016 to 2021 are from HESA Determinations as of 27 April 2022. Forward estimates figures are UA estimates based on DESE's Portfolio Budget Statements (various years).

Disability Support Program

The Disability Support Program (DSP) provides funding to eligible higher education providers to undertake activities that assist in removing barriers to access for students with disability.

While the funding for the DSP grew 22 per cent in nominal terms between 2008 and 2020, funding has declined by 3.8 per cent over the period in real terms. Significant growth (166 per cent) in students with disability means that DSP funding per student has declined by 63.9 per cent in real terms, from \$272 in 2008 to \$98 in 2020.

Figure 7: Funding for Disability Support Program – total and per student – in 2020 dollars



Source: UA analysis based on Department of Education, Skills and Employment's administrative data and HESA Determinations as of 27 April 2022.

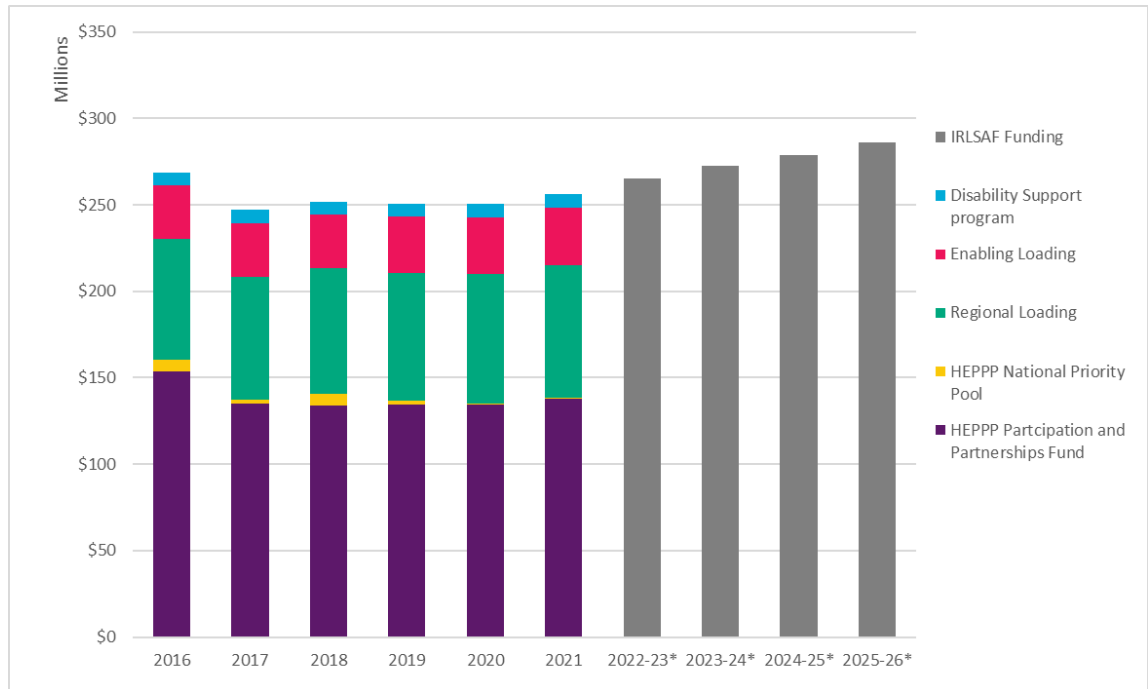
Indigenous, Regional and Low SES Attainment Fund

As part of the *Job-ready Graduates* package, a new grant – Indigenous, Regional and Low SES Attainment Fund (IRLSAF) – was introduced from 1 January 2021 under s41-10 (Other Grants) of *Higher Education Support Act 2003*.

While the IRLSAF framework is yet to be finalised, it would realign the existing funding by combining the Higher Education Participation and Partnership Program (HEPPP), National Priorities Pool, Regional and Enabling Loadings and the new Regional Partnerships Project Pool. Funding for the composite programs is being distributed in accordance with current program guidelines until 2023.

Figure 8 shows that the total funding under IRLSAF composite programs has been in decline since 2016, falling 4.5 per cent in nominal terms from \$268.4 million in 2016 to \$256.3 million in 2021. The IRLSAF funding is projected to increase by 11.6 per cent to \$286 million in nominal terms in 2025–26.

Figure 8: Composite programs under IRLSAF, 2016 to 2025–26, nominal dollars



Source: UA analysis based on actual funding outlay for 2016 to 2021 from HESA Determinations and forward estimates figures based on DESE's 2022–23 Portfolio Budget Statements.

Indigenous Student Success Program funding

The Indigenous Student Success Program (ISSP) provides supplementary funding to universities according to a formula that factors in enrolments, unit success rates and course completions of Indigenous students. A loading is included in the allocation formula for students from regional or remote areas.

The value of the ISSP is expected to increase by 12 per cent, from \$71.7 million in 2020–21 to \$80.3 million in 2025–26.³

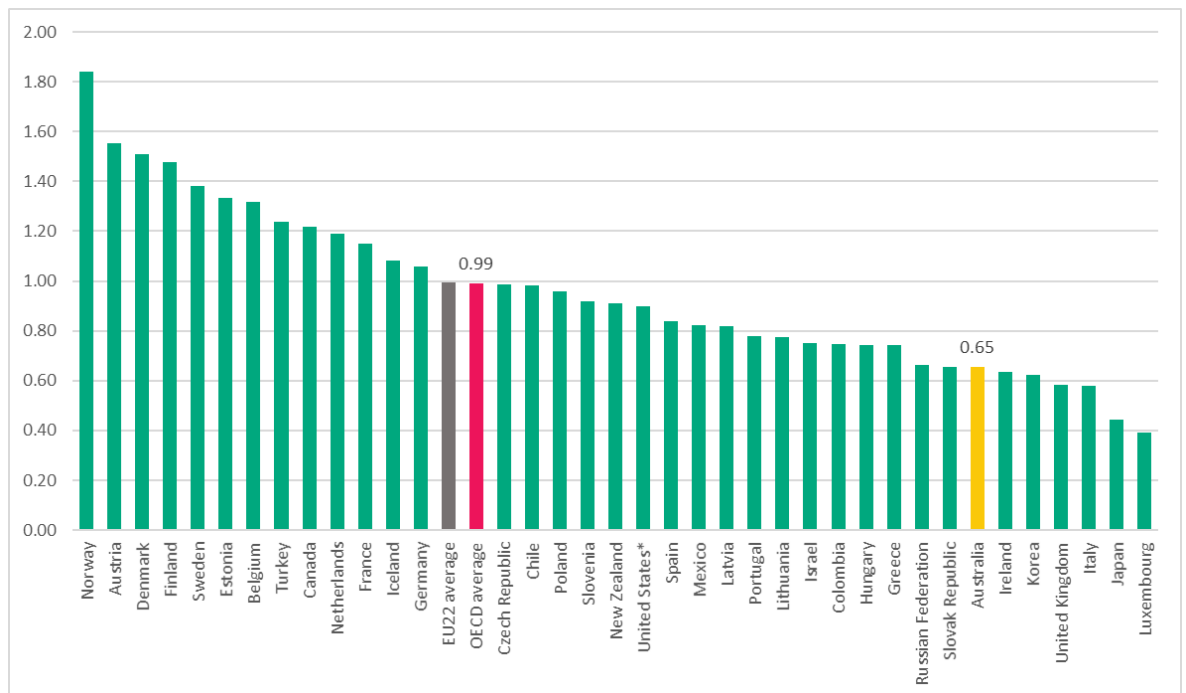
³ Australian Government 2022, *Budget 2022–23: Department of Prime Ministers and Cabinet Portfolio Budget Statements*.

1.1.5 INTERNATIONAL COMPARISONS

In 2018, Australia’s total investment – public and private – in tertiary education institutions as a share of GDP (1.88 per cent) was above the OECD average (1.43 per cent) and the sixth highest, behind the US, Chile, Canada, UK and Norway.

However, Australia’s public investment (Figure 9) in tertiary institutions as a share of GDP was amongst the lowest in the OECD – ranked 31 out of 37 countries. Australia’s public investment was 0.65 per cent of GDP in 2018 compared to an OECD average of 0.99 per cent of GDP.

Figure 9: Public investment in tertiary education institutions as a percentage of GDP, 2018

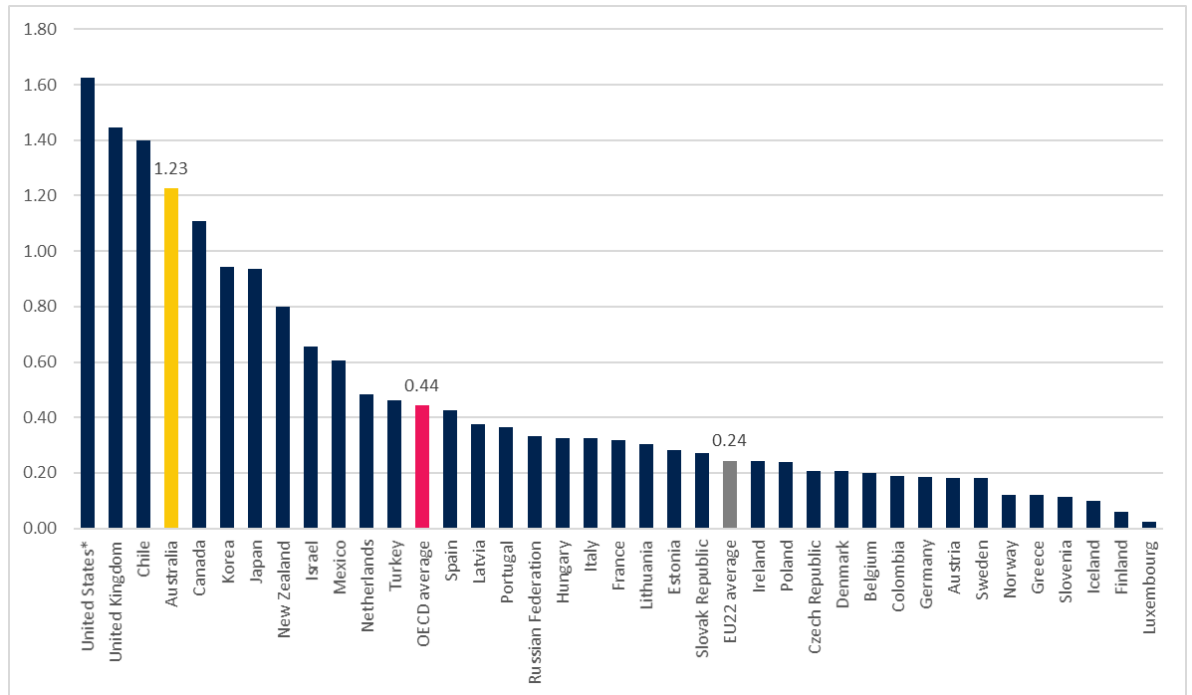


Source: OECD 2021, *Education at a Glance*, Indicator C2.2.

Note: *Figures for the US are for net student loans rather than gross and thereby underestimating public transfer.

In contrast, Australia’s private investment in tertiary education institutions is among the highest in the OECD – ranked four out of 37 countries (Figure 10). Australia’s private investment was 1.23 per cent of GDP in 2018, compared to an OECD average of 0.44 per cent of GDP.

Figure 10: Private investment in tertiary education institutions as a percentage of GDP, 2018



Source and note: See Figure 9.

Tuition fees for domestic students studying a Bachelor degree in Australia are high compared to other OECD countries. Figure 11 shows the estimated average annual fees for a domestic student studying a full-time Bachelor degree in public institutions in selected OECD countries for the 2019–20 academic year.

In 2019–20, Australia’s average tuition fee of US\$5,024 was higher than South Korea, New Zealand, the Netherlands and Israel, but lower than the UK, US, Japan and Canada. However, most domestic students in Australia can defer their tuition fees through income-contingent loans (i.e., the Higher Education Loan Program).

Figure 11: Estimated average annual tuition fees charged by public institutions for domestic students at Bachelor degree or equivalent, 2019–20 academic year, in US dollars



Source: OECD 2021, *Education at a Glance*, Indicator C5.2.

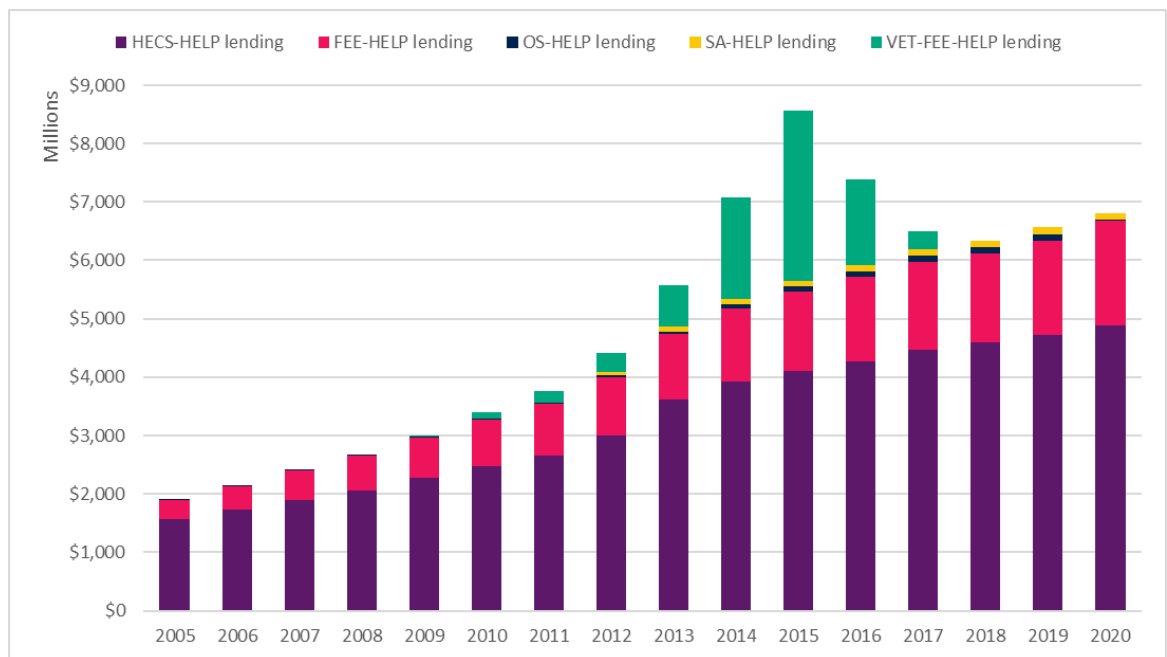
1.2 HIGHER EDUCATION LOAN PROGRAM (HELP)

Figure 12 shows that total annual new HELP loan amounts more than doubled from \$3.4 billion in 2010 to \$8.6 billion in 2015. This increase was partly due to the introduction of the demand driven system for higher education, as well as the introduction of FEE-HELP for vocational education and training (VET FEE-HELP). New lending fell to around \$6.6 billion in 2019, following the replacement of the troubled VET FEE-HELP scheme by VET Student Loans. In 2020, total new HELP lending rose 3.5 per cent to \$6.9 billion.

VET FEE-HELP as a share of total annual new HELP lending increased from 3 per cent in 2010 to 34 per cent in 2015, before declining to 5 per cent in 2017 following the VET loan reform. From 1 July 2019, the administration of VET Student Loan debts for vocational education students were separated from HELP debts for higher education students.

Between 2010 and 2020, annual HECS-HELP lending grew by 97 per cent from \$2.5 billion to \$4.9 billion; while annual FEE-HELP lending increased by 127 per cent, from \$793 million to \$1.8 billion. Underlying growth in higher education HELP debts has been relatively steady since 2015 at an average of 3.8 per cent per year.

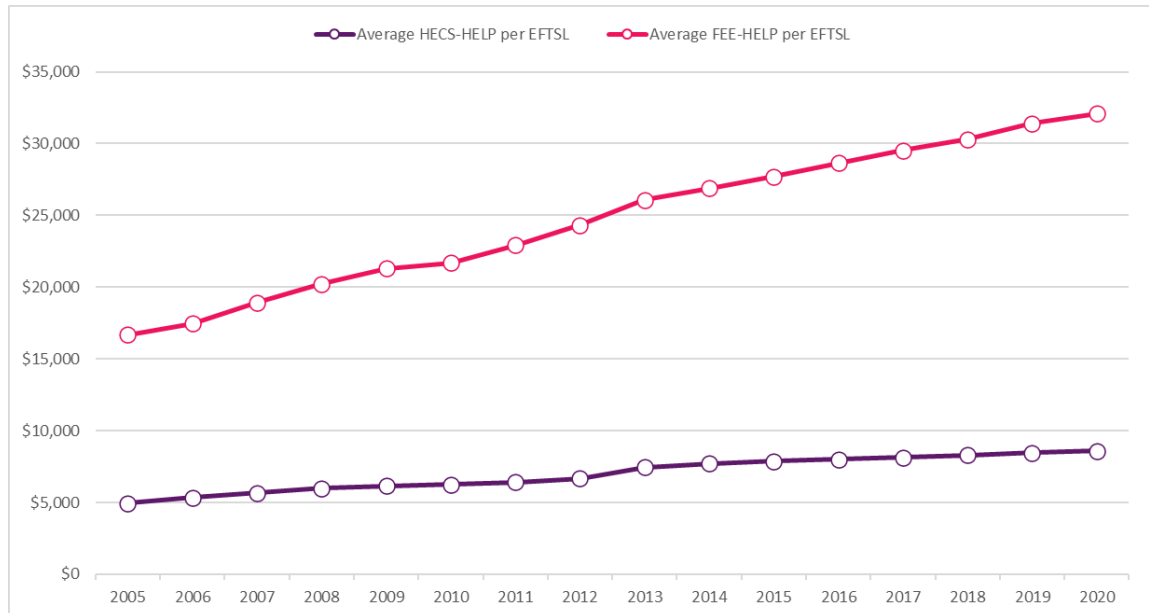
Figure 12: Annual new HELP lending by programs, current dollars (\$million)



Source: Data on annual HECS-HELP, FEE-HELP, OS-HELP and SA-HELP lending are from communication with Department of Education, Skills and Employment. VET FEE-HELP loan data are from 2016 and 2017 *VET FEE-HELP Statistical Reports*.

Figure 13 shows the average HECS-HELP amount borrowed per EFTSL has increased 37 per cent from \$6,259 in 2010 to \$8,598 in 2020; while the average FEE-HELP amount borrowed per EFTSL rose 52 per cent from \$15,433 to \$23,487 over the same period.

Figure 13: Annual average HECS-HELP and FEE-HELP amount borrowed per EFTSL



Source: UA calculation based on annual HECS-HELP and FEE-HELP lending data from communication with Department of Education, Skills and Employment (DESE) and EFTSL data from DESE, *Selected Higher Education Statistics – Student data: Liability Status Categories*, various years.

Data from ATO shows the total amount of outstanding HELP debt was \$66.4 billion in 2019–20, down from \$66.6 billion in 2018–19. This is the first decline in outstanding HELP debt since the series began in 2005–06. It is important to note that much of this decline is due to the fact that VET Student Loan debts and debtors are separated from the HELP data from 2019–20. Total outstanding HELP debt increased by 3.5 per cent in 2020–21 to \$68.7 billion (Figure 14).

The fair value of HELP debts was estimated at \$46.3 billion as of 30 June 2020, down slightly from just below \$50 billion as of 30 June 2018 mainly due to the separation of VET Student Loans. The fair value has since increased to \$49.8 billion as of 30 June 2021.⁴

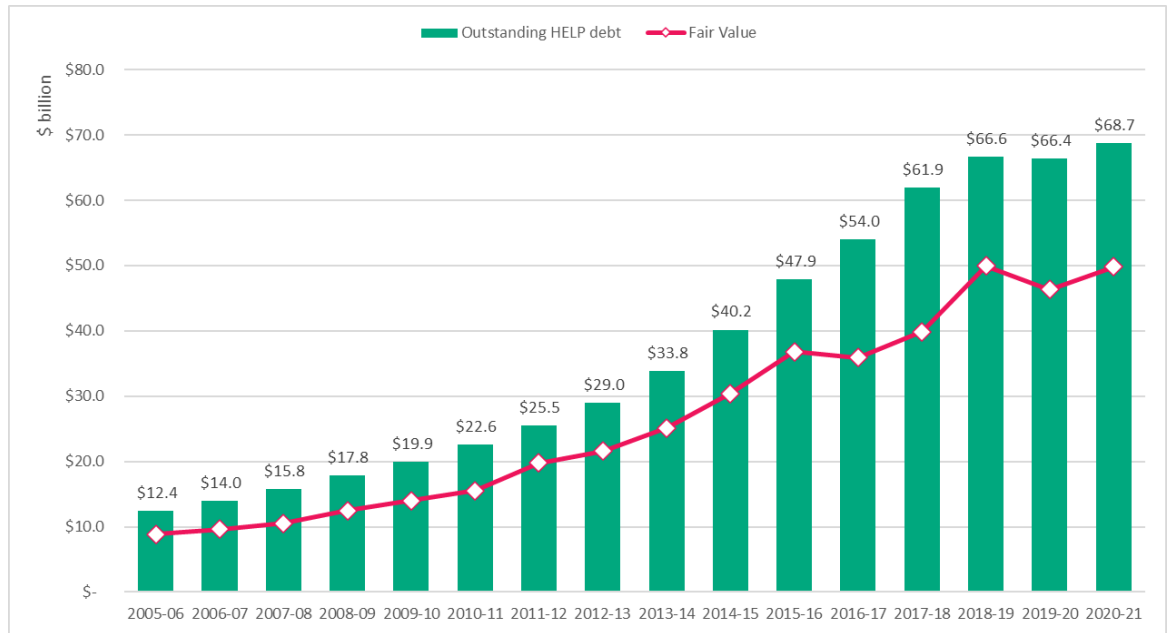
According to the 2020–21 Department of Education, Skills and Employment’s annual report, 15.07 per cent of all HELP loans issued in 2020–21 were expected not to be repaid, an increase from 14.69 per cent in 2019–20.⁵

Figure 15 shows the number of people with outstanding HELP debts was 2.9 million in 2020–21, up marginally from 2.85 million in 2019–20. The decline in number of HELP debtors in 2019–20 was mainly due to the separation of VET Student Loans from HELP. In recent years, the rates of annual increase in the number of HELP debtors have declined, from the peak of 11.3 per cent recorded in 2014–15 to 7.7 per cent in 2016–17, 3.5 per cent in 2018–19 and 1.7 per cent in 2020–21.

⁴ Department of Education, Skills and Employment (DESE) 2021, *2020–21 Annual report*, p.161.

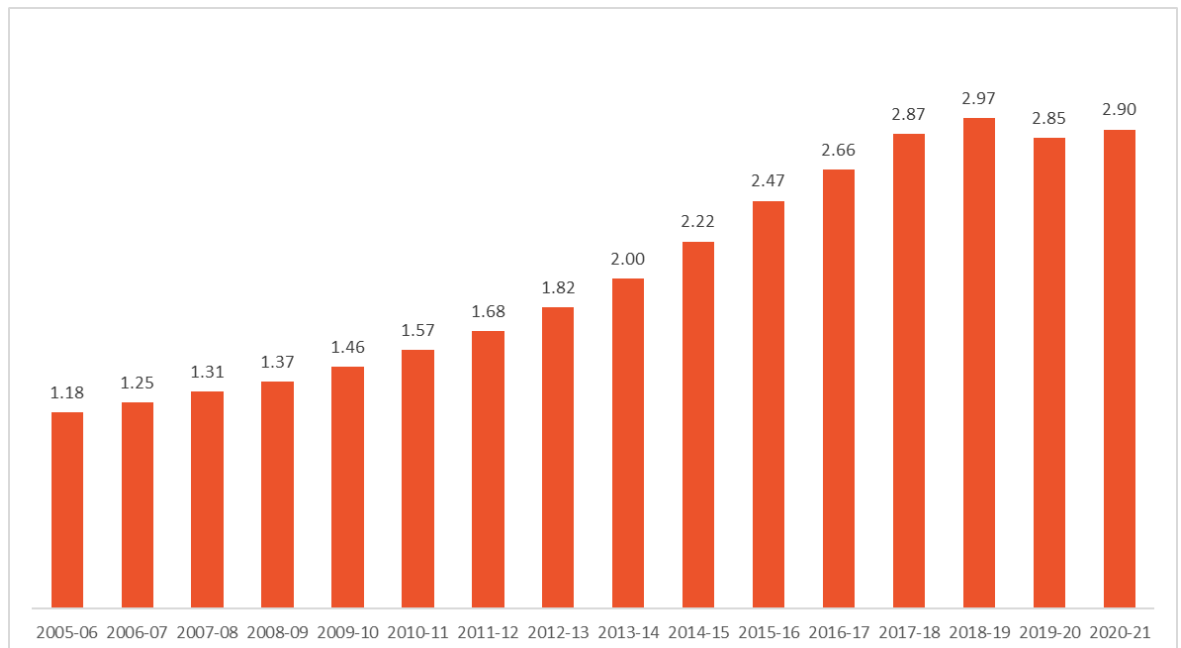
⁵ Ibid, p. 49.

Figure 14: Outstanding HELP debt and its fair value, current dollars (\$billion)



Source: Australian Tax Office (ATO) 2021, *HELP Statistics 2020–21*; Department of Education and Training 2014, *Higher Education Report 2011–13*; DESE, *Annual Report*, various years.

Figure 15: Number of people with outstanding HELP debts, 2005–06 to 2020–21 (millions)



Source: ATO 2021, *HELP Statistics 2020–21*.

1.3 UNIVERSITY FINANCES

1.3.1 REVENUE BY SOURCE

In 2020, total operating revenue⁶ for Australian universities fell 5.9 per cent (or \$2.1 billion) in real terms to \$34.1 billion from \$36.3 billion in 2019 to \$34.1 billion. Most of the decline was driven by the \$1.2 billion decline in fees and charges including international student fees and a further \$1.3 billion reduction in investment income (see Figure 16).

As a proportion of total revenue, revenue sourced from Australian Government grants (excluding HELP) has declined from 40.7 per cent in 2004 to 33.1 per cent in 2019 before increasing to 35.4 per cent in 2020. Overseas student fees have increased from 14.7 per cent in 2004 to 27.6 per cent in 2019, before declining to 26.9 per cent in 2020 due to international border closures.

This aggregate picture masks considerable variations between universities.

1.3.2 EXPENDITURE BY CATEGORY

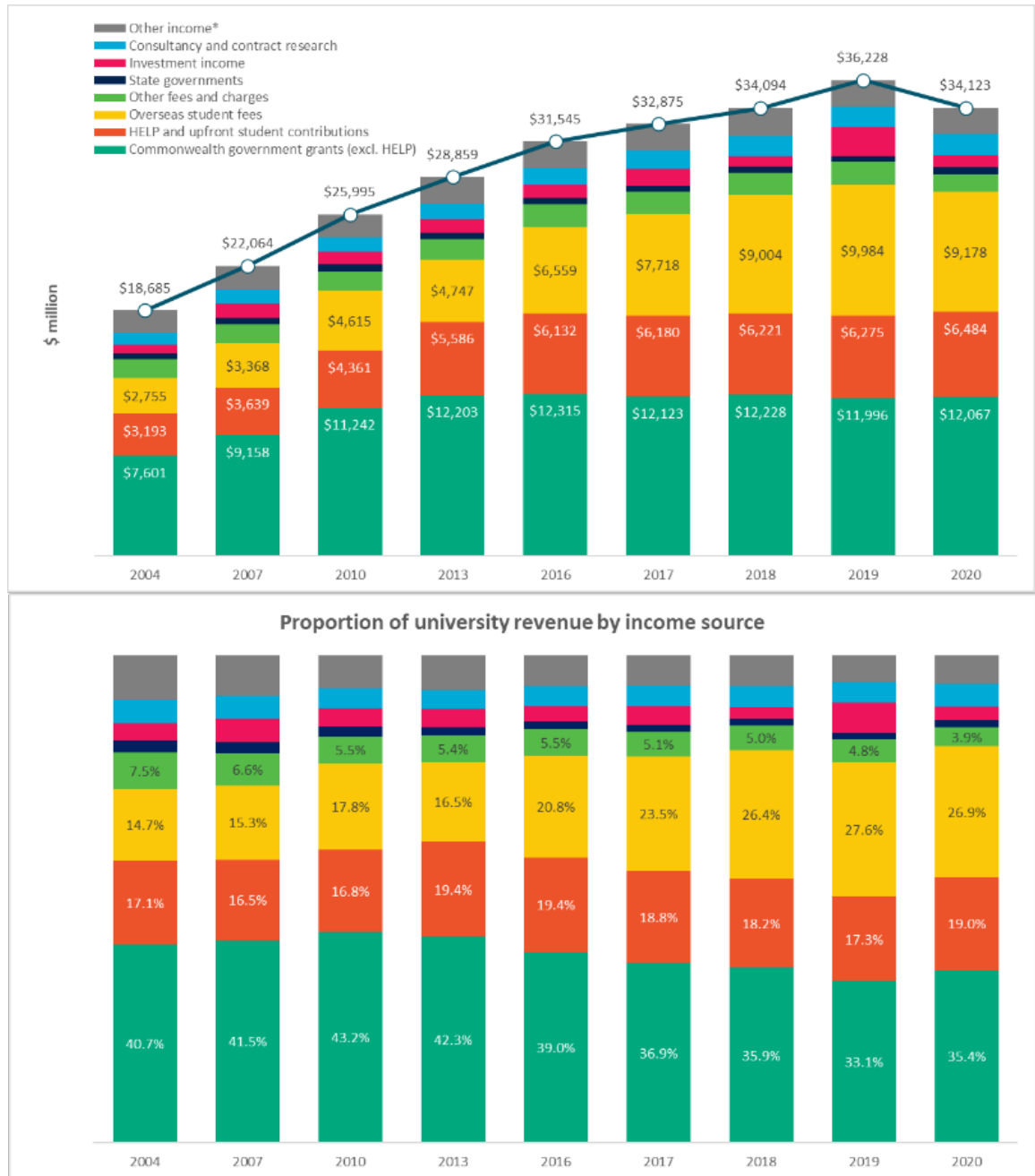
Between 2004 and 2019, Australian universities' operating expenses have grown broadly in line with revenue growth, with total operating expenses increasing from \$17.7 billion in 2004 to \$33.9 billion in 2019. Changes in the proportion of expenditure on different expense categories have been relatively small. The share of expenditure spent on staff (excluding payroll tax) has declined marginally from 55 per cent in 2004 to 53 per cent in 2019. Around 10 per cent of university budgets were devoted to depreciation and repairs and maintenance (see Figure 17).

In 2020, despite the 5.9 per cent decline in total operating revenue, total operating expenditure declined by just 1.5 per cent (or \$524 million) in real terms to \$33.4 billion, from \$33.9 billion in 2019. Most expenditure categories declined in 2020, with the exception of expenditure on total employee – academic and non-academic – benefits (increased 4.6 per cent) and finance costs (increased 4 per cent).

The increase in staff expenses was partly due to the scheduled salary increases and termination payments made to staff. In 2020, total employee benefits were 56.4 per cent of the sector's total expenditure, up 3.3 percentage points from 53.1 per cent in 2019.

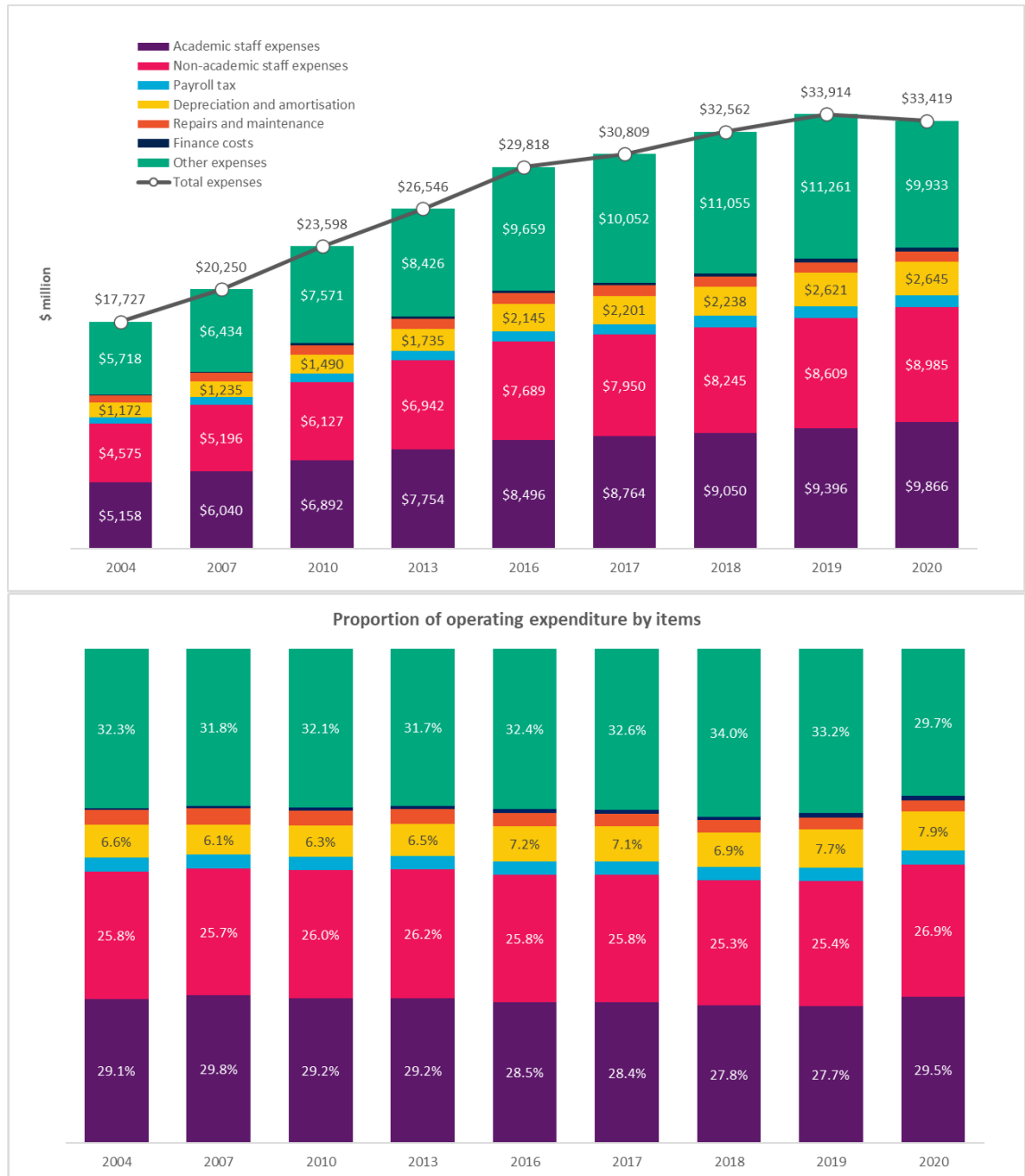
⁶ Excluding Bond University and VET activity for dual sector universities.

Figure 16: Sources of university revenue, in 2020 dollars



Source: Department of Education Skills and Employment, *Financial Reports of Higher Education Providers* (various years), excluding Bond University and VET activity for dual sector universities.
 Note: Other income also include royalties, trademarks and licences and the share of net result of associates and joint ventures accounted for using the equity method.

Figure 17: Categories of university expenditure, in 2020 dollars



Source: Department of Education, Skills and Employment, *Financial Reports of Higher Education Providers* (various years), excluding Bond University and VET activity for dual sector universities.

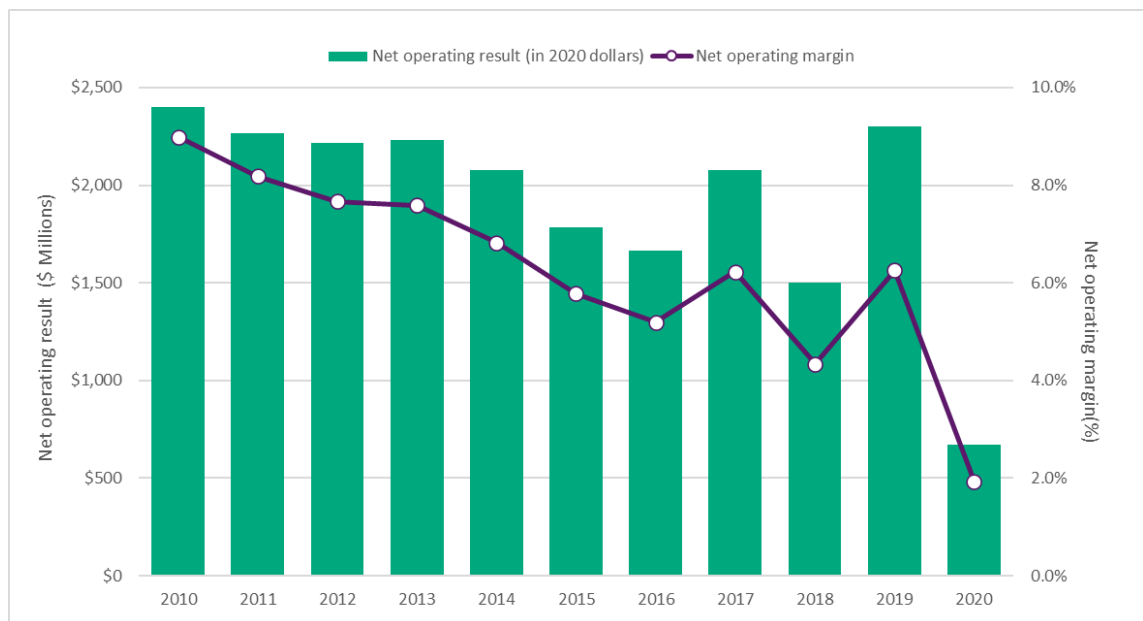
Note: Other expenses also include impairment of assets, investment losses and deferred superannuation expenses.

1.3.3 UNIVERSITIES' FINANCIAL POSITION OVER TIME

Figure 18 shows the net operating result⁷ for the university sector fell 71 per cent in real terms from \$2.3 billion in 2019 to just \$669 million in 2020, the lowest in more than a decade. As a percentage of total revenue, the net operating margin for the whole sector has declined from nine per cent in 2010 to 1.9 per cent in 2020.

There is a clear negative trend over time in the number of universities with healthy margins (Figure 19). Fifteen universities were in deficit in 2020 compared to three universities in 2019 and just one in 2010. Moreover, the number of universities with a surplus margin greater than eight per cent has declined from 19 universities in 2010 to just three universities in 2020.

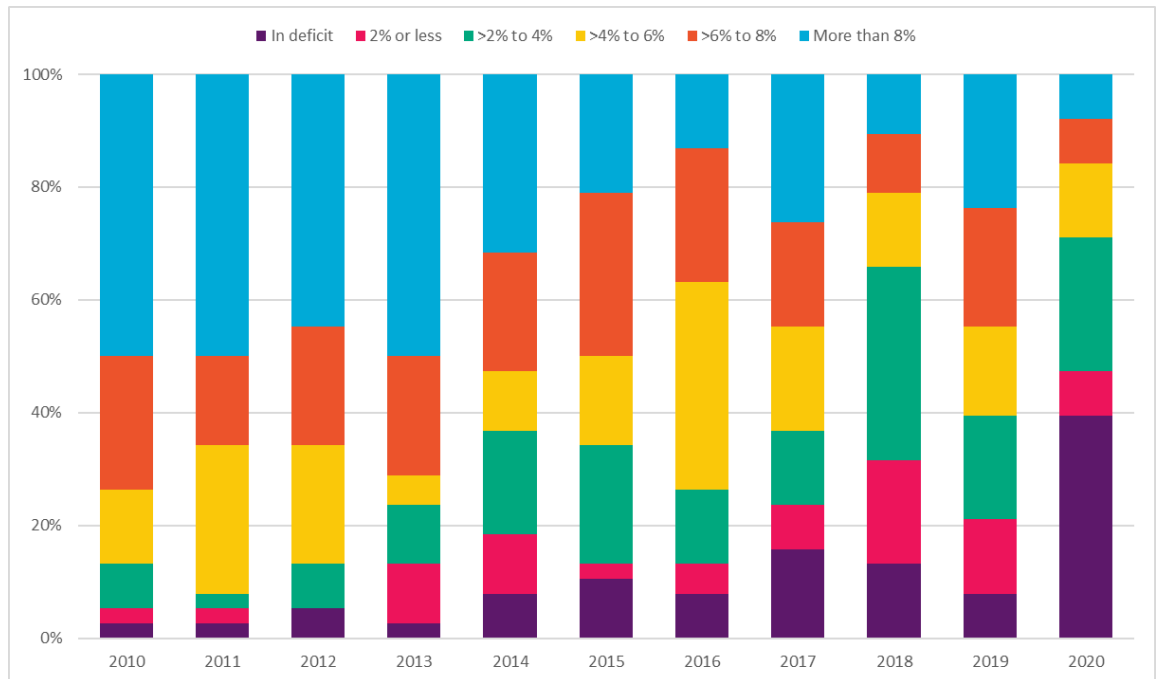
Figure 18: University net operating results, 2010 to 2020, in 2020 dollars



Source: Department of Education, Skills and Employment, *Financial Reports of Higher Education Providers* (various years), excluding Bond University.

⁷ Data reported in Figure 18 and Figure 19 include both higher education and VET activities for 38 universities, excluding Bond University.

Figure 19: Proportion of universities by size of operating margins, 2010 to 2020



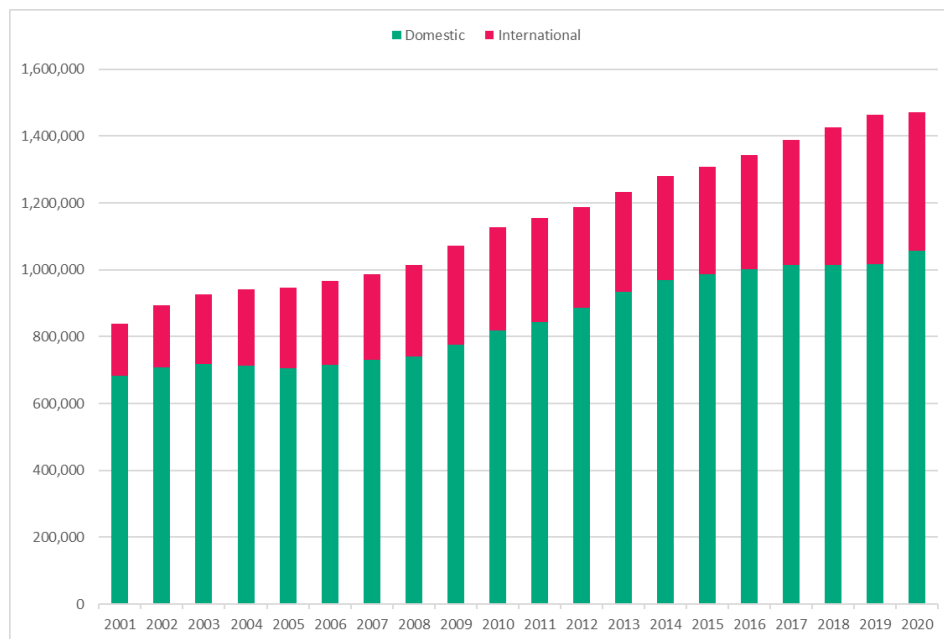
Source: Department of Education, Skills and Employment, *Financial Reports of Higher Education Providers* (various years), excluding Bond University.

2 STUDENTS

In 2020, 1,470,865 students studied at Australia’s 39 comprehensive universities. Of these, 71.9 per cent (or 1,057,777) were domestic students and the remaining 28.1 per cent (or 413,088) were international students.

Overall, enrolments have increased 45 per cent since 2008. Domestic enrolments have increased by 42.9 per cent while international enrolments have risen 50.5 per cent over the period.

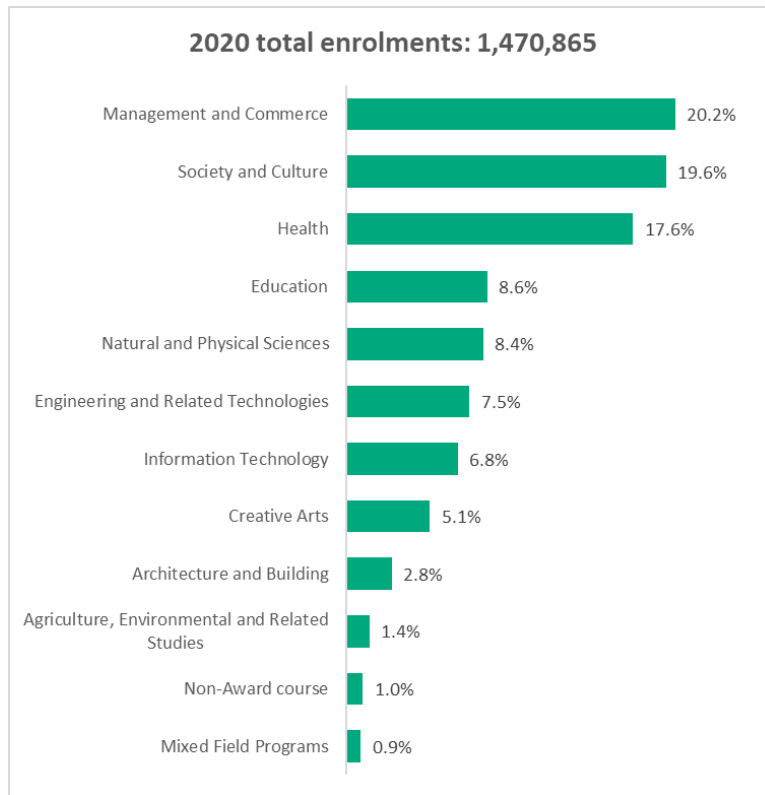
Figure 20: Overall university enrolments, 2001 to 2020



Source: Data for 2019 and earlier were from Department of Education, Skills and Employment, *uCube* while data from 2020 onwards were from Department of Education, Skills and Employment, *Student Enrolments Pivot Table*.

In 2020, the most popular disciplines were Management and Commerce (20.2 per cent), followed by Society and Culture (19.6 per cent) and Health (17.6 per cent). Agriculture, Environmental and Related Studies (1.4 per cent); and Architecture and Building (2.8 per cent) have the smallest number of students.

Figure 21: Overall enrolments, by broad disciplines, 2020



Source: Department of Education, Skills and Employment 2022, *2020 Student Enrolment Pivot Table*

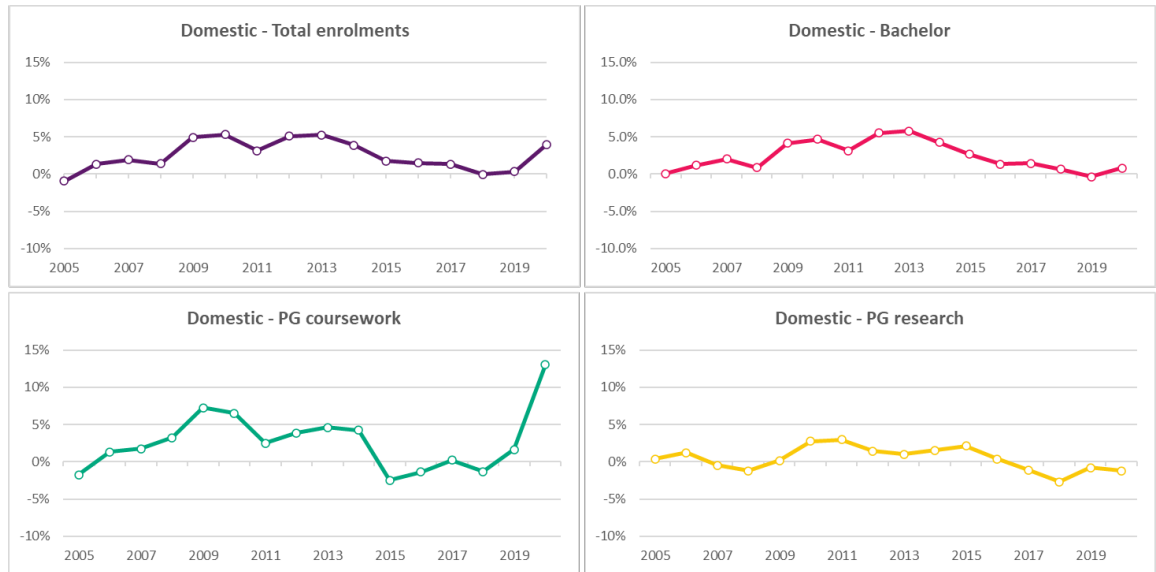
2.1 DOMESTIC STUDENTS

2.1.1 TRENDS IN DOMESTIC ENROLMENTS

In 2020, there were 1,057,777 domestic students studying at Australian 39 comprehensive universities, an increase of four per cent on 2019. This is the largest annual increase in total domestic enrolments since 2013, mainly due to the increase in postgraduate coursework enrolments.

In 2020, domestic enrolments in Bachelor degree courses grew by 0.8 per cent, following a decline of 0.4 per cent in 2019. Domestic enrolments in postgraduate coursework rose 13 per cent, the largest growth since 2002; while higher degree research enrolments fell 1.2 per cent (Figure 22).

Figure 22: Annual growth in domestic enrolments, by course levels, 2005 to 2020



Source: Data for 2019 and earlier were from Department of Education, Skills and Employment, *uCube* while data from 2020 onwards were from Department of Education, Skills and Employment, *Student Enrolments Pivot Table*.

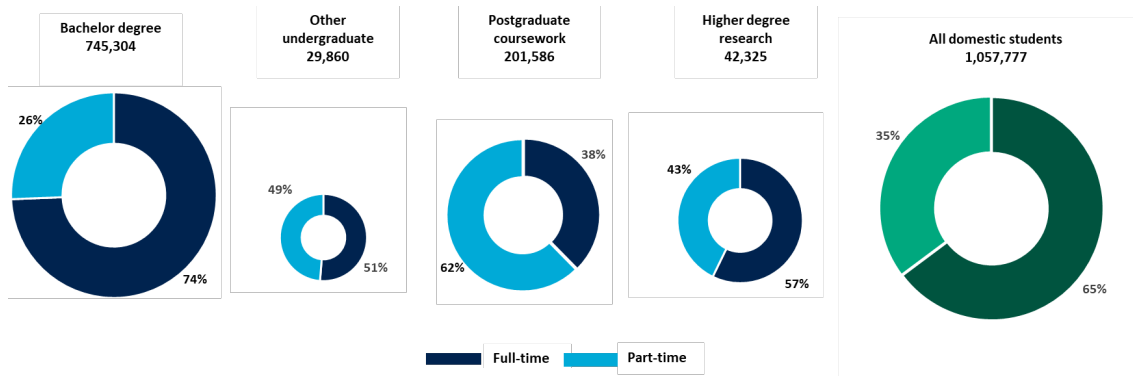
2.1.2 STUDENT PROFILES

Course level and type of attendance

Of the 1,057,777 domestic students studying at Australian universities in 2020, 70 per cent were studying Bachelor degrees, 19 per cent were studying for postgraduate coursework degrees and a further four per cent were studying postgraduate research degrees.

The majority (65 per cent) of students – 685,404 – were studying their qualifications full-time in 2020. However, this varied at different levels of study, ranging from 74 per cent for Bachelor degree students to 38 per cent for postgraduate coursework students (see Figure 23).

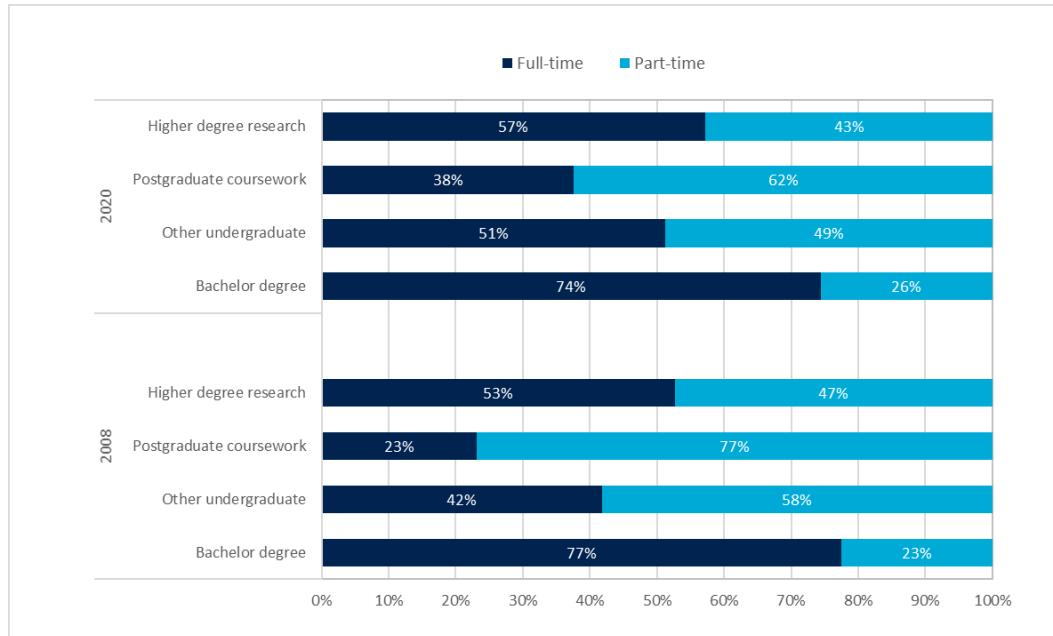
Figure 23: Domestic students, by course level and type of attendance, 2020



Source: Department of Education, Skills and Employment 2022, *2020 Student Enrolment Pivot Table*

Figure 24 shows that the proportion of Bachelor degree students studying full-time has declined slightly from 77 per cent in 2008 to 74 per cent in 2020, while a greater share of postgraduate students – both coursework and research – was studying full-time in 2020 than in 2008.

Figure 24: Share of domestic students by mode of study, 2008 vs 2020



Source: Department of Education, Skills and Employment, *uCube* and Department of Education, Skills and Employment 2022, *2020 Student Enrolment Pivot Table*.

Age cohort

In 2020, just 60 per cent of first-year domestic students enrolled in undergraduate courses were aged 20 or younger, the lowest proportion since 2005. In contrast, the share of first-year domestic undergraduate students aged 25 and over has increased to 25 per cent in 2020, compared to an average proportion of 22 per cent since 2012 (Figure 25).

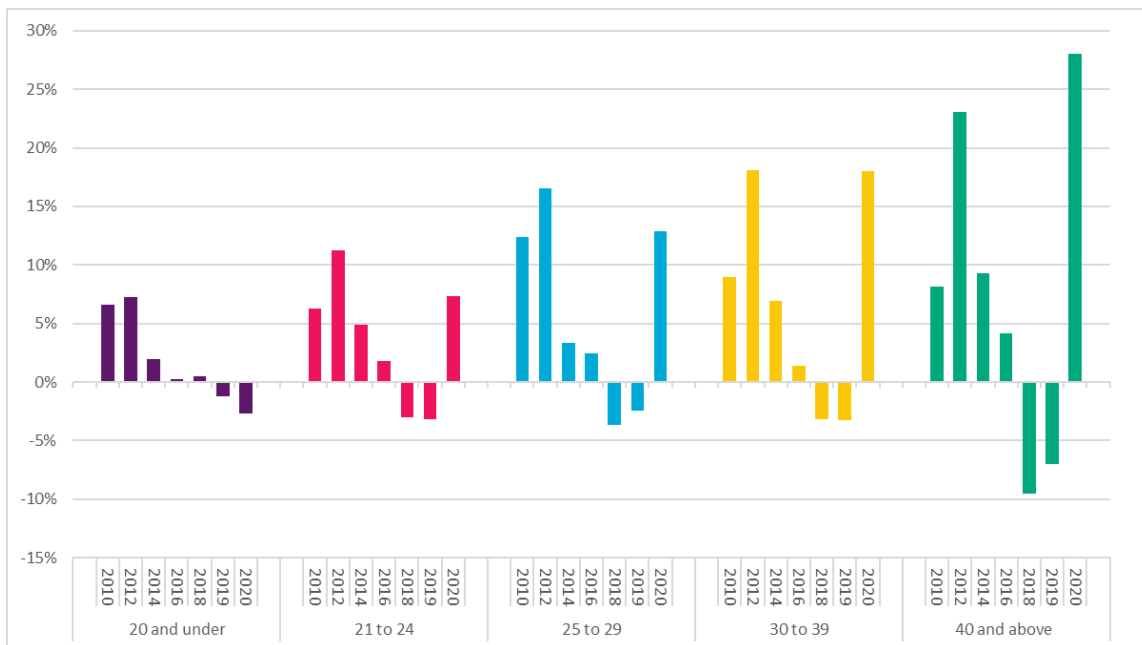
In 2020, annual growth in first-year domestic undergraduate enrolments was 3.4 per cent, reversing the declines of -1.3 per cent and -2.1 per cent in 2018 and 2019 respectively. However, Figure 25 shows that this growth varied significantly by age cohorts. For example, in 2020, commencing enrolments fell for students aged 20 and under (by -2.7 per cent) but increased for all other age cohorts, with those aged 40 and over recorded the largest increase (28.1 per cent).

Figure 25: Share of commencing domestic undergraduate students, by age cohort



Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset, various years.

Figure 26: Annual growth in commencing domestic undergraduate student enrolments, by age cohort

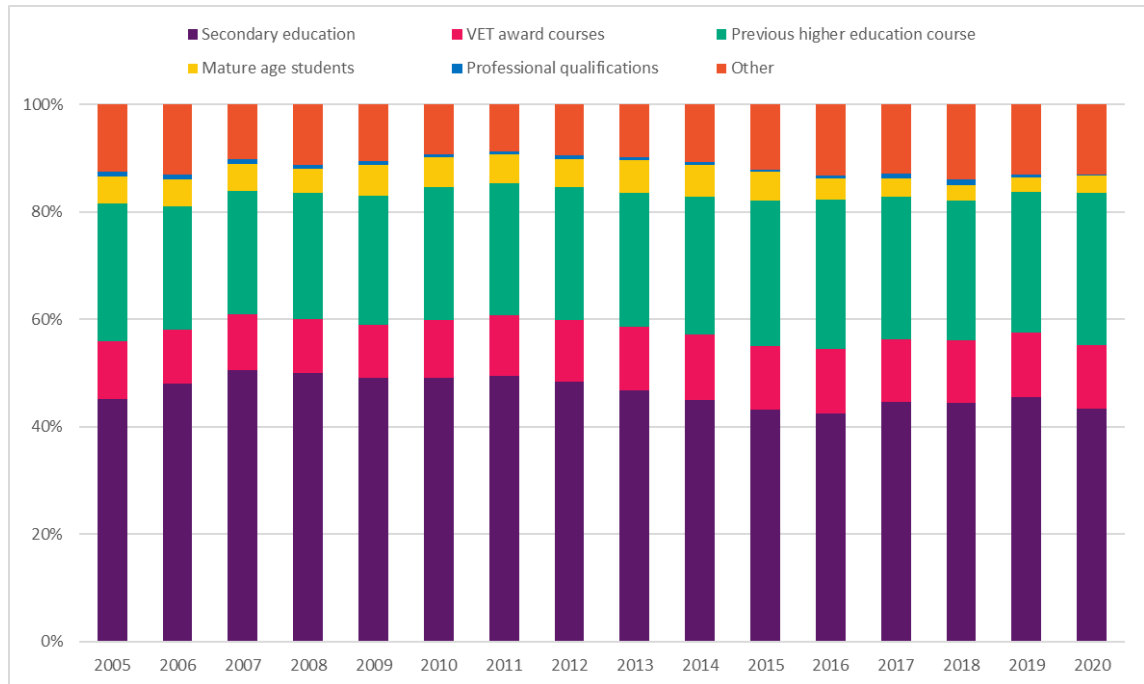


Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset, various years.

Basis of admission

Figure 27 shows that the proportion of first-year domestic Bachelor degree students admitted on the basis of secondary education has declined from 50 per cent in 2008 to 43 per cent in 2020. Over the same period, the share of students admitted on prior higher education and VET courses (whether complete or incomplete) increased from 33 per cent to 40 per cent, while the share of students admitted based on other pathways has remained relatively unchanged at around 17 per cent.

Figure 27: Basis of admissions for commencing domestic Bachelor degree students

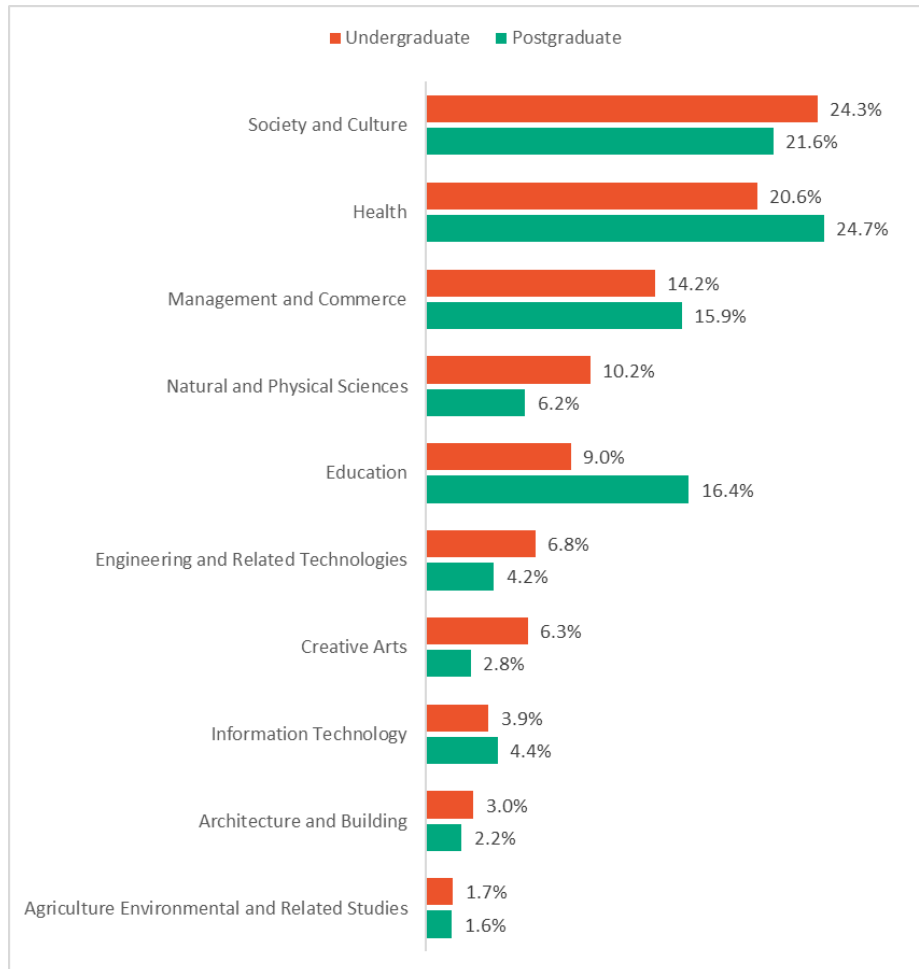


Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset, various years.

Broad field of education

In 2020, the most popular fields of education for domestic undergraduate students were Society and Culture (24.3 per cent), Health (20.6 per cent) and Management and Commerce (14.2 per cent). For domestic postgraduate students – both coursework and research – the most popular disciplines for were Health (24.7 per cent), Society and Culture (21.6 per cent) and Education (16.4 per cent).

Figure 28: Share of domestic undergraduate and postgraduate enrolments, by broad field of education, 2020

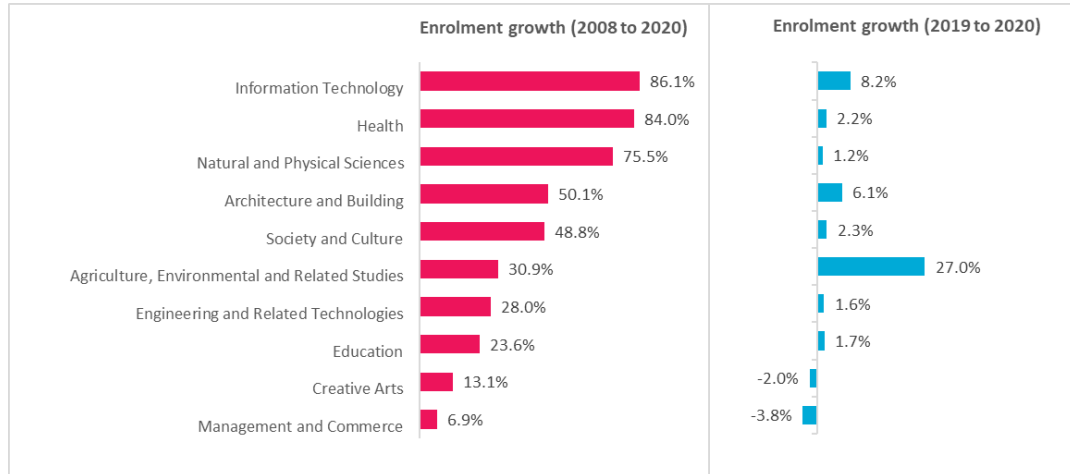


Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset, various years.

Figure 29 shows undergraduate disciplines that have experienced the largest percentage increase in enrolments between 2008 and 2020 were Information Technology (a growth of 86.1 per cent), Health (84 per cent) and Natural and Physical Sciences (75.5 per cent). Management and Commerce experienced the slowest growth in enrolment over the period (6.9 per cent).

Agriculture, Environmental and Related Studies (27 per cent) and Information Technology (8.2 per cent) recorded the largest increase in undergraduate enrolments between 2019 and 2020, while Management and Commerce (-3.8 per cent) and Creative Arts (-2.0 per cent) experienced the largest fall in undergraduate enrolments.

Figure 29: Growth in domestic undergraduate enrolments, by broad field of education, between 2008 and 2020

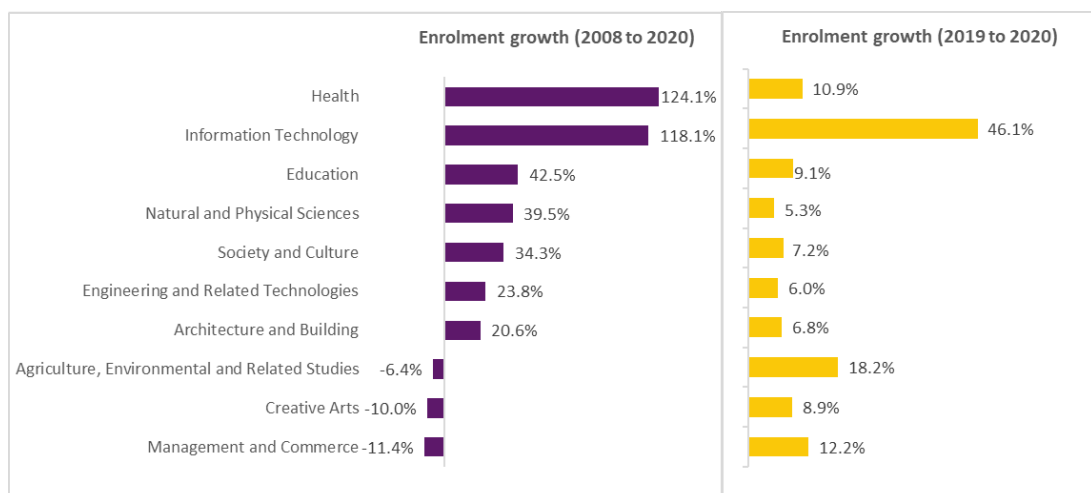


Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset, various years.

For postgraduate study – by coursework and research – Health (124.1 per cent), Information Technology (118.1 per cent) and Education (42.5 per cent) were the disciplines that experienced the largest percentage growth in enrolments since 2008 (Figure 30). Disciplines that have experienced a decline in enrolments over the same period were Management and Commerce (-11.4 per cent), Creative Arts (-10.0 per cent) and Agriculture, Environmental and Related Studies (-6.4 per cent).

All disciplines experienced an increase in postgraduate enrolments between 2019 and 2020; with Information Technology (46.1 per cent), Agriculture, Environmental and Related Studies (18.2 per cent) and Management and Commerce (12.2 per cent) experiencing the largest growth in enrolments.

Figure 30: Growth in domestic postgraduate enrolments, by broad field of education, between 2008 and 2020

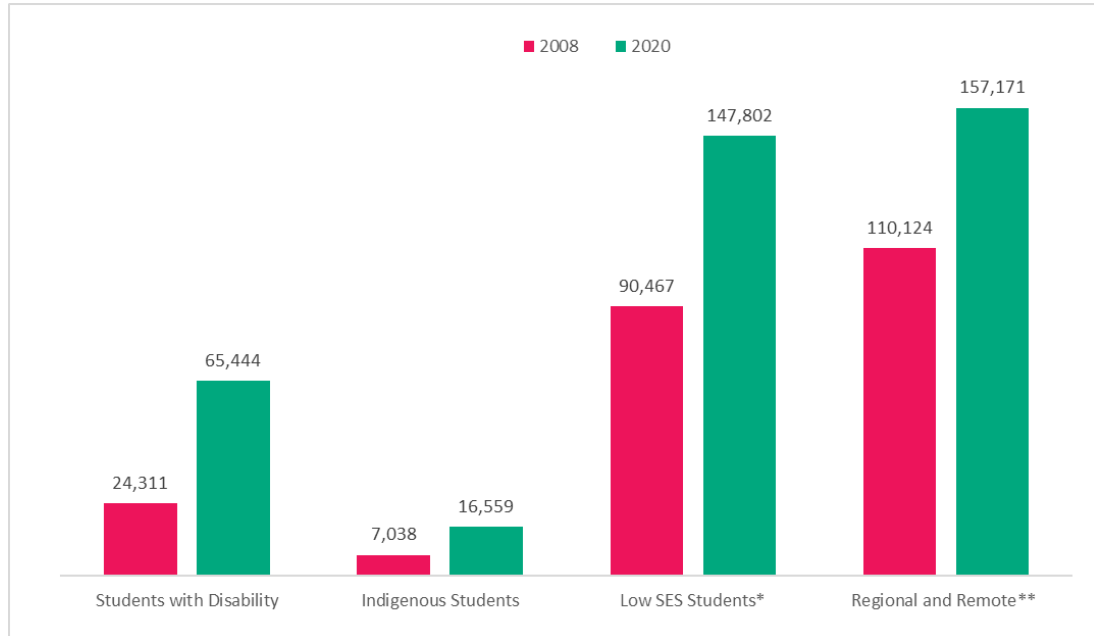


Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset, various years.

Growth in student enrolments by equity group

The number of undergraduate students from key equity groups, including Indigenous students, students with a disability, and students from low socio-economic backgrounds and regional and remote areas has increased significantly since 2008 (Figure 31).

Figure 31: Number of domestic undergraduate student enrolments, 2008 and 2020



Source: Department of Education, Skills and Employment 2022, *Selected Higher Education Statistics – 2020 Student Data*, Appendix B–Equity Groups.

Note: *denotes low SES definition changed from 2006 SEIFA in 2008 to 2016 SEIFA in 2020. ** denotes regional and remote student definition changed from 2006 MCEETYA in 2008 to 2016 ASGS in 2020.

The latest Department of Education, Skills and Employment (DESE) data show that since 2008:

- enrolments of undergraduate students with disability rose 169 per cent;
- Indigenous undergraduate student enrolments have more than doubled (135 per cent);
- enrolments of undergraduate students from low socio-economic backgrounds (low SES) increased 63 per cent; and
- enrolments of undergraduate students from regional and remote areas have increased 43 per cent.

As a proportion of all domestic undergraduate students:

- enrolments of students with disability grew by 3.7 percentage points, from 4.3 per cent in 2008 to eight per cent in 2020;
- Indigenous student enrolments increased from 1.3 per cent in 2008 to two per cent in 2020, a growth of 0.8 of one percentage point;
- low SES student enrolments grew from 16.1 per cent in 2008 to 18.1 per cent in 2020, a growth of two percentage points; and
- enrolments of students from regional and remote areas declined by 0.4 of a percentage point, from 19.6 per cent to 19.2 per cent.

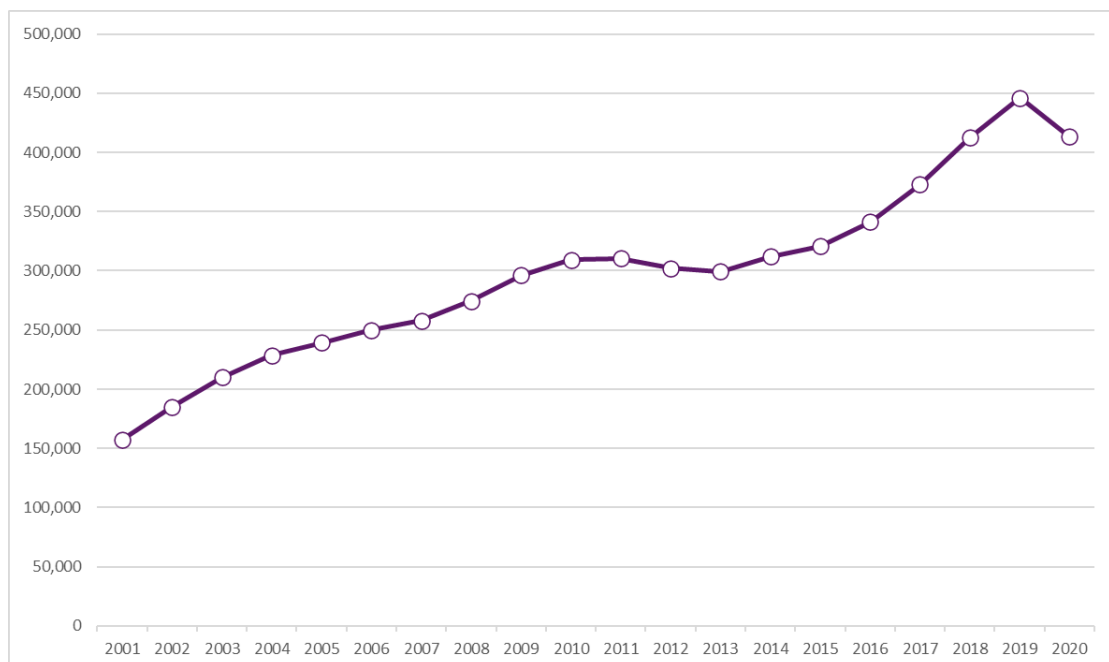
2.2 INTERNATIONAL STUDENTS

2.2.1 TRENDS IN INTERNATIONAL STUDENT ENROLMENTS

International student enrolments – studying onshore and offshore – at Australia’s 39 comprehensive universities have more than doubled since 2001, from 157,427 students to 445,925 students in 2019. However, international student enrolments fell 7.4 per cent in 2020 to 413,088 students – the first decline since 2013 – due to the COVID-19 pandemic.

Between 2001 and 2020, international student enrolments grew at an annual average rate of 5.2 per cent. In 2020, 28.1 per cent of students enrolled in Australian universities were from overseas, compared to 30 per cent in 2019 and 19 per cent in 2001.

Figure 32: International student enrolments, 2001 to 2020

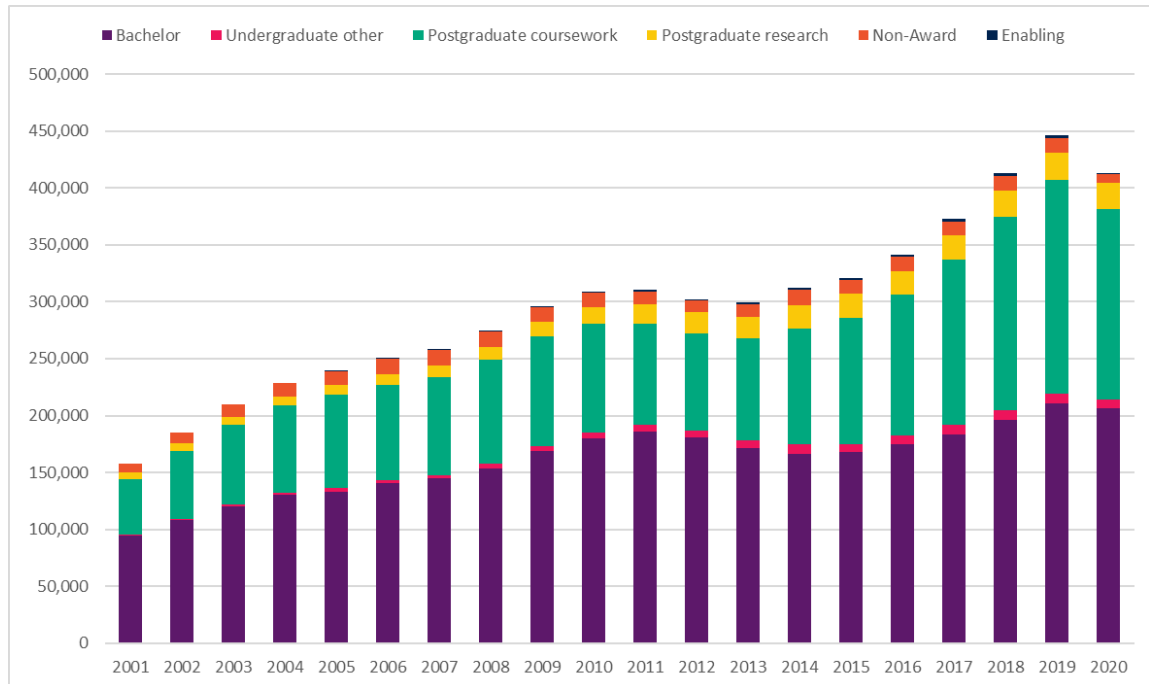


Source: Data for 2019 and earlier were from Department of Education, Skills and Employment, *uCube* while data from 2020 onwards were from Department of Education, Skills and Employment, *Student Enrolments Pivot Table*.

Figure 33 shows the share of international students who are enrolled in postgraduate studies – both coursework and research – has increased from 35 per cent in 2001 to 46 per cent in 2020, while the share of students pursuing a Bachelor degree has declined from 60 to 50 per cent over the same period. The remaining four per cent were enrolments in enabling, non-award and sub-bachelor courses.

Between 2008 and 2020, the average annual enrolment growth in Bachelor degrees was 2.5 per cent, compared to 6.2 per cent for postgraduate research and 5.2 per cent for postgraduate coursework.

Figure 33: International student enrolments, by course levels



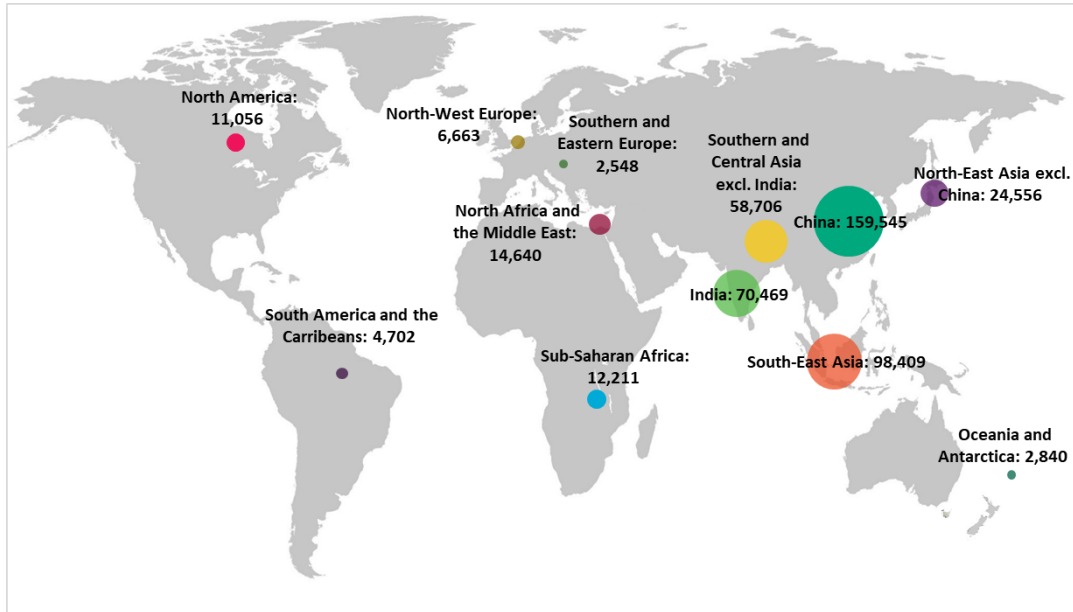
Source: Data for 2019 and earlier were from Department of Education, Skills and Employment, *uCube* while data from 2020 onwards were from Department of Education, Skills and Employment, *Student Enrolments Pivot Table*.

Figure 34 shows the region or country of origin of international students studying in Australian higher education institutions in 2020. In 2020, China remained the biggest source of international students – at 33 per cent – followed by India (14 per cent). It is important to note for context, however, that a larger share of Chinese students is to be expected, given the large cohort of Chinese students studying outside their home country. In 2019, 1.06 million Chinese students studied abroad, more than double the next largest source country (India, 461,792 students).⁸

Figure 35 shows that before the pandemic, Australia was the second most popular destination for students choosing to study overseas, behind the United States pre-pandemic. In 2019, Australia hosted 8.4 per cent (or 509,160 students) of the 6.1 million international students worldwide studying at a tertiary level (VET and higher education).

⁸ UNESCO Institute of Statistics, *Education dataset: Total outbound internationally mobile tertiary students studying abroad, both sexes, 2019*, accessed on 29 March 2022

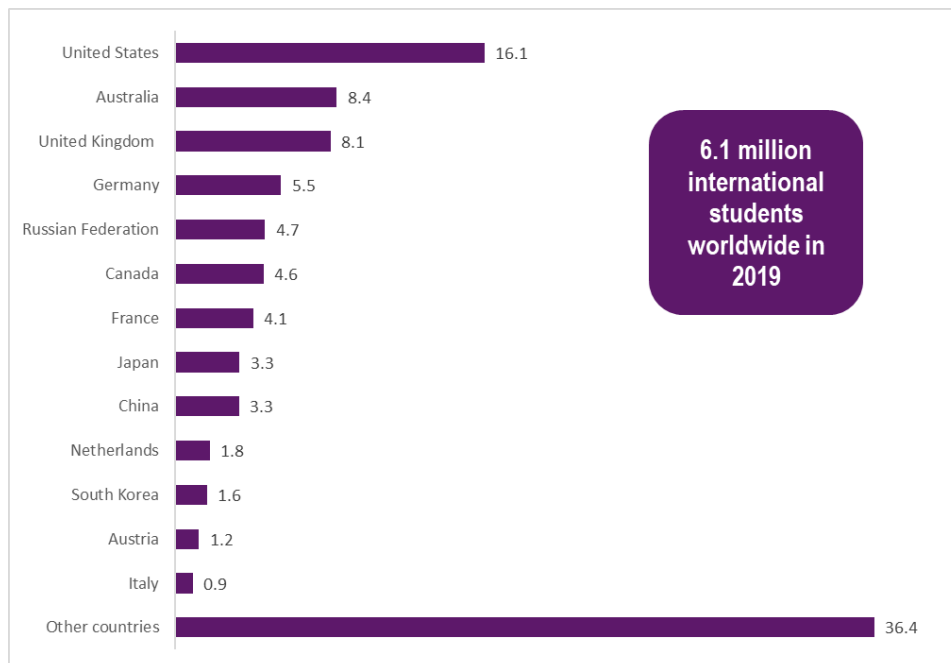
Figure 34: International higher education students in Australia, by country or region of origin, 2020



Source: Department of Education, Skills and Employment 2022, *Selected Higher Education Statistics – 2020 Student Data*, Section 7: Overseas students.

Note: The size of the bubble represents the number of international students from the country or region in 2020 – the larger the bubble, the larger the number of students from the country or region. Data includes non-university higher education providers that provide data through HEIMS.

Figure 35: Share of international students in tertiary education, by country of destination, 2019 (per cent)



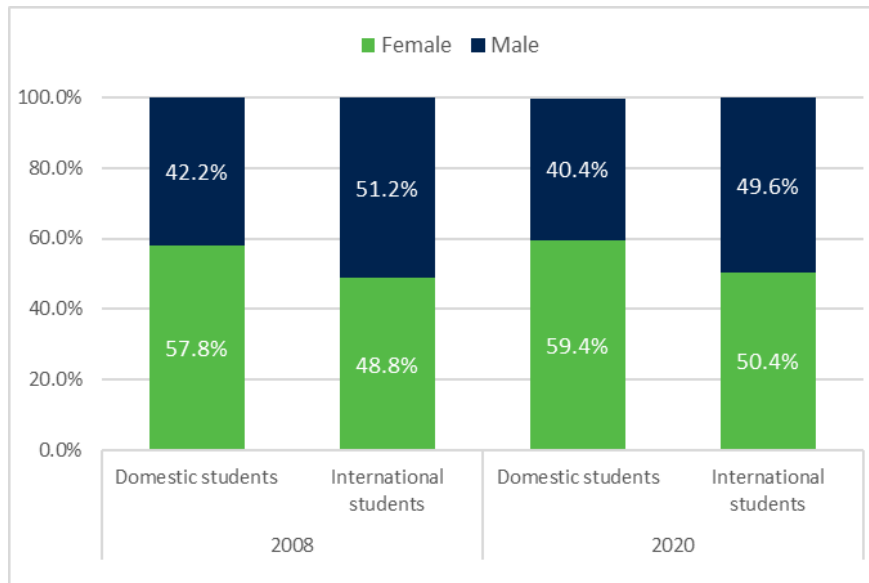
Source: UNESCO Institute of Statistics, *Education dataset: Total inbound internationally mobile students, both sexes, 2019*, accessed on 11 October 2021.

2.2.2 STUDENT PROFILES

Gender

In 2020, 50.4 per cent of international students were female, compared to 59.4 per cent for domestic students (Figure 36). The proportion of male students – for both domestic and international – has declined slightly compared to 2008.

Figure 36: Share of students by gender, domestic vs international students, 2008 and 2020



Source: Data for 2008 were from Department of Education, Skills and Employment, *uCube* while data for 2020 were from Department of Education, Skills and Employment 2022, *2020 Student Enrolments Pivot Table*.

Course level

International enrolments in Bachelor degree courses have increased 34.3 per cent between 2008 and 2020, while international enrolments in postgraduate coursework and higher degree research have increased significantly, rising 82.8 per cent and 106.1 per cent respectively.

In contrast, for domestic students, growth in postgraduate coursework enrolments was the strongest (45.2 per cent) compared to enrolments in Bachelor degree (39.6 per cent) and higher degree research (6.7 per cent) over the same period.

Table 2: Enrolments by course level, domestic vs international students, between 2008 and 2020

	Domestic students			International students		
	2008	2020	Growth	2008	2020	Growth
Bachelor degree	533,845	745,304	39.6%	153,917	206,771	34.3%
Other undergraduate	9,638	29,860	209.8%	3,846	6,977	81.4%
Postgraduate coursework	138,854	201,586	45.2%	91,601	167,452	82.8%
Higher degree research	39,663	42,325	6.7%	11,200	23,079	106.1%

Source: See Figure 36.

In recent years, international students are more likely to enrol in a postgraduate degree than a Bachelor degree compared to domestic students. In 2020, 50.1 per cent of international students were enrolled in Bachelor degree courses compared to 70.5 per cent of domestic students. In the same period, 40.5 per cent of international students were enrolled in postgraduate coursework, compared to just 19.1 per cent of domestic students.

While the proportion of international students studying a Bachelor degree has declined from 56.1 per cent in 2008 to 50.1 per cent in 2020, the share of international students enrolling in postgraduate degrees – both coursework and research – has increased from 37.5 per cent to 46.1 per cent over the same period.

Figure 37: Share of students by course level, domestic vs international students, 2008 and 2020

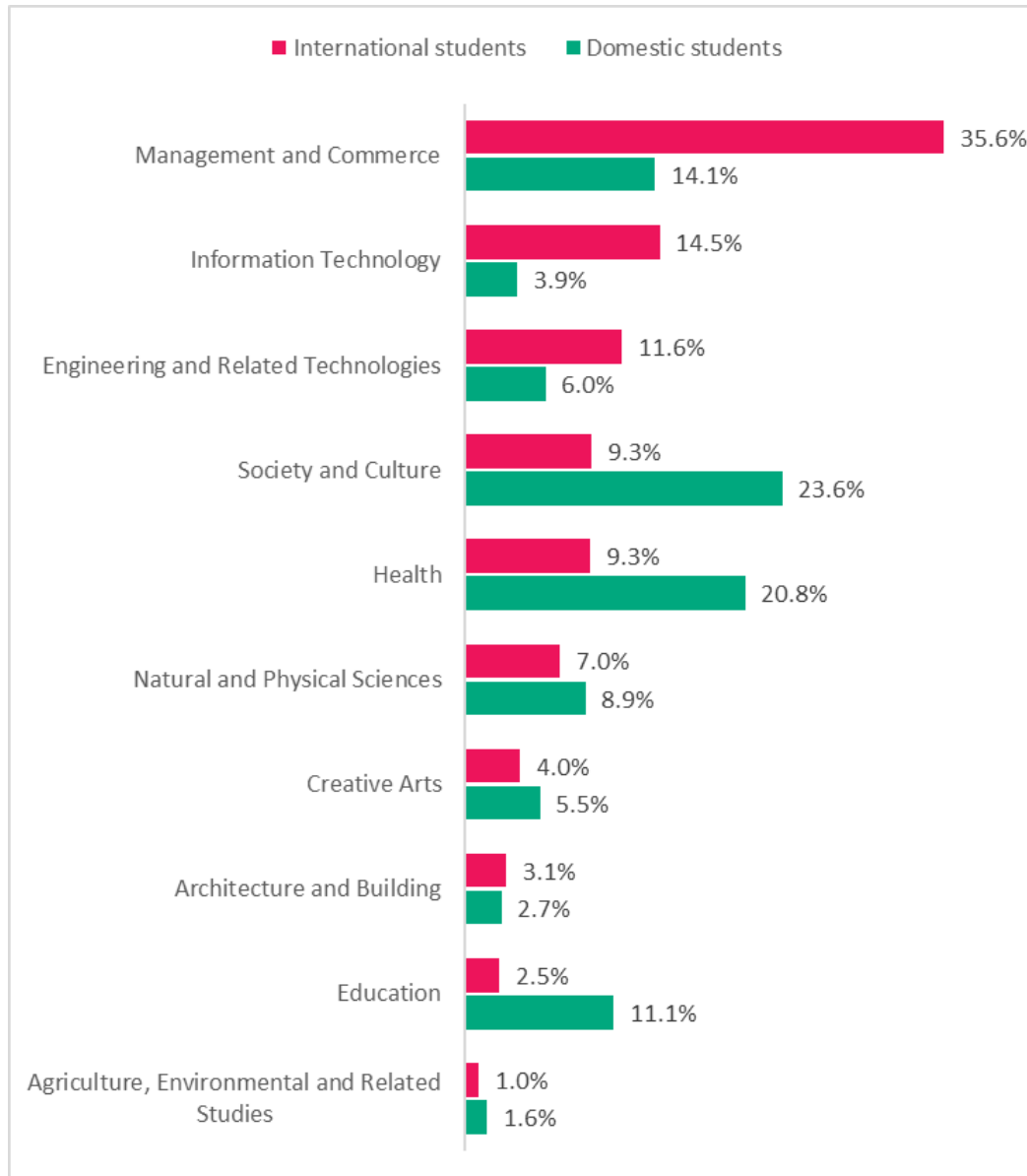


Source: See Figure 36.

Broad field of education

The discipline profile for international students is quite different from that of domestic students. In 2018, greater proportions of international students were studying Management and Commerce (35.6 per cent vs 14.1 per cent for domestic students), Information Technology (14.5 per cent vs 3.9 per cent) and Engineering and Related Technologies (11.6 per cent vs six per cent). International students were less likely to study in Society and Culture (9.3 per cent vs 23.6 per cent for domestic students), Health (9.3 per cent vs 20.8 per cent) and Education (2.5 per cent vs 11.1 per cent).

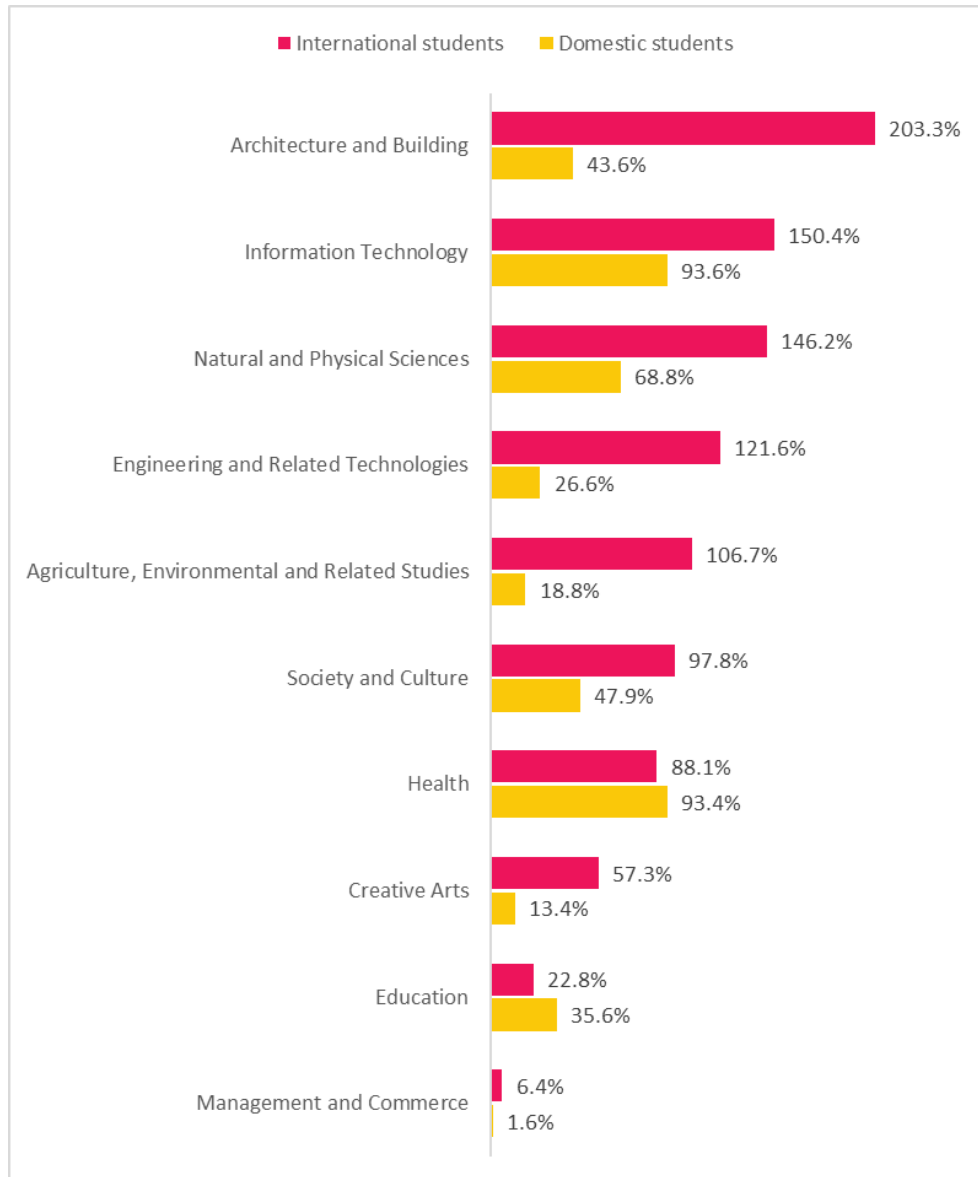
Figure 38: Share of students by broad field of education, domestic vs international students, 2020



Source: Department of Education, Skills and Employment 2022, 2020 unpublished HEIMS UA dataset.

Since 2008, international student enrolments have tripled in Architecture and Building (up 203.3 per cent), Information and Technology (150.4 per cent), Engineering and related technologies (146.5 per cent) and Agriculture, Environmental and Related Studies (106.7 per cent). Despite the large number of enrolments, international enrolments in Management and Commerce increased by just 6.4 per cent over the same period (Figure 39).

Figure 39: Growth in enrolments by broad field of education between 2008 and 2020, domestic vs international students



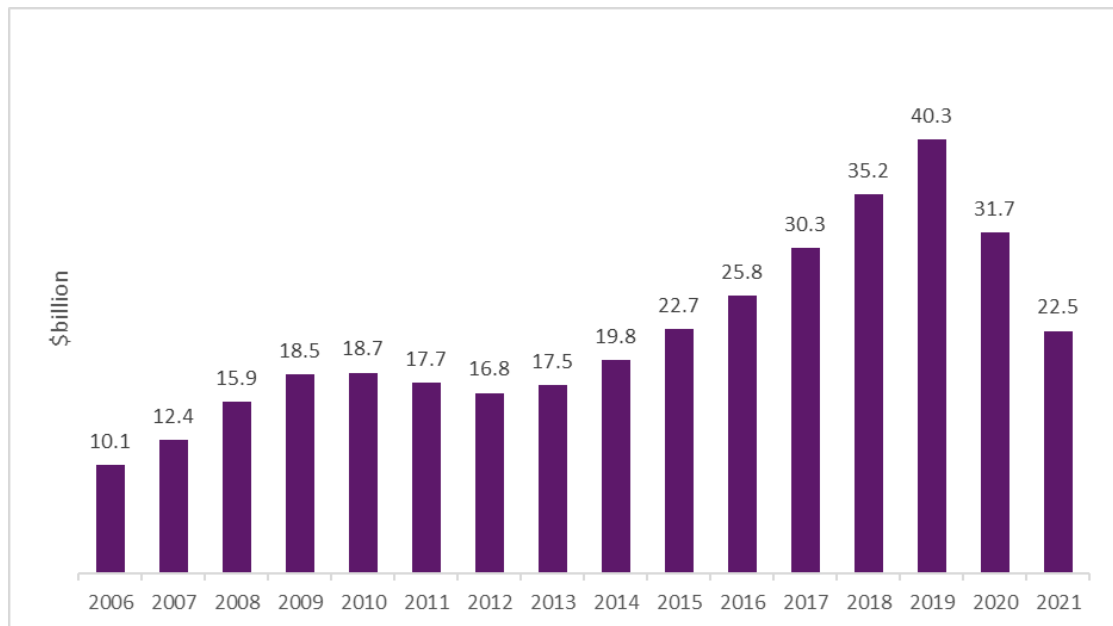
Source: See Figure 38.

2.2.3 CONTRIBUTION TO THE AUSTRALIAN ECONOMY

International education is Australia's fourth largest export – and the largest services export industry – generating \$40.3 billion in export income in 2019. International education export income increased by 153 per cent from 2008 to 2019. However, the international border closure resulting from the COVID-19 pandemic has caused a 44 per cent decline in international education export income to \$22.5 billion in 2021 (Figure 40).

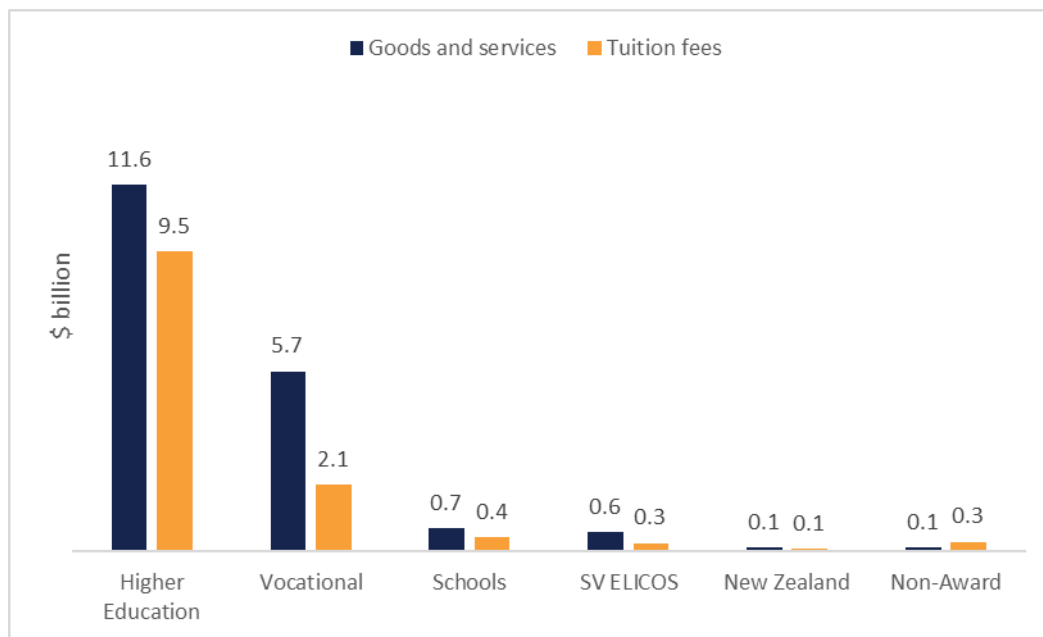
The higher education sector contributed 67 per cent – or \$21.1 billion – of the international education export income in 2020. Of this, 55 per cent of export income (or \$11.6 billion) was international students spending on goods and services from Australian businesses and the remaining 45 per cent (or \$9.5 billion) was international student fees payable to higher education providers (Figure 41).

Figure 40: Value of education-related personal travel exports, in nominal dollars



Source: ABS 2022, *International Trade in Goods and Services*, December 2021, cat. no. 5368.0, ABS, Canberra, Table 11a.

Figure 41: Type of international student expenditure, by educational sector, 2020



Source: ABS 2021, *International Trade: Supplementary Information, Calendar Year, 2020*, cat. no. 5368.0.55.004, ABS, Canberra, Table 9.1.

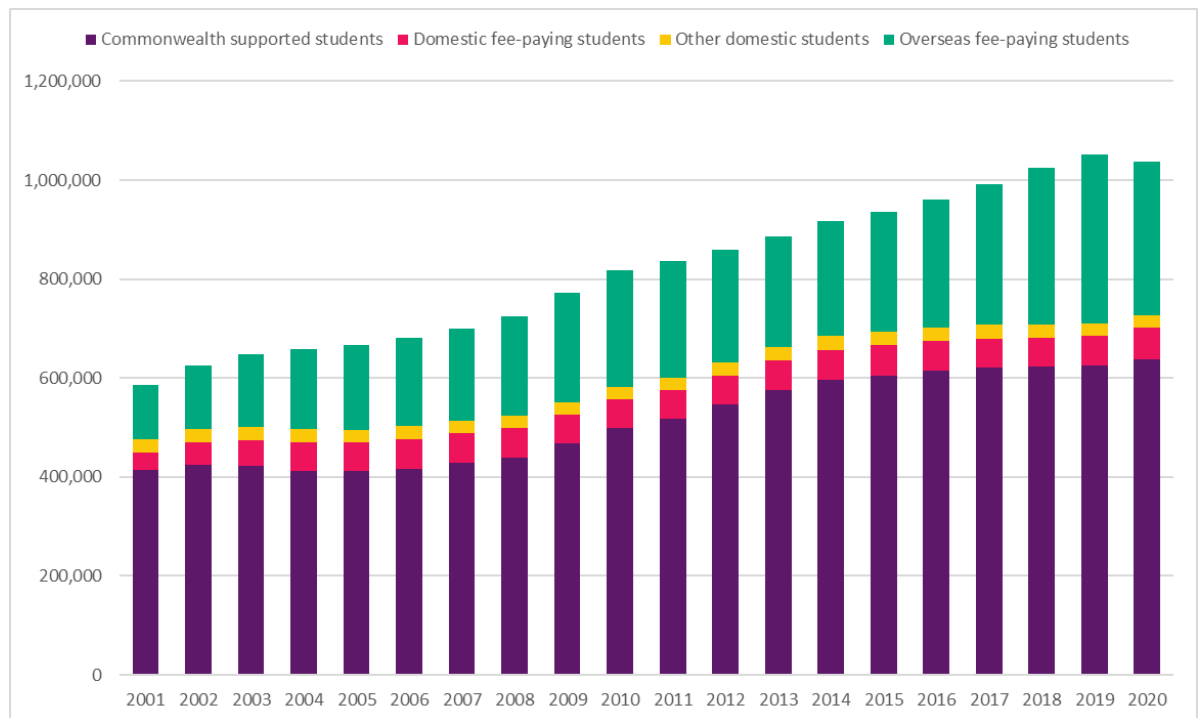
2.3 STUDENT LOAD

2.3.1 TRENDS IN STUDENT LOAD BY LIABILITY STATUS

Figure 42 shows total student load – i.e., equivalent full-time student load (EFTSL) or student places – by liability status since 2001. In 2020, there were 1,036,167 EFTSL at Australia’s 39 comprehensive universities, a drop of 1.4 per cent on 2019 and the first decline since 2001. This is mainly due to the decline in international student EFTSL, which has fallen 9.5 per cent, from 341,094 EFTSL in 2019 to 308,822 EFTSL in 2020.

In 2020, 61.6 per cent of student load were in receipt of Commonwealth supported places (CSP), 29.8 per cent were international fee-paying places, 6.2 per cent were domestic fee-paying places and the remaining 2.4 per cent were non-award students and students who received fees offset under the Research Training Program (RTP).

Figure 42: EFTSL – student places – by liability status, 2001 to 2020

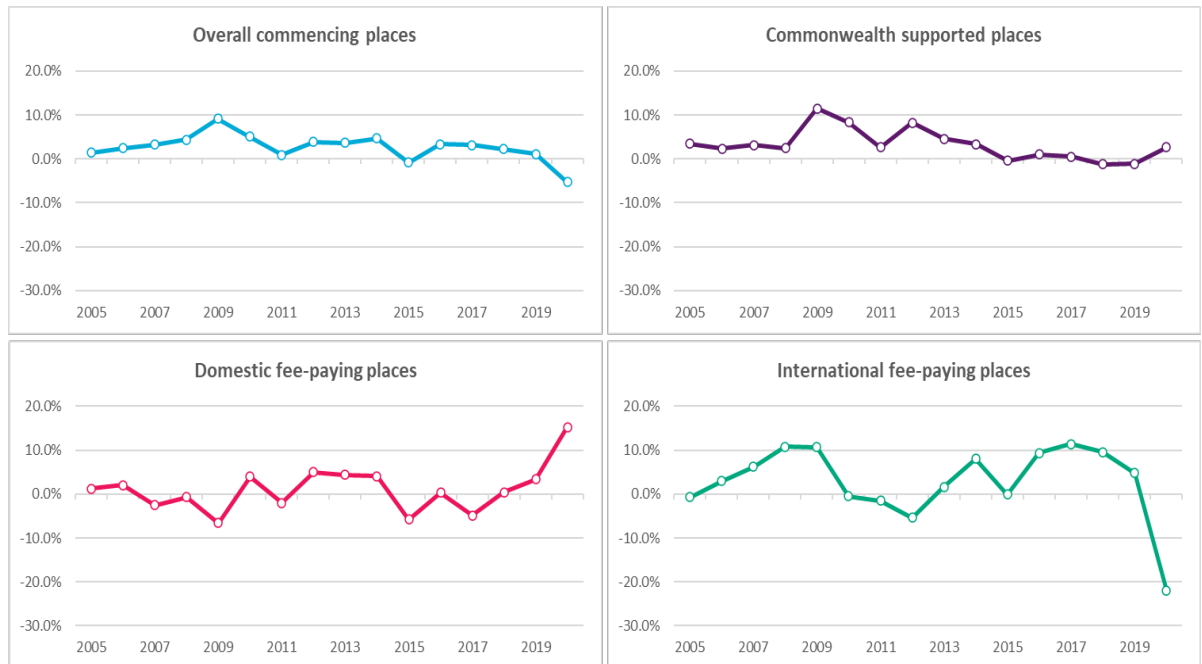


Source: Data for 2019 and earlier were from Department of Education, Skills and Employment, *uCube* while data from 2020 onwards were from Department of Education, Skills and Employment, *Student Load Pivot Table*.

Note: Other domestic students include non-award students and domestic students receiving Research Training Program (RTP) with fees offset.

Total commencing student load has declined by 5.3 per cent in 2020, the first decline since 2015 and mainly driven by the 21.9 per cent drop in commencing international fee-paying places. Commencing Commonwealth support places rose 2.7 per cent in 2020 – the largest annual growth since 2014 – to 231,483 from 225,417 CSP in 2019. Commencing domestic full fee-paying places has also increased significantly –15.3 per cent – from 28,178 places in 2019 to 32,480 places in 2020. (Figure 43)

Figure 43: Annual growth in commencing EFTSL, by liability status, 2005 to 2020

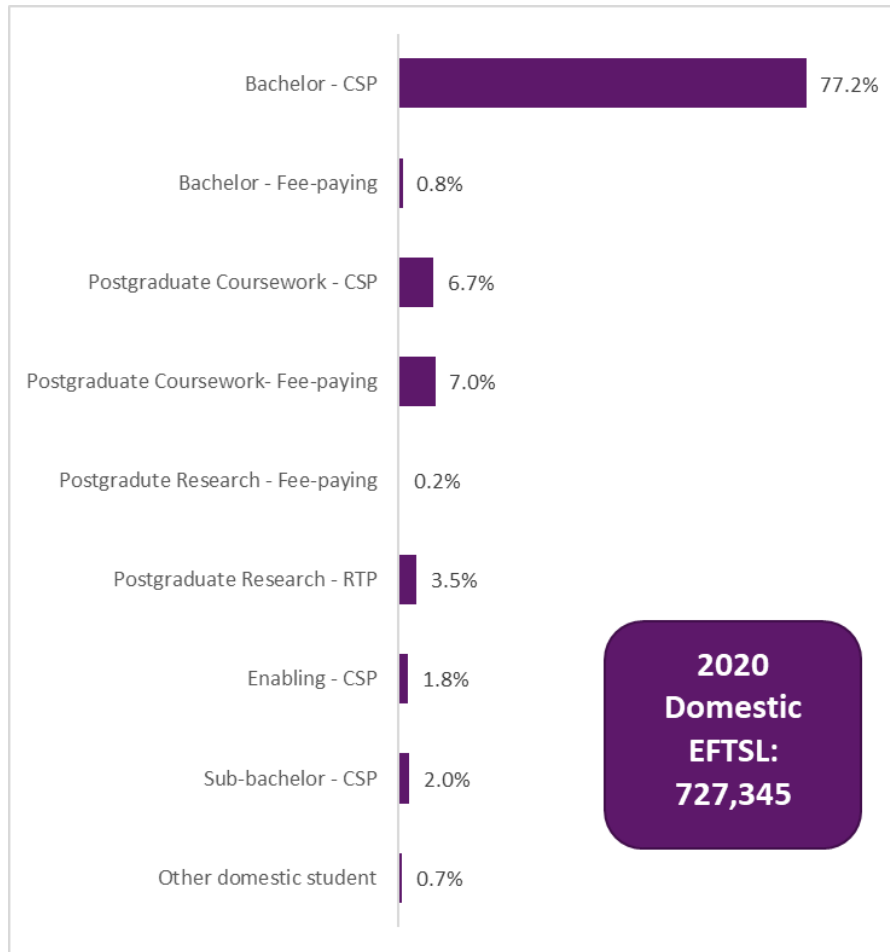


Source: See Figure 42.

2.3.2 COMPOSITION OF DOMESTIC STUDENT PLACES

There were 727,345 domestic student places in 2020. Of this, nearly 80 per cent were in courses leading to a Bachelor degree (77.2 per cent were Commonwealth supported places), 6.7 per cent were in Commonwealth supported postgraduate coursework places and a further 7.0 per cent were in full fee-paying postgraduate coursework places. Around four per cent of domestic places were in sub-bachelor, enabling and non-award courses and the remaining 3.7 per cent in postgraduate research degree – 3.5 per cent receiving Research Training Program fee offset (Figure 44).

Figure 44: Composition of domestic student places, 2020



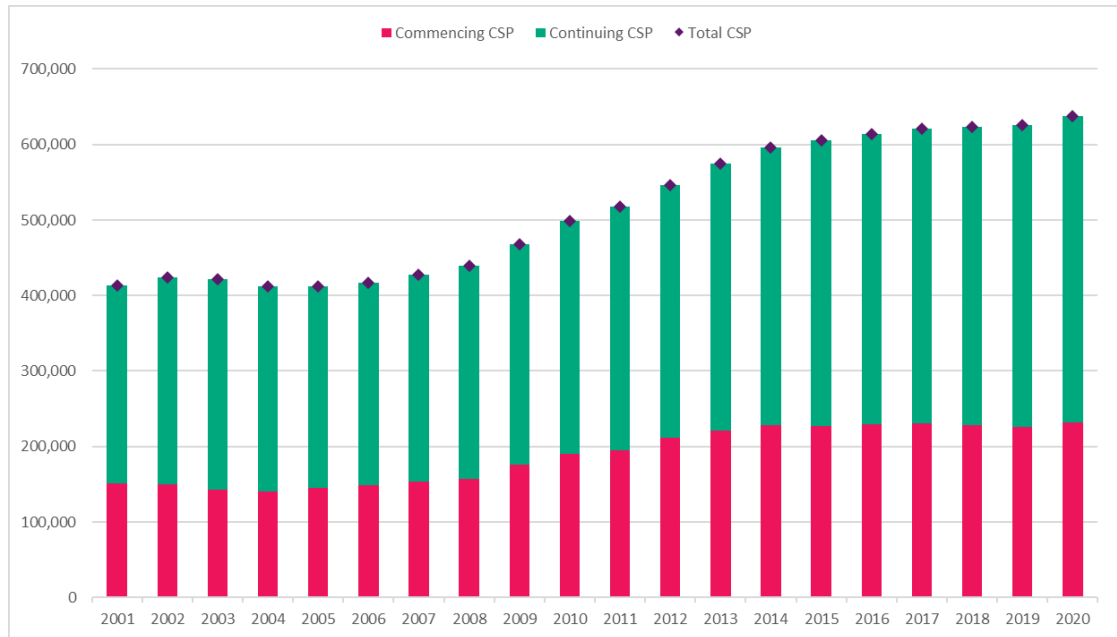
Source: Department of Education, Skills and Employment 2022, *2020 Student Load Pivot Table*.

2.3.3 TRENDS IN COMMONWEALTH SUPPORTED PLACES

Australian universities delivered 638,202 Commonwealth supported places (CSPs) in 2020, an increase of 199,209 places since 2008. In 2020, just 36.3 per cent of the total CSPs were commencing places (or 231,483), marginally higher than the share of 36 per cent in 2019 but remain below the 37.2 per cent in 2017 (Figure 45).

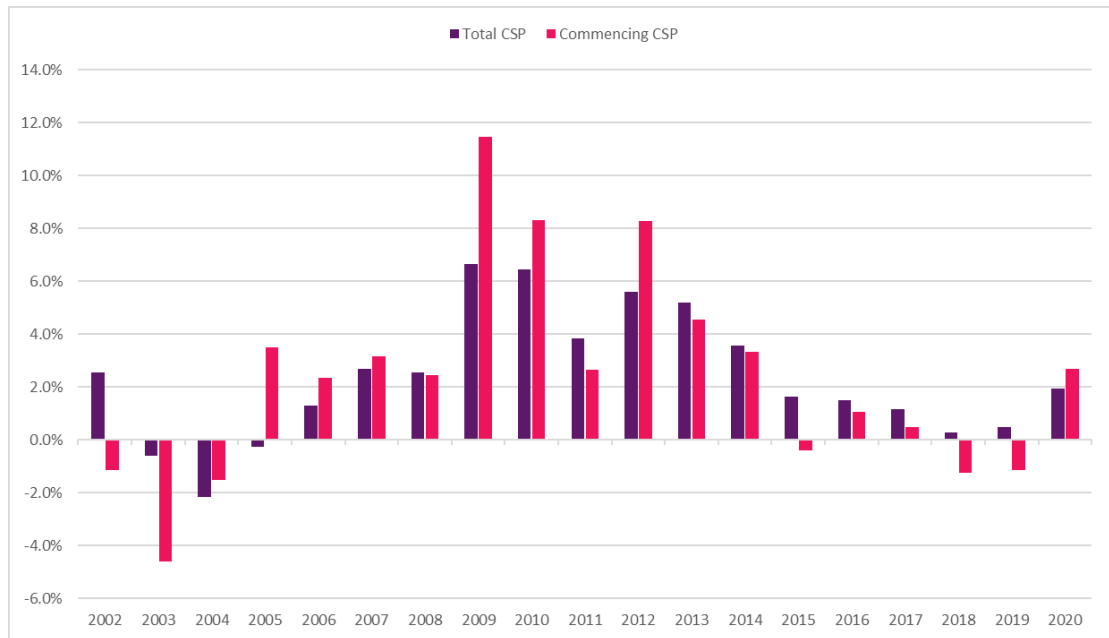
Figure 46 shows that the growth in total CSP enrolment was initially rapid at around six per cent per year during the transitional years prior to the full introduction of the demand-driven system in 2012, with commencing CSP enrolments increasing by 11.5 per cent in 2009 and 8.3 per cent in 2010. However, annual growth in enrolments has declined to levels below population growth in recent years. In 2018 and 2019, total CSPs grew by only 0.3 and 0.5 per cent respectively, down from 1.1 per cent in 2017. In 2020, total CSPs grew 1.9 per cent, the largest year-on-year increase since 2014. Commencing CSP enrolments also rose 2.7 per cent in 2020, following the 1.3 per cent and 1.1 per cent decline recorded in 2018 and 2019 respectively.

Figure 45: Commonwealth supported places, 2001 to 2020



Source: Data for 2019 and earlier were from Department of Education, Skills and Employment, *uCube* while data from 2020 onwards were from Department of Education, Skills and Employment, *Student Load Pivot Table*.

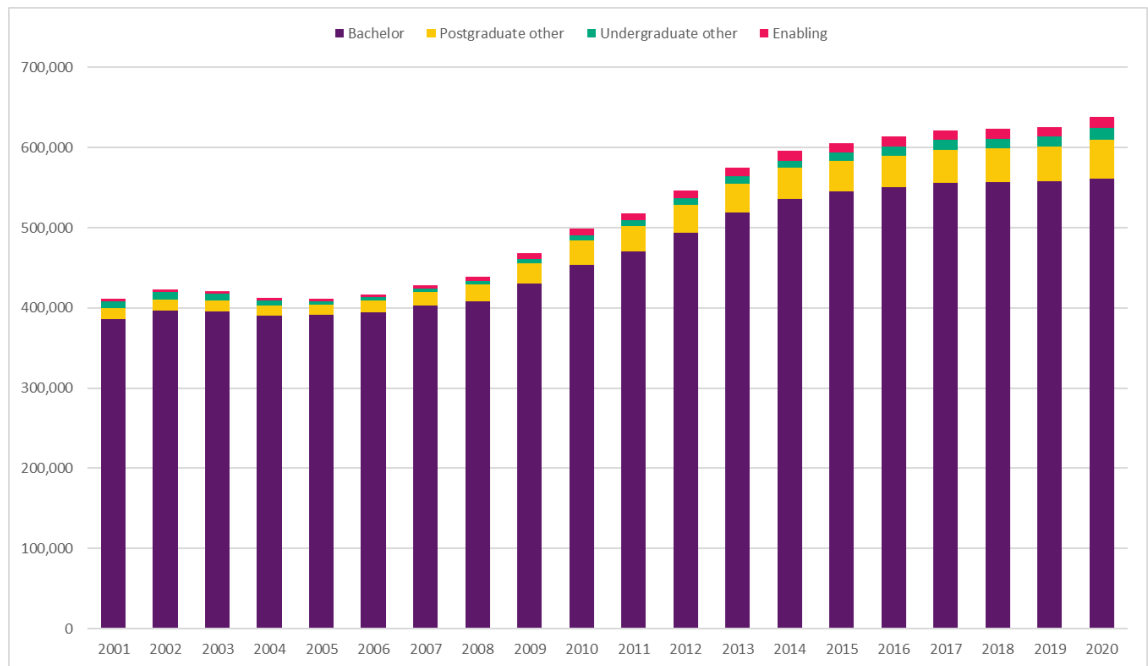
Figure 46: Annual growth in Commonwealth supported places, 2001 to 2020



Source: See Figure 45

The number of students studying Bachelor degrees as a proportion of all Commonwealth supported places has declined from 93.1 per cent in 2008 to 88 per cent in 2020, while the share of postgraduate coursework CSP has increased from 4.7 per cent to 7.6 per cent over the period. Shares of Commonwealth supported places for sub-bachelor and enabling courses have also increased marginally, from 2.2 per cent in 2008 to 4.4 per cent in 2020 (Figure 47).

Figure 47: Commonwealth supported places, by course level, 2001 to 2020

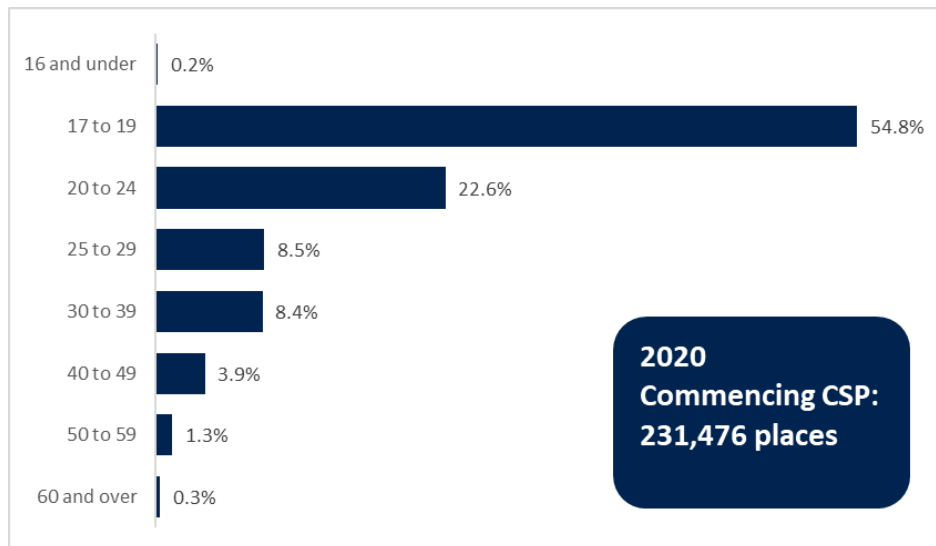


Source: See Figure 45

2.3.4 COMMONWEALTH SUPPORTED PLACES AND POPULATION GROWTH

As shown in Figure 47, almost 90 per cent of Commonwealth supported places (CSPs) are provided for domestic students undertaking courses leading to a Bachelor degree. Figure 48 shows that 54.8 per cent of commencing Commonwealth supported students were aged 17 to 19-year-old in 2020 and another 22.6 per cent were aged 20 to 24-year-old.

Figure 48: Share of commencing Commonwealth supported places, by age, 2020



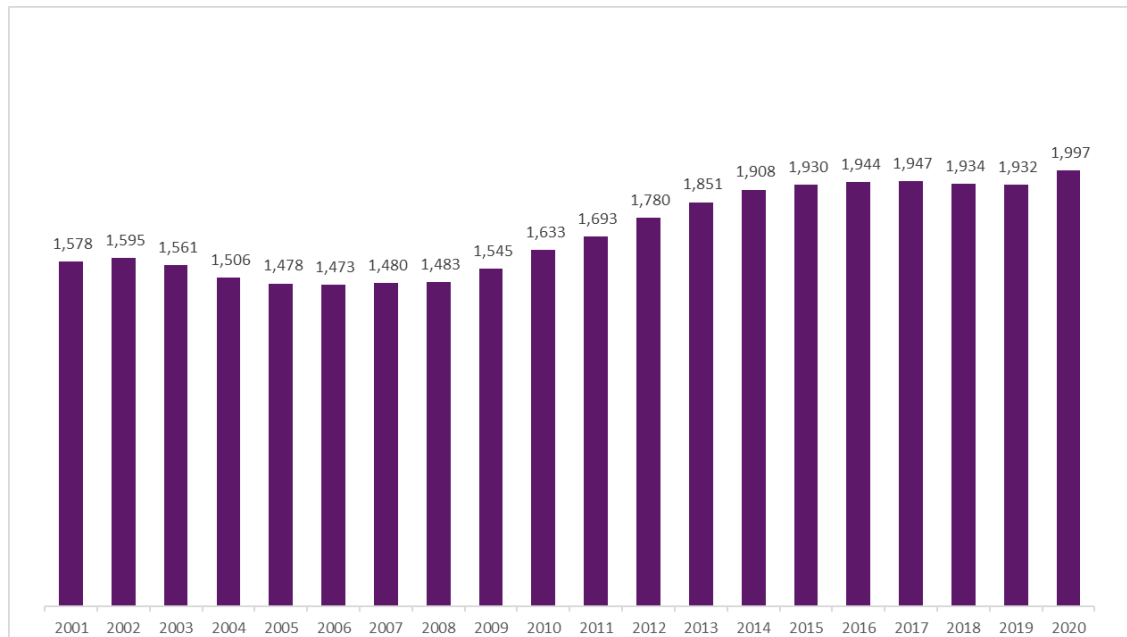
Source: Department of Education, Skills and Employment 2022, 2020 unpublished HEIMS UA dataset.

In 2001 and 2002, there were around 1,600 CSPs for every 10,000 people aged 15–24 years. This declined to under 1,500 places for every 10,000 people aged 15–24 years, prior to the introduction of the demand-driven system in 2009 (see Figure 49).

Since 2009, the number of CSPs has increased from around 1,500 places for every 10,000 people aged 15–24 years, stabilising at around 1,950 places in 2016 and 2017. However, the number of CSPs per population declined to around 1,930 places in 2018 and 2019 due to the nominal cap imposed on total Commonwealth Grant Scheme (CGS) funding announced at the end of 2017, which effectively ended the demand-driven system. In 2020, the number of CSPs rose to almost 2,000 places for every 10,000 people aged 15–24-year-old due to the Higher Education Relief Package and the decline in population.

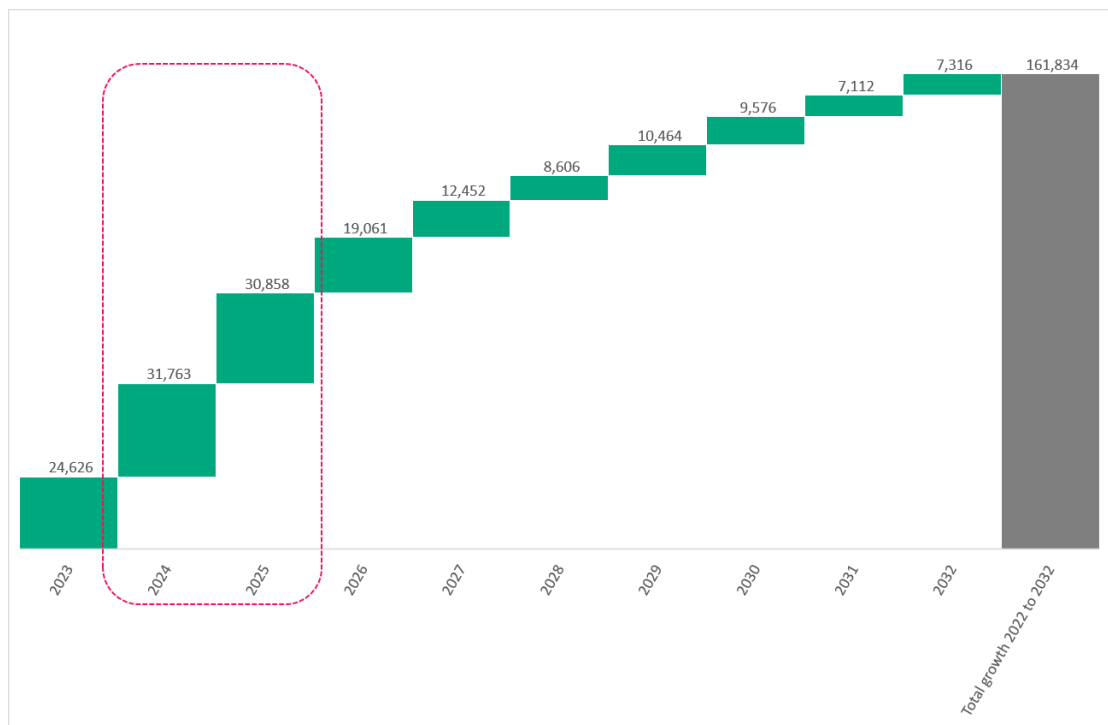
According to the Australian Bureau of Statistics' population projections, there will be 161,834 more 17 to 19-year-olds by 2032, compared to 2022. The 17 to 19-year-old population is projected to increase from 943,513 in 2022 to 1,105,347 in 2032. It is also evident from Figure 50 that there will be a huge jump in 17 to 19-year-olds in 2024 and 2025, with annual growth in this age cohort increasing to more than 30,000 each year in 2024 and 2025.

Figure 49: Commonwealth supported places per 10,000 population aged 15–24 years old



Source: UA analysis based on data from Department of Education, Skills and Employment, *uCube* and *2020 Student Load Pivot Table*, Australian Bureau of Statistics (ABS) 2014, *Australian Historical Population Statistics*, cat. no. 3105.0.65.001; ABS, *Australian Demographic Statistics*, cat. no. 3101.0.

Figure 50: Projected growth in 17 to 19-year-old population to 2032, compared to 2022

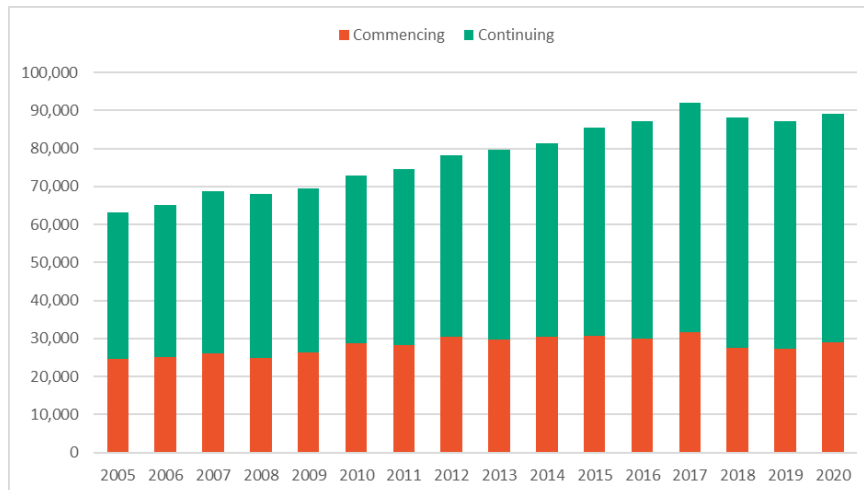


Source: Australian Bureau of Statistics 2018, *Population Projections, Australia, 2017 (base) to 2066*, Series B – medium growth series.

2.4 ENROLMENTS IN COURSES LEADING TO PROFESSIONAL REGISTRATION

Enrolments in initial teacher education (ITE) courses increased by 30.8 per cent, from 68,088 students in 2008 to 89,038 in 2020. Commencing student enrolments were around 30,000 students between 2012 and 2017, before declining to 27,366 commencements in 2019, the lowest since 2009. In 2020, the number of commencing ITE enrolments increased by 6 per cent to 29,021 commencements.

Figure 51: Enrolments in courses for initial teacher training

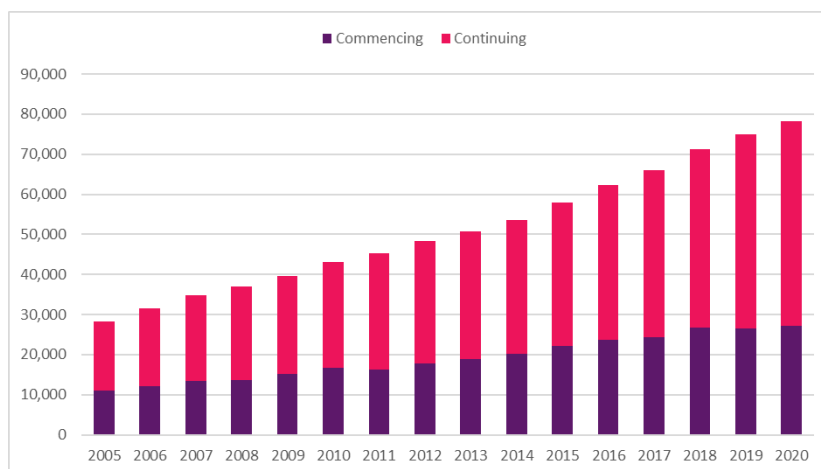


Source: Department of Education, Skills and Employment 2022, *Selected Higher Education Statistics–2020 Student Data*, Section 8: Special courses.

Note: Data include other higher education providers that provided data through HEIMS.

Enrolments in courses providing for initial registration as nurses have more than doubled since 2008, from 36,958 students to 78,281 students in 2020. Both commencing and continuing enrolments have increased at an average annual growth rate of 5.9 and 6.7 per cent respectively between 2008 and 2020.

Figure 52: Enrolments in courses for initial registration as nurses

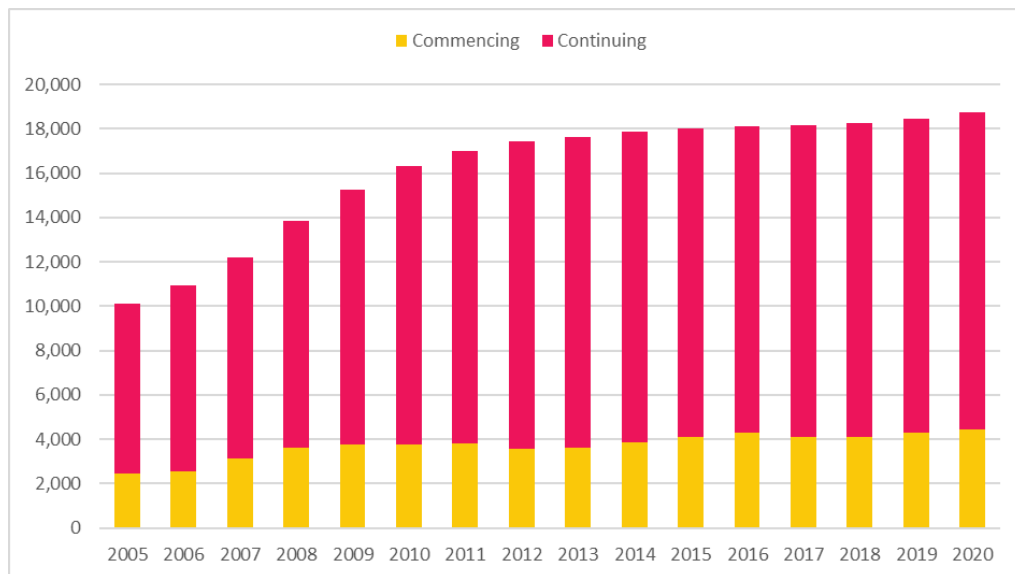


Source and note: See Figure 51.

Figure 53 and Figure 54 show that whilst total enrolments in courses providing for provisional registration as medical or dental practitioners increased by 35.6 and 42.1 per cent respectively between 2008 and 2020, total enrolments for both courses have stabilised at around 18,200 and 2,800 respectively since 2014.

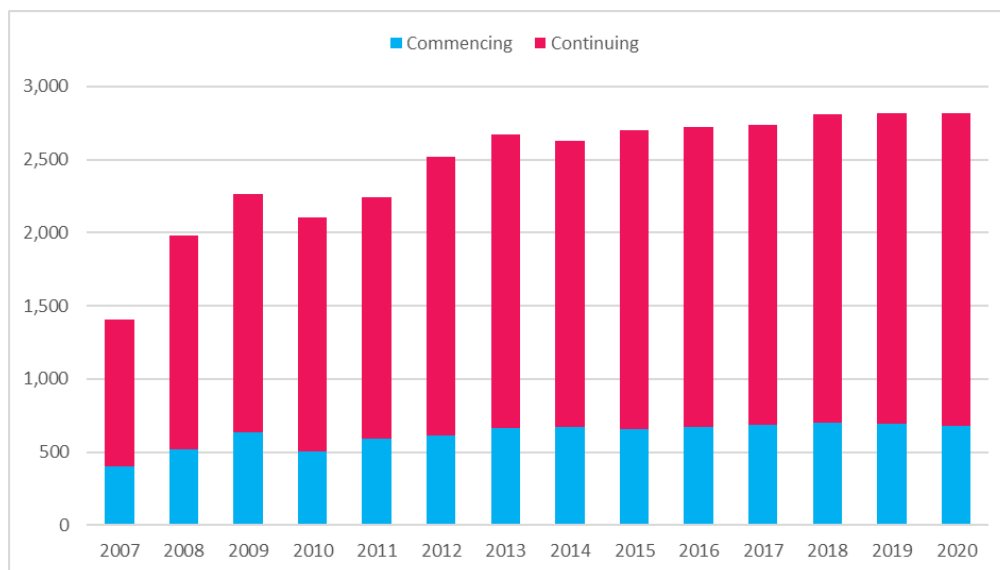
Since 2008, annual average growth in commencing students enrolled in courses leading to provisional registration as a medical practitioner was 1.7 per cent and 2.3 per cent for dental practitioner.

Figure 53: Enrolments in courses leading to provisional registration as a medical practitioner



Source and note: See Figure 51.

Figure 54: Enrolments in courses leading to provisional registration as a dental practitioner



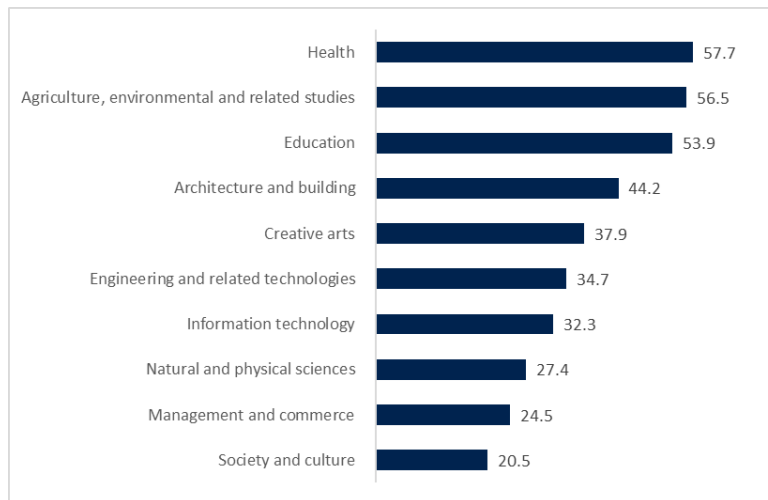
Source and note: See Figure 51.

2.5 WORK-INTEGRATED LEARNING

In 2017, a total of 451,263 students – both domestic and international – participated in work-integrated learning (WIL), making the WIL participation rate 37.4 per cent of all enrolled students.

Figure 55 shows the proportion of students – both domestic and international students – who had participated in WIL by broad discipline areas. In 2017, 57.7 per cent of students enrolled in health participated in WIL, followed by agriculture, environmental and related studies (56.5 per cent), education (53.9 per cent), and architecture and building (44.2 per cent).

Figure 55: Work-integrated learning participation rates, by broad field of education, unique headcount, per cent



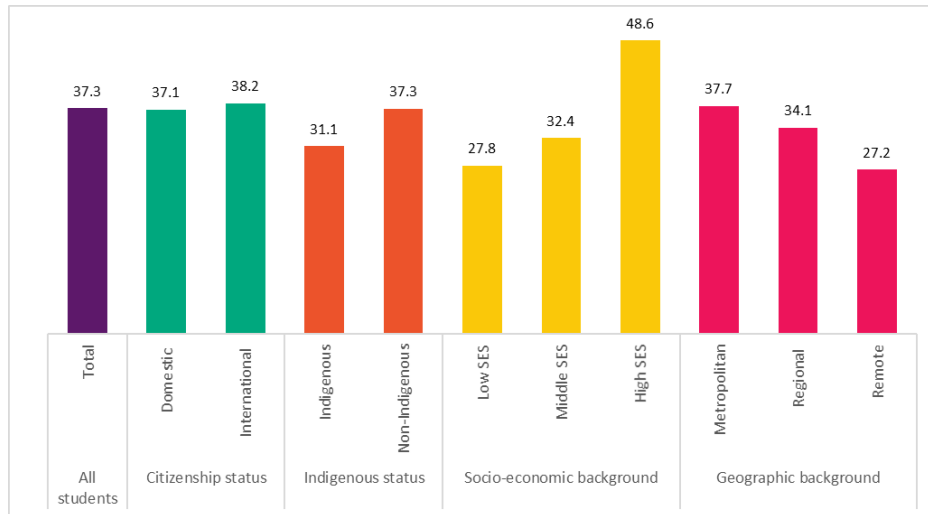
Source: 2017 Universities Australia WIL Data Collection.

Note: Data only include WIL activities for domestic and international students studying onshore at 38 UA member universities in 2017. Postgraduate research students are excluded from the data collection.

Figure 56 shows WIL participation rates by different student characteristics. In 2017:

- WIL participation rates for domestic and international students were relatively similar – 37.1 per cent of domestic students (or 357,806 students) participated in WIL, compared to 38.2 per cent of international students (or 93,126 students).
- Indigenous students were less likely than non-Indigenous students to participate in WIL activities. 37.3 per cent of domestic non-Indigenous students (or 352,320 students) participated in WIL activities, compared to 31.1 per cent of domestic Indigenous students (or 5,486 students).
- Domestic students from low socio-economic backgrounds were less likely than students from middle and high socio-economic backgrounds to participate in WIL. While almost one in two students (or 48.6 per cent) from high socio-economic backgrounds participated in WIL, fewer than one in three students (or 27.8 per cent) from low socio-economic backgrounds participated in WIL.
- Domestic students from metropolitan areas were more likely to participate in WIL than students from regional and remote areas. 37.7 per cent of students from metropolitan areas participated in WIL, compared to 34.1 per cent and 27.2 per cent for students from regional and remote areas respectively.

Figure 56: Work integrated learning participation rates, by student characteristic, per cent



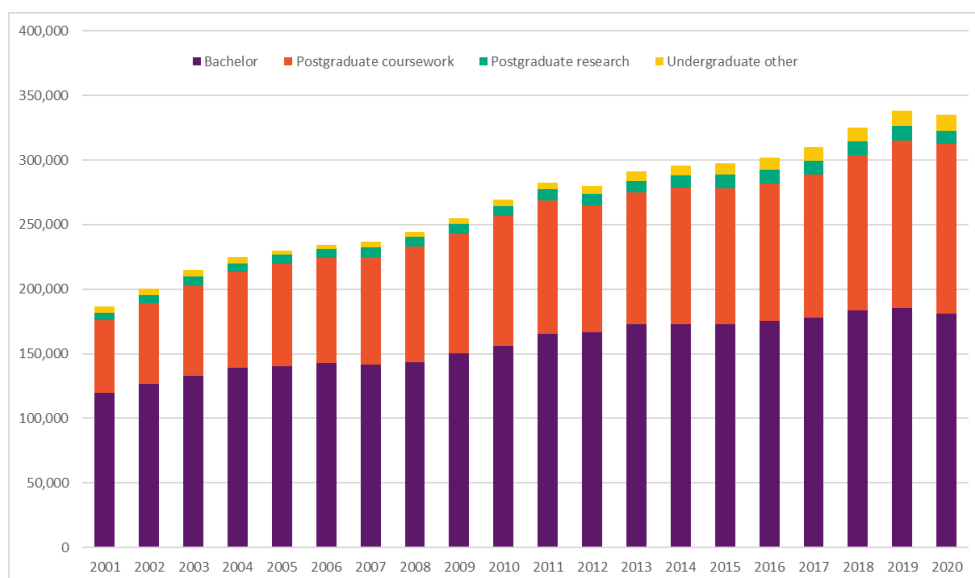
Source and note: See Figure 55.

2.6 STUDENT OUTCOMES AND EMPLOYMENT

2.6.1 AWARD COURSE COMPLETIONS

In 2020, 335,277 students – domestic and international – completed their degrees at Australia’s 39 comprehensive universities. This is an increase of 37.4 per cent from 2008. In 2020, 37,470 more students completed a Bachelor degree, an increase of 26.1 per cent, compared to 2008. Postgraduate research completions increased 40.9 per cent, from 7,334 completions in 2008 to 10,334 in 2020. Compared to 2019, total award course completions have fallen by 0.9 per cent, with Bachelor degree completions declining 2.6 per cent and postgraduate research completion falling 6.8 per cent in 2020.

Figure 57: Number of award completions, by course level

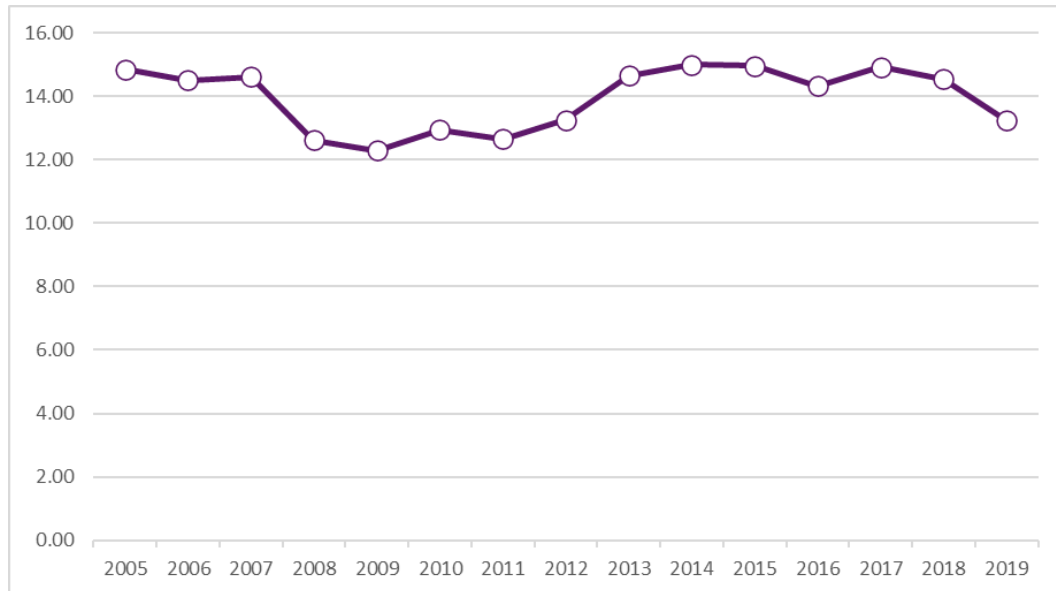


Source: Data for 2019 and earlier were from Department of Education, Skills and Employment, *uCube* while data from 2020 onwards were from Department of Education, Skills and Employment, *Award Course Completions Pivot Table*.

2.6.2 ATTRITION AND COMPLETION RATES

Figure 58 shows attrition rates have declined since 2017 to 13.23 per cent in 2019, the lowest level since 2011. Attrition rates have fluctuated between 12 and 15 per cent – with an average of around 14 per cent – since the series began in 2005.

Figure 58: Attrition rate for domestic commencing Bachelor degree students



Source: Source: Department of Education, Skills and Employment 2022, *Selected higher education statistics–2020 Student data*, Section 15: Attrition, success and retention.

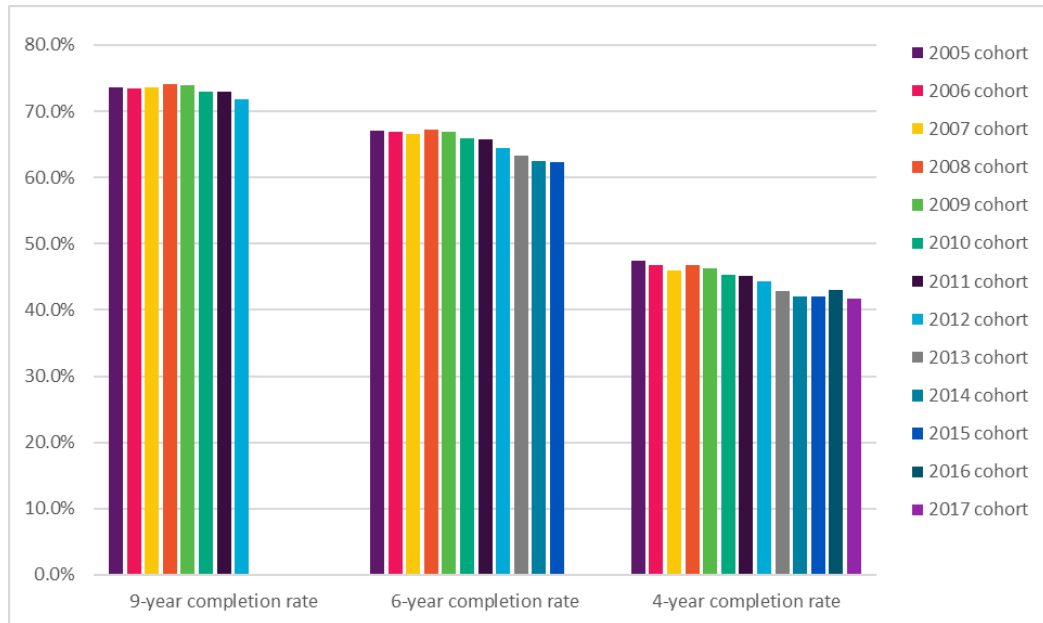
Note: Attrition rate for year (x) is the proportion of students who commenced a course in year(x) who neither complete in year (x) or year (x + 1) nor return in year (x + 1). Only those students who left the higher education system entirely – that is, they were no longer at any institution – are counted as attrited.

Figure 59 shows that nine-year completion rates for the student cohort admitted to a Bachelor degree each year have been relatively stable since 2005 – the first year this type of analysis became possible. For each cohort, around 72 to 74 per cent completed their degrees within nine years.

Six and four-year completion rates have declined slightly. Six-year completion rates declined from around 67 per cent for the cohorts commencing between 2005 and 2009, to around 62 per cent for the 2014 and 2015 cohorts. Four-year completion rates fell from around 47 per cent for the 2005 and 2006 cohorts to around 42 per cent for the most recent cohorts.

However, the percentage of students that either have completed or are still enrolled at the end of six-year and four-year periods remains at above 75 per cent for all cohorts. The proportion of students who had dropped out after four or six years has remained relatively unchanged.

Figure 59: Completion rates – nine, six and four years – of commencing domestic Bachelor degree students



Source: Department of Education, Skills and Employment 2022, *Completion rates of higher education students—Cohort Analysis—2005–2020*.

The *Student Experience Survey* asks students to indicate whether they had seriously considered leaving their institutions during the year and their reasons why. In 2020, 19 per cent of undergraduate students indicated that they had considered early departure, slightly lower than the 20 per cent reported in 2019, but similar to 2018.

Table 3 shows that in 2020, the most common reasons for considering early departure relate to personal or situational factors, such as health or stress (50 per cent), study/life balance (27 per cent), difficulties related to workload (27 per cent), personal reasons (25 per cent) and financial difficulties (23 per cent). The most common institutional-related factors featured in the top ten were students’ expectations had not been met (27 per cent) and issues with academic support (22 per cent).

Table 3: Top 10 reasons for undergraduate students considering early departure, 2017 to 2020

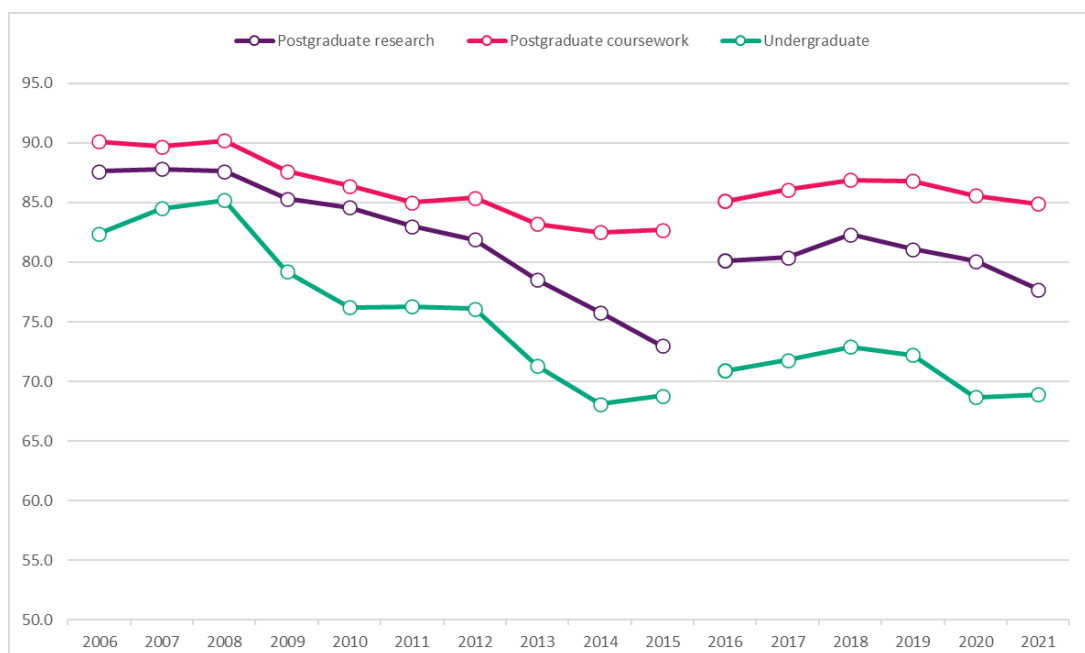
Departure reason	Per cent considering departure 2017	Per cent considering departure 2018	Per cent considering departure 2019	Per cent considering departure 2020
Health or stress	45	45	46	50
Study / life balance	30	30	30	27
Workload difficulties	26	25	25	27
Expectations not met	23	22	22	27
Personal reasons	25	25	25	25
Financial difficulties	24	23	23	23
Need to do paid work	26	27	27	22
Need a break	24	24	24	22
Academic support	18	18	19	22
Boredom/lack of interest	22	21	21	20

Source: Social Research Centre (SRC), *Student Experience Survey: National Report* (various years)

2.6.3 GRADUATE EMPLOYMENT

Figure 60 shows the short-term full-time employment outlook for undergraduates – four months after completion – improved steadily from 68.1 per cent in 2014 to 72.9 per cent in 2018, before declining to 68.7 and 68.9 per cent in 2020 and 2021 respectively due to COVID-19. Graduates with a postgraduate degree have better full-time employment outcomes than graduates with an undergraduate degree, particularly postgraduate coursework graduates. In 2021, 84.9 per cent of postgraduate coursework graduates and 77.7 per cent of postgraduate research graduates were in full-time employment four months after completing their degrees. Similar to undergraduates, short-term employment outcomes for graduates with postgraduate degrees have declined in 2020 and 2021 due to the pandemic.

Figure 60: Graduate full-time employment rate – four months after completing their degree – by course levels, per cent



Source: SRC 2021, *2021 Graduate Outcome Survey: National Report*.

Note: There is a break in the series between 2015 and 2016 due to the change in collection methodology when the survey instrument changes from the *Australian Graduate Survey* previously administered by Graduate Career Australia to the *Graduate Outcome Survey* administered by the Social Research Centre.

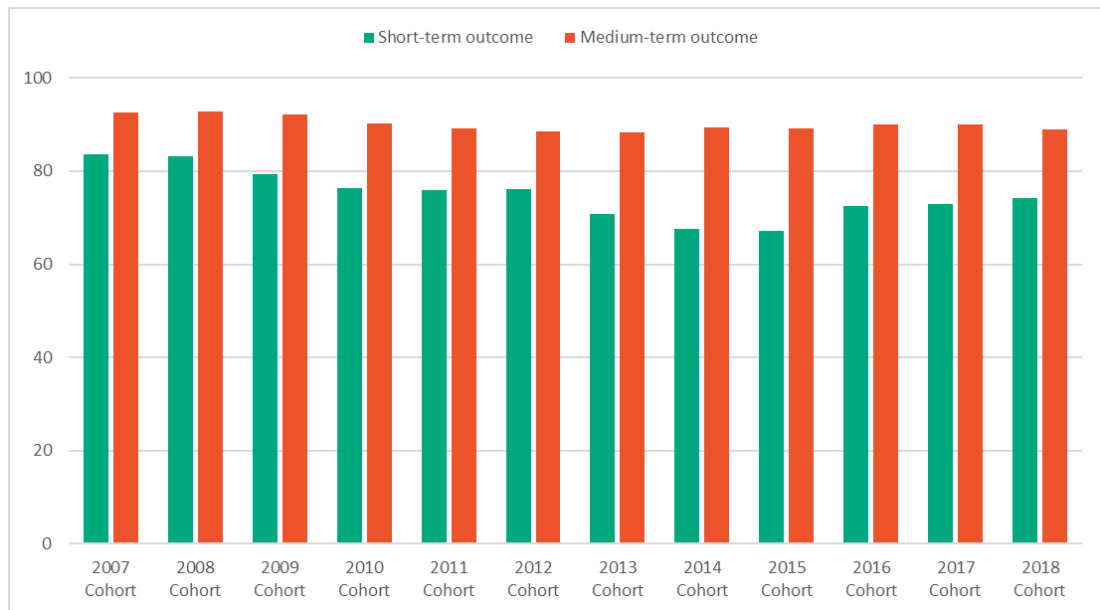
Since the Global Financial Crisis, graduates have taken longer to successfully establish themselves in the labour market. Figure 61 shows that for undergraduates who completed their degrees in 2018, 74.3 per cent of graduates were in full-time employment four months after completing their course. In 2021 – three years after completion – 88.9 per cent of the same undergraduate cohort were in full-time employment. Medium-term employment outcomes for graduates have remained above 88 per cent for cohorts that have graduated since 2011.

The *2021 Graduate Outcomes Survey – Longitudinal (GOS-L)* survey shows that graduates with specialist degrees have stronger employment outcomes shortly after graduation compared to graduates with generalist degrees. However, employment outcomes for those with generalist degrees are comparable to those with specialist degrees three years after graduation. In 2018, immediately upon graduation, the range between the highest and lowest full-time employment rates by study areas was 43.0 percentage points. By 2021, in the medium-term, this range had contracted to 22.1 percentage points. For example, in 2018, 79.4 per cent of nursing undergraduates were in full-time employment shortly after graduation compared to 65.1 per cent

of humanities, culture and social sciences undergraduates. However, 92.3 per cent and 83.9 per cent of graduates from both disciplines were in full-time work in 2021.

In the short term, 73.7 per cent of undergraduates in full-time employment were in managerial and professional occupations upon graduation in 2018. This proportion increased to 77.9 per cent three years after graduation in 2021, lower than the figure of 80.4 per cent in 2020 and 80.7 per cent in 2019. Similarly, 62.3 per cent of all employed graduates (full-time and part-time) who had completed an undergraduate qualification were working in professional and managerial occupations four months after graduation, increasing by 11.4 percentage points to 73.7 per cent three years later.

Figure 61: Short- and medium-term full-time employment rate for 2007 to 2018 graduates – undergraduate degree, per cent

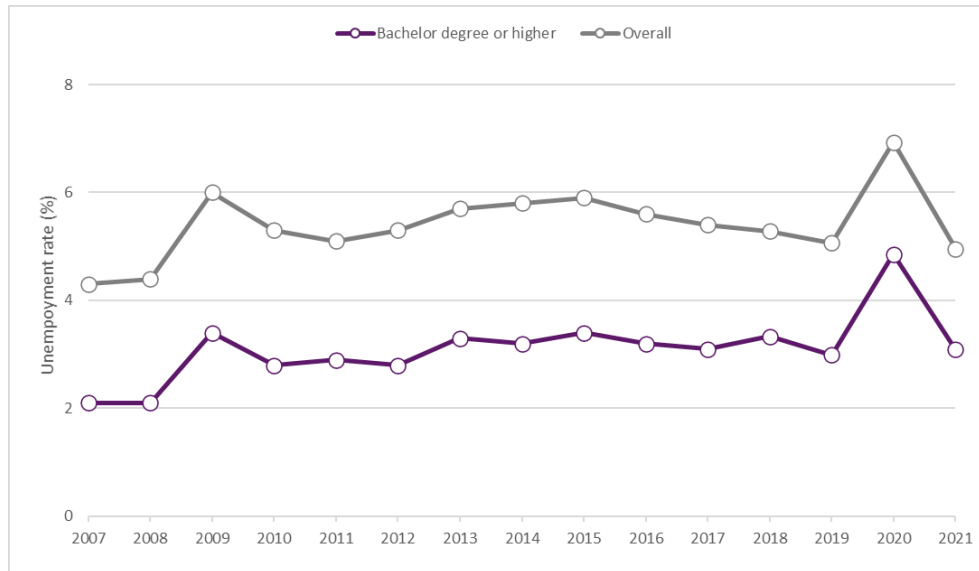


Source: SRC 2021, *2021 Graduate Outcomes Survey – Longitudinal (GOS-L)*.

Note: Short-term refers to four months after completion and medium-term refers to three years after completion.

Australian Bureau of Statistics (ABS) data also consistently shows that graduates perform better in the Australian labour market than non-graduates. Figure 62 shows that unemployment rates of graduates are consistently below the national unemployment rate by around two percentage points. In May 2021, while Australia’s overall unemployment rate was five per cent, the unemployment rate for those with a Bachelor degree or higher was lower at 3.1 per cent.

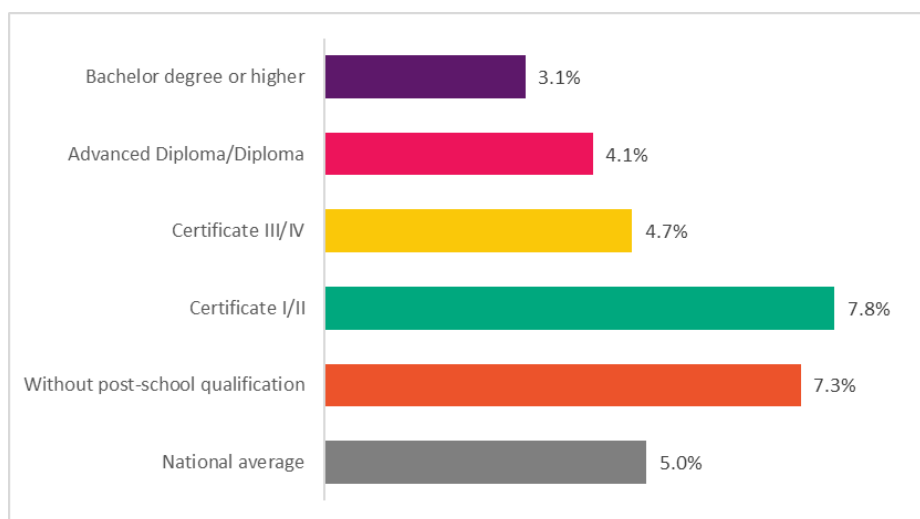
Figure 62: Unemployment rates – graduates and overall – May 2007 to May 2021, per cent



Source: ABS, *Education and Work, Australia*, cat. no. 6227, ABS, Canberra, various years.

In May 2021, 3.1 per cent of graduates were unemployed compared to 7.3 per cent of those without a post-school qualification. Unemployment rates for those with a diploma/advanced diploma and Certificate III/IV were higher at 4.1 per cent and 4.7 per cent respectively (Figure 63).

Figure 63: Unemployment rates, by level of qualification, May 2021

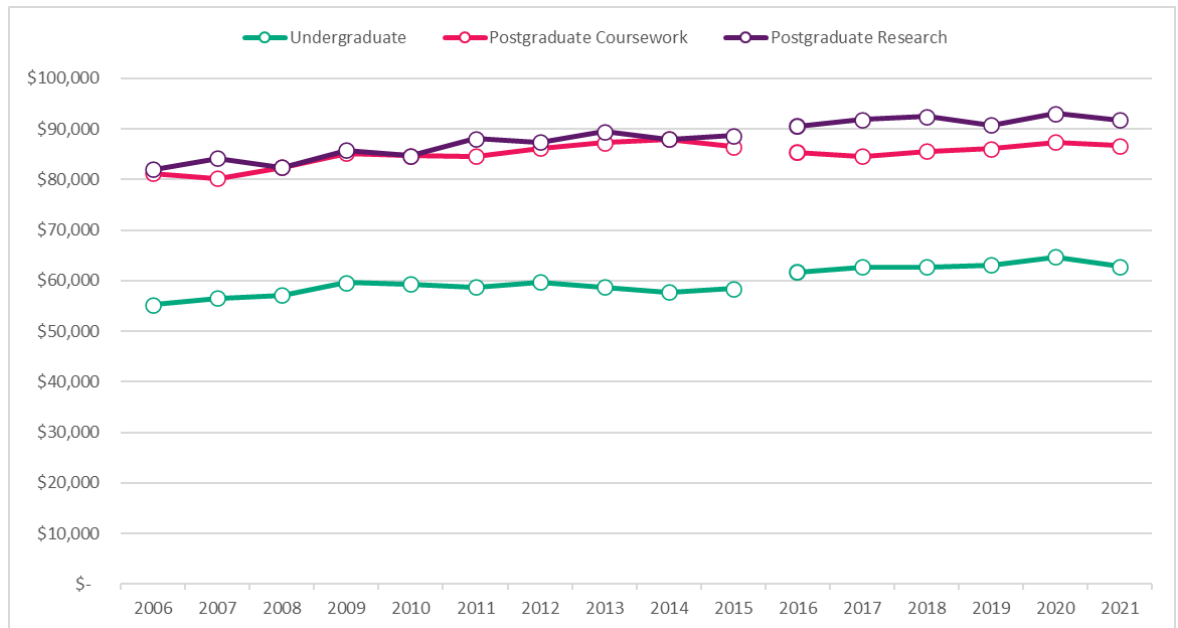


Source: ABS 2021, *Education and Work, Australia, May 2021*, cat. no. 6227, Canberra.

2.6.4 GRADUATE SALARIES

Median full-time starting salaries – in real dollar terms – fell for all graduates in 2021 compared to 2020. Median full-time salaries fell 2.9 per cent to \$62,803 for graduates with undergraduate degrees in 2021. Median salaries for graduates with a postgraduate research degree fell 1.3 per cent in 2021 to \$91,789, while salaries fell 0.8 per cent to \$86,668 for postgraduate coursework graduates (Figure 64).

Figure 64: Median starting salaries for graduates employed full-time, in 2020 dollars



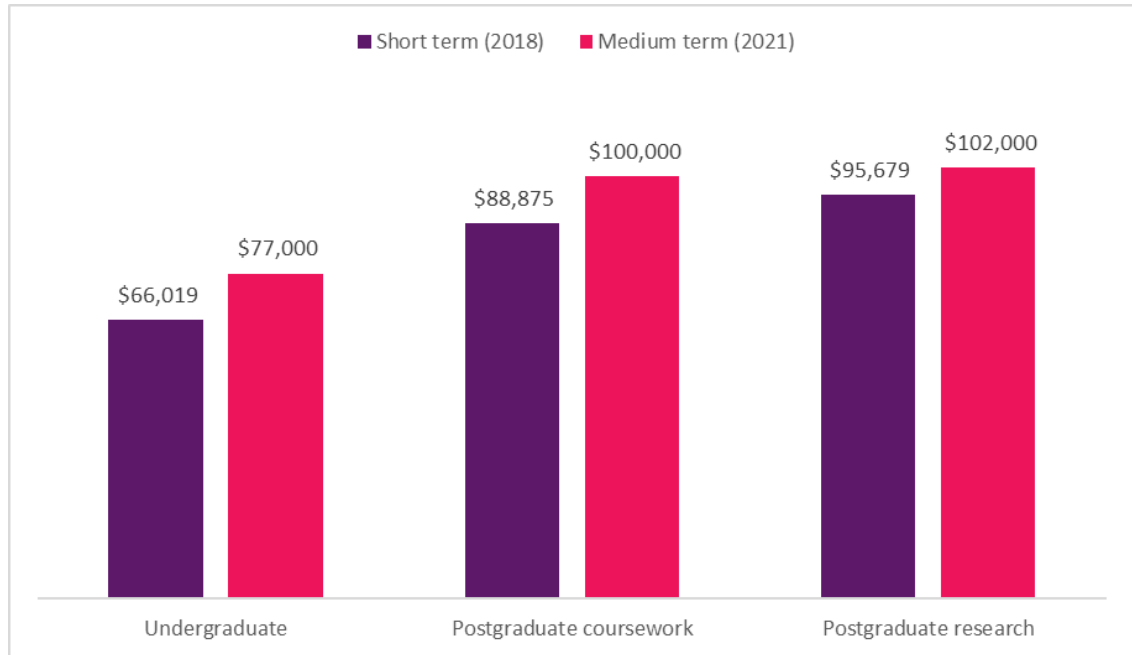
Source: SRC 2021, *2021 Graduate Outcomes Survey: National Report*.

Note: There is a break in the series between 2015 and 2016 due to the change in collection methodology when the survey instrument changes from the *Australian Graduate Survey* previously administered by Graduate Career Australia to the *Graduate Outcome Survey* administered by the Social Research Centre.

For the 2018 graduate cohort, Figure 65 shows median salaries for graduates in full-time employment with an undergraduate qualification rose from \$66,019 in 2018 to \$77,000 in 2021 – an increase of 16.6 per cent in real terms – three years after graduation. Three years out, the median salary level among graduates with postgraduate coursework and postgraduate research qualifications increased by 12.5 per cent and 6.6 per cent respectively in real terms.

Recent ABS data also shows that median weekly earnings for people with a postgraduate degree were 94 per cent (or \$847) more than people with no post-school qualifications in 2021. Compared to employees with no post-school qualification, Bachelor degree graduates were earning 59 per cent (or \$528) more per week in 2021. Certificate III/IV holders earned 33 per cent (or \$300) more per week than employees with no post-school qualifications (Figure 66).

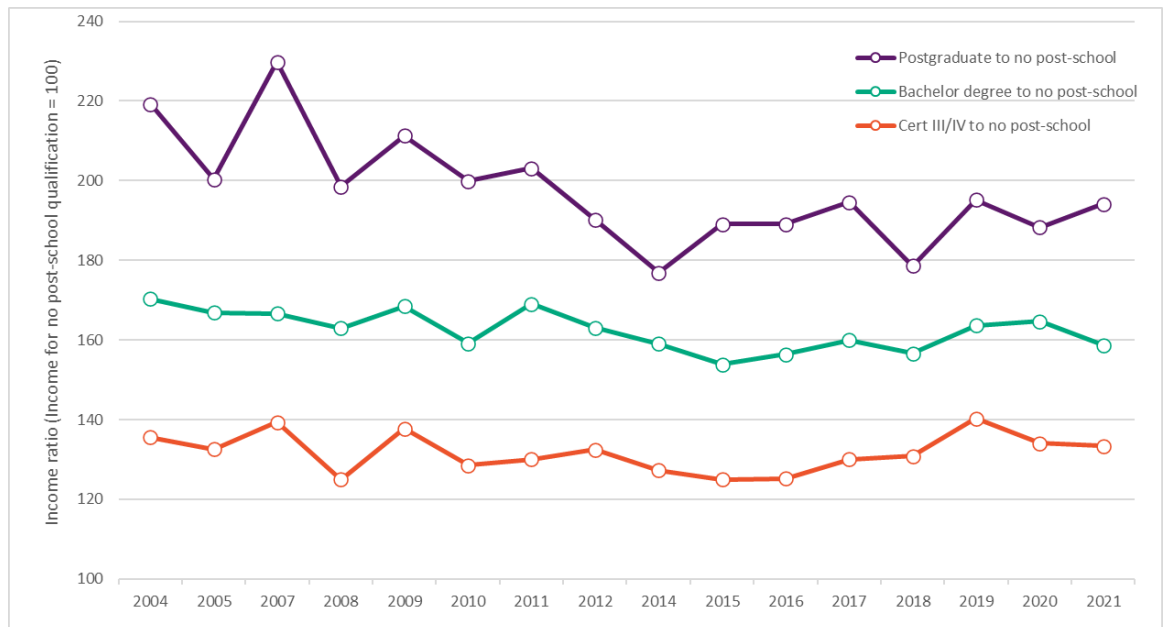
Figure 65: Short and medium-term salary outcomes for 2018 graduates employed full-time, in 2020 dollars



Source: SRC 2021, *2021 Graduate Outcomes Survey – Longitudinal (GOS-L)*.

Note: Short-term refers to four-months after completion and medium-term refers to three years after completion.

Figure 66: Median weekly earnings ratios compared to people with no post-school qualification



Source: ABS 2021, *Characteristics of Employment, Australia, August 2021*, cat. no. 6333.0, ABS, Canberra.

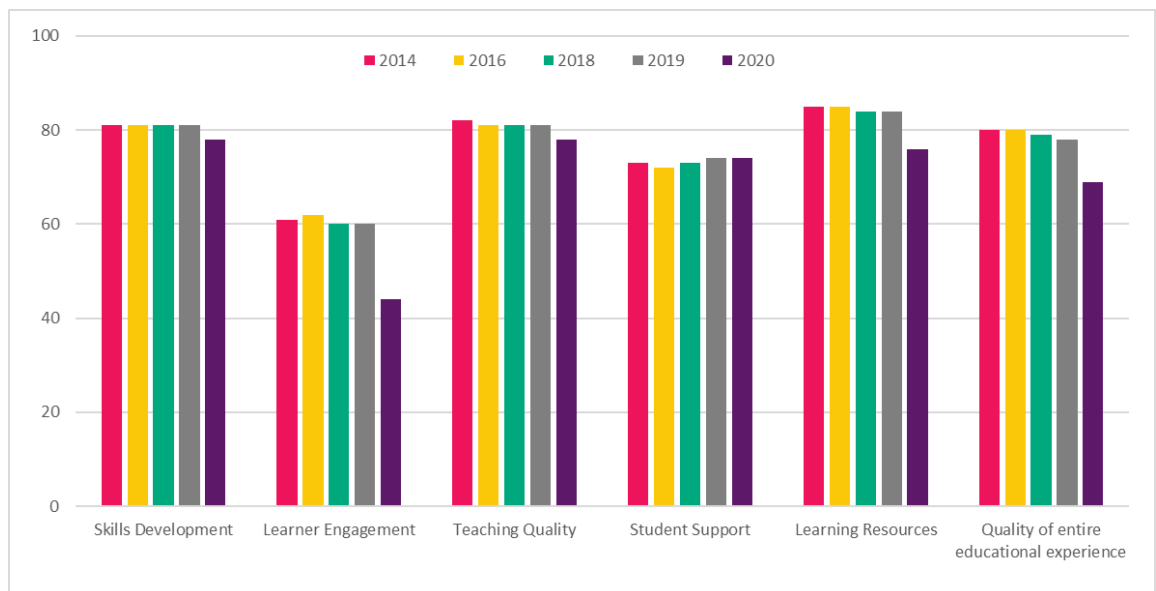
Note: A ratio of 100 implies median weekly earnings for a person with a post-school qualification is equal to a person with no post-school qualification.

2.6.5 SATISFACTION

According to the *2021 Graduate Outcome Survey*, overall satisfaction among graduates – for all qualification levels – has declined in 2021 compared to 2020 due to the COVID-19 pandemic. Overall satisfaction for graduates with an undergraduate and postgraduate coursework degree has declined from 80.7 to 77.9 per cent and from 81.7 per cent to 79.8 per cent respectively. Satisfaction for postgraduate research graduates has also declined marginally from 85.8 per cent in 2020 to 84.8 per cent in 2021.

The *2020 Student Experience Survey*, which measures the experience of current commencing and later-year undergraduate students, found that undergraduate student rating of the quality of their entire educational experience have fluctuated within a narrow range of 78 to 80 per cent from 2012 to 2019. However, student satisfaction with their overall educational experience has fallen sharply from 78 per cent in 2019 to 69 per cent in 2020 due to the COVID-19 pandemic. On a positive note, however, student ratings of Skills Development, Teaching quality and Student Support have remained relatively stable in 2020 (see Figure 67).

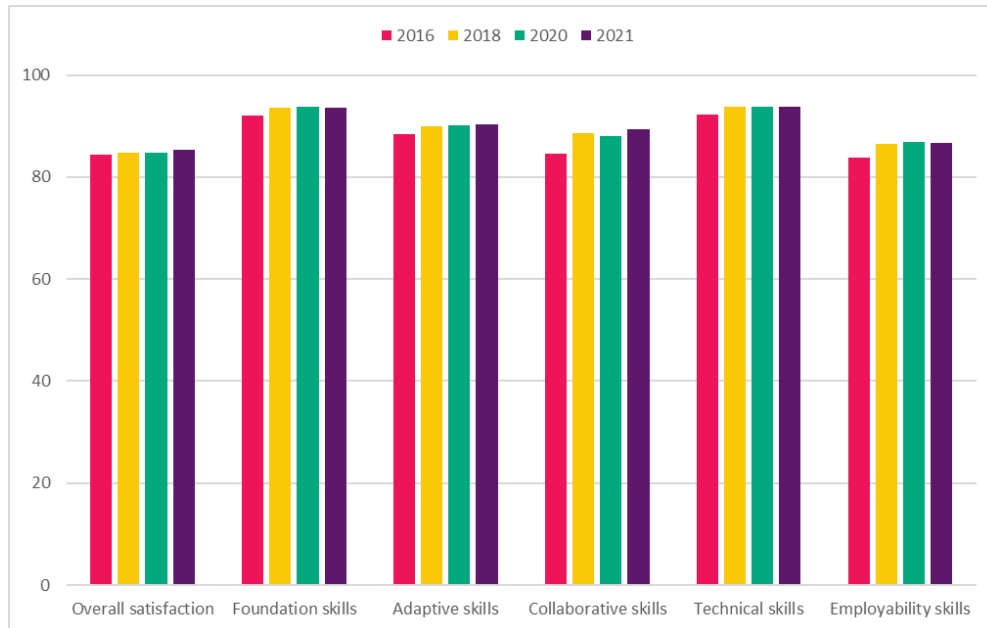
Figure 67: Undergraduate student experience, 2014 to 2020, per cent of positive rating



Source: SRC 2021, *2020 Student Experience Survey: National Report*

The *2021 Employer Satisfaction Survey* – which reported the views of 3,450 direct supervisors of recent graduates – found that 85.3 per cent of employers expressed overall satisfaction with their recent graduates in 2020, the highest satisfaction since the survey began in 2016 (Figure 68). In 2021, more than nine-in-ten supervisors (92.1 per cent) indicated that the graduate’s qualification prepared the graduate “very well” or “well” for their current employment.

Figure 68: Employer satisfaction with graduate attributes and overall satisfaction, per cent

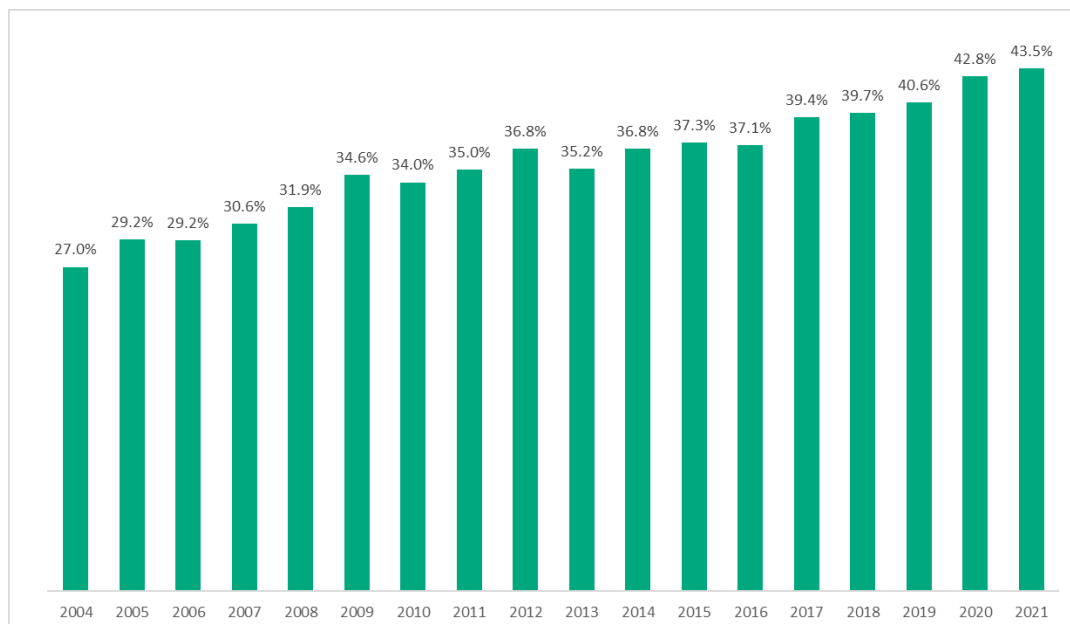


Source: SRC 2022, 2021 Employer Satisfaction Survey: National Report.

2.7 EDUCATIONAL ATTAINMENT

In 2021, 43.5 per cent of 25–34 years old had a Bachelor-level qualification or higher, up from 31.9 per cent in 2008. In 2021, 50.3 per cent of women aged 25–34 years old had a university qualification compared to just 36.6 per cent of men.

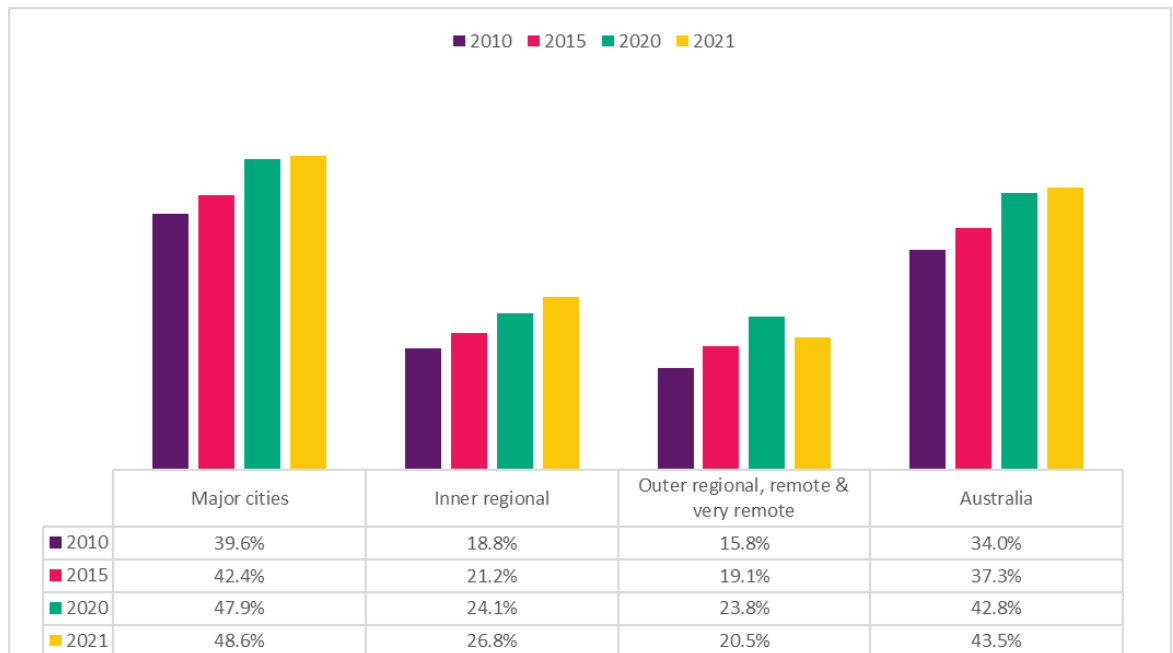
Figure 69: Proportion of people aged 25–34 years old with a Bachelor degree or higher, 2004 to 2021



Source: ABS, *Education and Work, Australia*, Cat. No. 6227.0, various years.

However, the 2021 national outcome masks wide variances in attainment levels across different geographic areas. While university attainment has increased across geographical locations since 2010, people in major cities remain twice as likely to hold a university degree as those in regional and remote areas. In 2021, the educational attainment rate in major cities was 48.6 per cent compared to 26.8 per cent in inner regional areas and 20.5 per cent in outer regional, remote and very remote locations (Figure 70).

Figure 70: Proportion of people aged 25–34 years old with a Bachelor degree or higher, by degree of remoteness

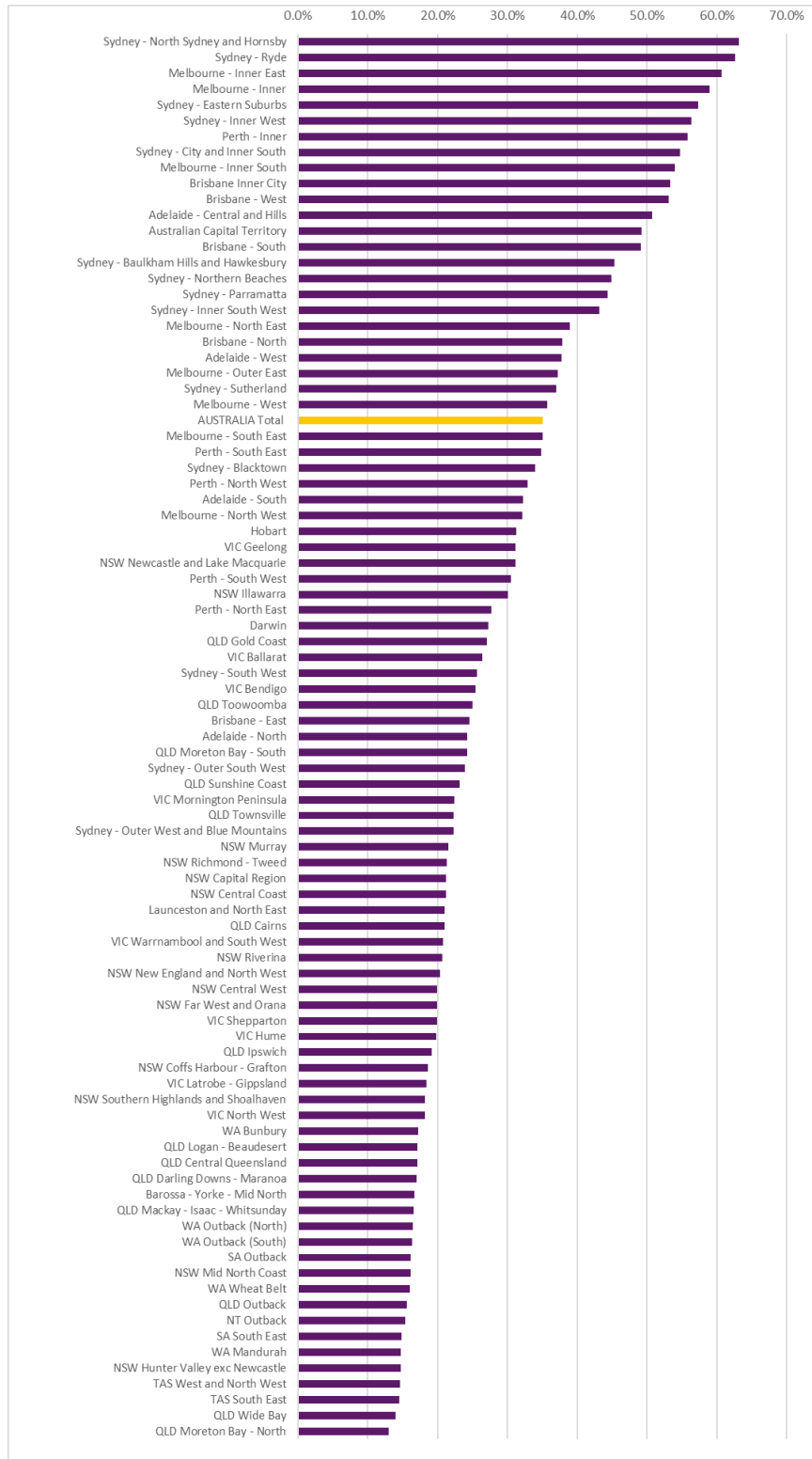


Source: ABS, *Education and Work, Australia*, Cat. No. 6227.0, various years.

According to the latest 2016 Census, university education attainment levels differ significantly depending on geographical location, ranging from 13 per cent to more than 60 per cent. Figure 71 shows that 63 of the 88 Statistical Area Level 4 regions had attainment levels below the nationwide average of 35 per cent in 2016 (Figure 71).

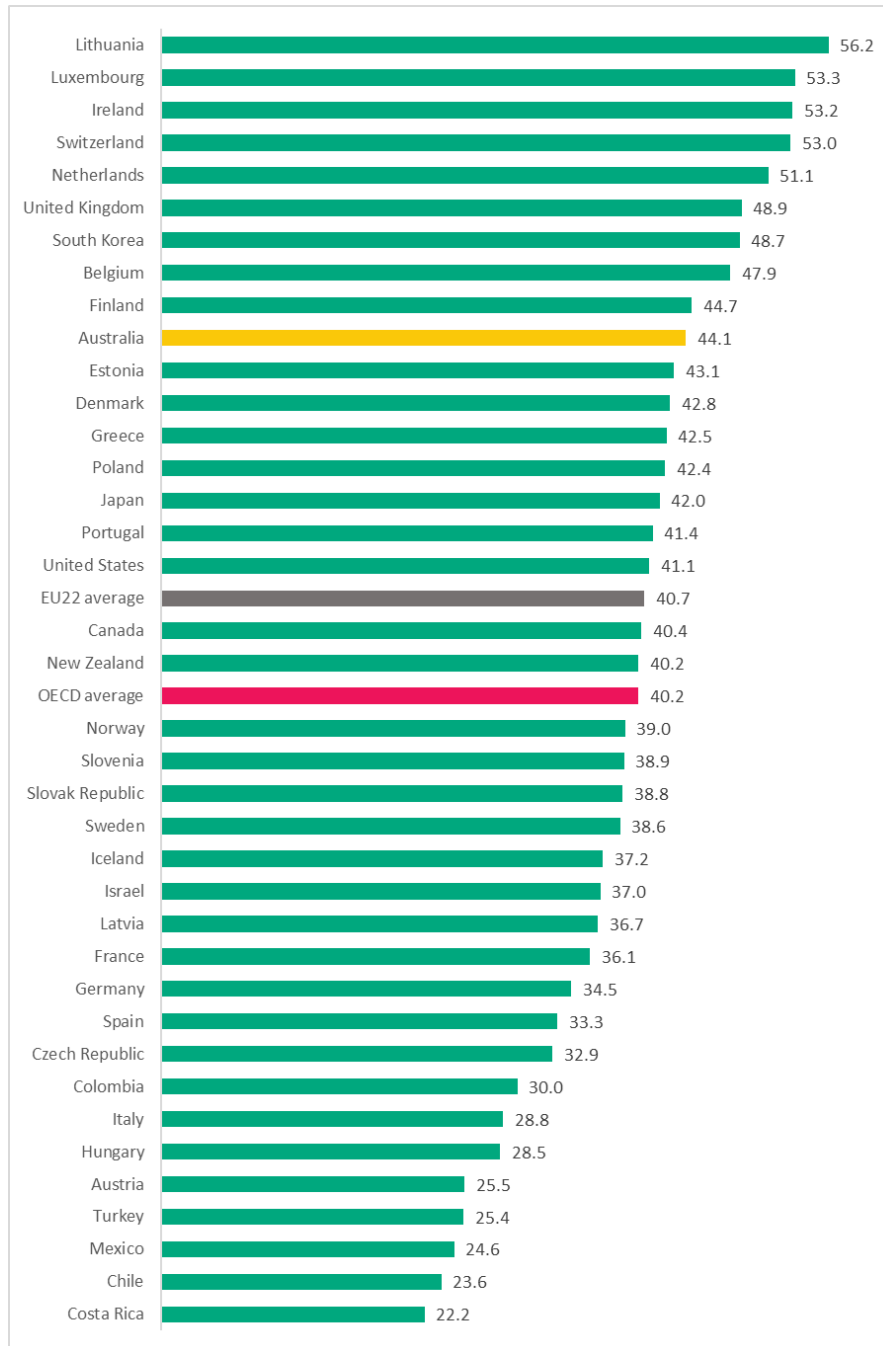
According to the latest *OECD 2021 Education at a Glance*, in 2020 the proportion of people aged 25 to 34 years old with a Bachelor degree or higher was 44.1 per cent in Australia, higher than the OECD average of 40.2 per cent (Figure 72). However, Australia's university attainment remains behind Ireland, Switzerland, the Netherlands, UK, South Korea, Belgium, and Finland.

Figure 71: Proportion of people aged 25–34 years old with a Bachelor degree or higher, by SA4 area, 2016



Source: ABS, Census of Population and Housing 2016, TableBuilder.
Note: Data are for Statistical Area Level 4 (SA4).

Figure 72: Proportion of people aged 25–34 years old with a Bachelor degree or higher, by OECD countries, 2020 or latest available



Source: OECD 2021, *Education at a Glance: Educational attainment and labour force status*, <http://stats.oecd.org/>, accessed on 30 September 2021.

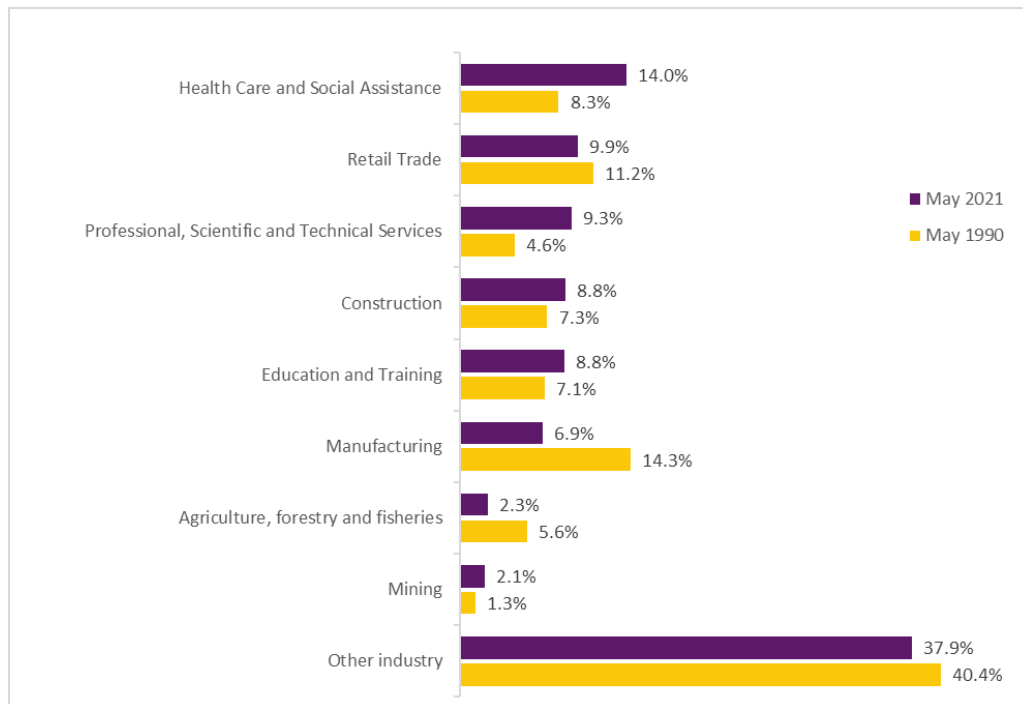
3 JOBS AND SKILLS

3.1 JOBS BY INDUSTRY

Figure 73 shows Australia's largest employing industries in May 2021 compared to in May 1990. In 2021, 14 per cent of Australian workers are employed in the Health Care and Social Assistance sector followed by 9.9 per cent working in Retail Trade; 9.3 per cent in Professional, Scientific and Technical Services industry; and 8.8 per cent respectively in Construction and Education and Training industry.

It is also evident from Figure 73 that more Australian workers are now working in the above industries compared to 1990, except for retail trade. The share of Australian workers employed in the manufacturing and agriculture sector has declined over the last thirty years, from 14.3 and 5.6 per cent in 1990 respectively to 6.9 and 2.3 per cent respectively in 2021.

Figure 73: Proportion of total employment by selected industry, May 1990 vs May 2021

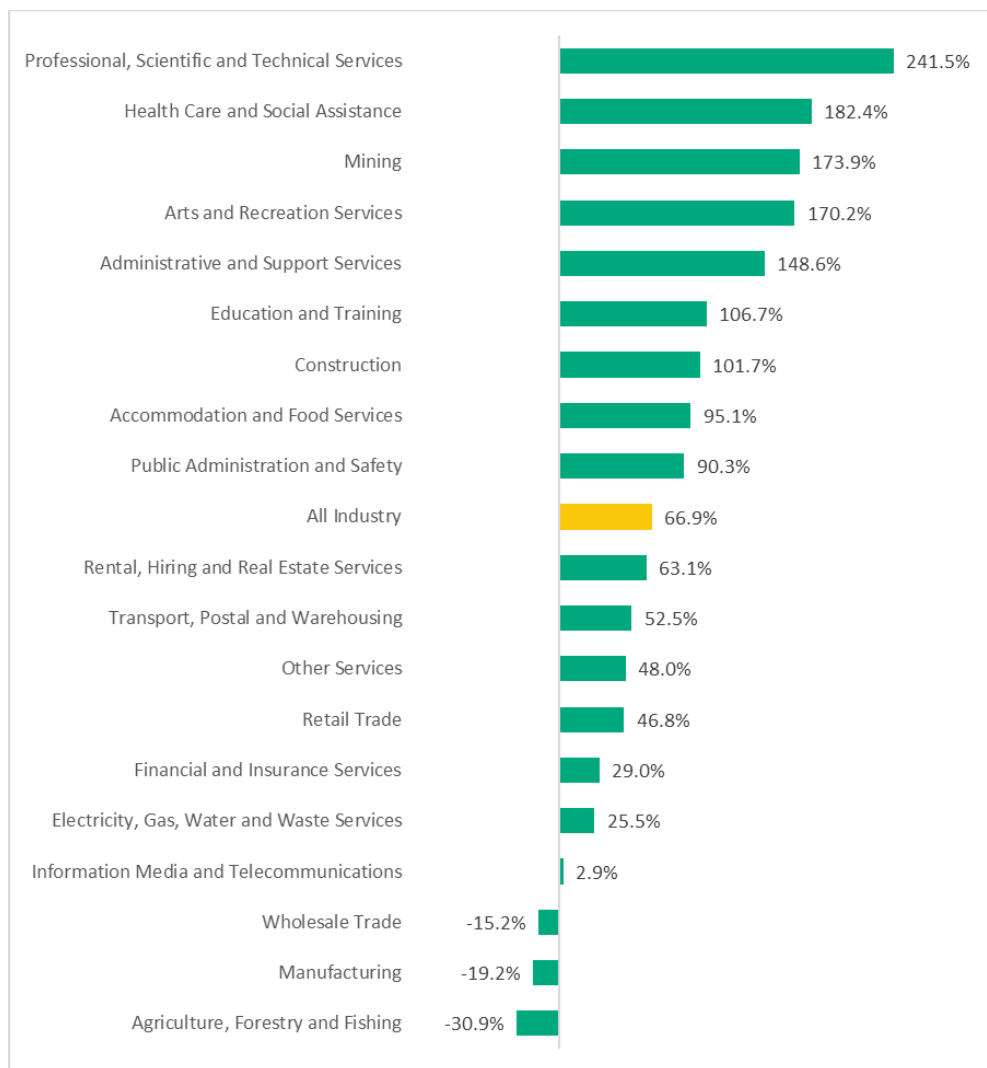


Source: ABS 2021, *Labour Force, Detailed, Australia*, Data Cube EQ09: Employed persons by Industry division (ANZSIC) and Occupation major group (ANZSCO) of main job and Sex, August 1986 onwards (Pivot Table).

Figure 74 shows total numbers of people employed in Australia have increased 66.9 per cent between 1990 and 2021, increasing from 7.9 million jobs in May 1990 to 13.2 million jobs in May 2021. Over this period, the largest growth in employment was in the Professional, Scientific and Technical Services industry (241.5 per cent), followed by Health Care and Social Assistance (182.4 per cent) and Mining industry (173.9 per cent). Employment in three industries has gone backward since 1990 – Wholesale Trade (-15.2 per cent), Manufacturing (-19.2 per cent) and Agriculture, Forestry and Fishing (-30.9 per cent).

The recent *Australian Jobs 2021* published by the National Skills Commission⁹ found that 63 per cent of workers in the Professional, Scientific and Technical Services industry and 51 per cent of workers in Health Care and Social Services have a university qualification. Around 43 per cent of workers in the Mining industry hold a Certificate III or higher vocational qualification, and 25 per cent have a university qualification.

Figure 74: Growth in total employment by industry, May 1990 to May 2021



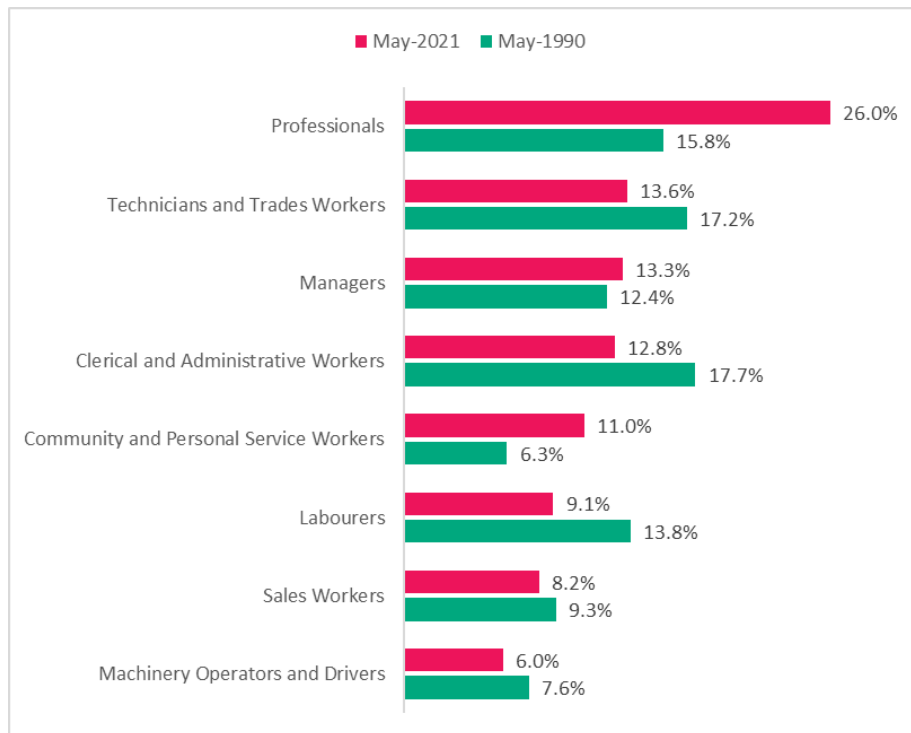
Source: See Figure 73.

⁹ National Skills Commission 2021, *Australian Jobs 2021*, Canberra.

3.2 JOBS BY OCCUPATION

In 2021, Professionals is the largest employing occupation group in Australia, accounting for one in every four workers, compared to just 15.8 per cent in 1990. Around 13 per cent of Australia’s workers are employed respectively as Technicians and Trade Workers (13.6 per cent), Managers (13.3 per cent) and Clerical and Administrative Workers (12.8 per cent) (See Figure 75).

Figure 75: Share of total employment by occupations, May 1990 vs May 2021



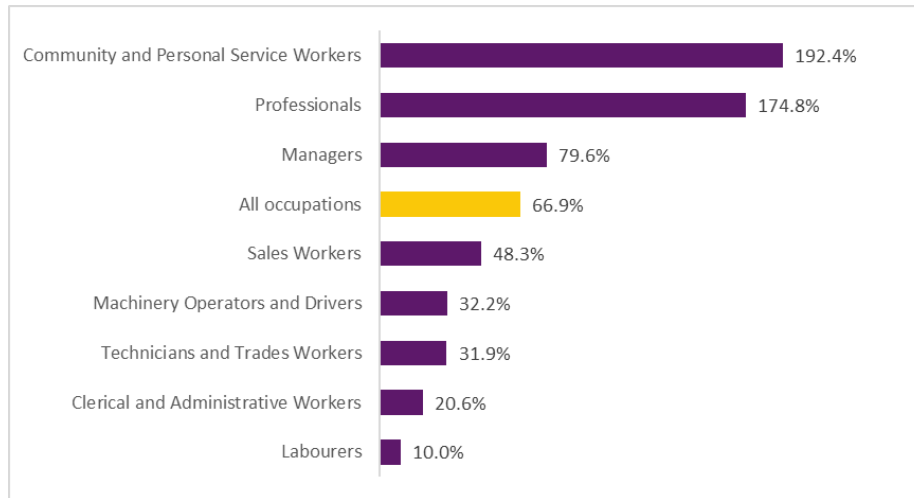
Source: See Figure 73.

Three occupation groups have experienced above average employment growth since 1990 – Community and Personal Service Workers and Professionals jobs have increased by 192.4 and 174.8 per cent respectively; followed by 79.6 per cent growth in Managerial jobs (See Figure 76).

Most Professional jobs require a Bachelor degree or higher qualification (78 per cent of Professionals have this level of qualification), so university study is the main pathway for employment in this occupation group. The majority of Managers hold a post school qualification – with 40 per cent of managers having a university qualification and a further 30 per cent having a Certificate III or higher vocational qualification.

Community and Personal Service Workers provide a wide range of services, including in the areas of aged and disability care, health and social welfare, childcare, hospitality, policing, tourism and sports. Employment is largely concentrated in two industries – 40 per cent were employed in Health Care and Social Assistance and 18 per cent were in Accommodation and Food Services. Given the diverse range of services provided by workers in this occupation group, entry or education pathways are varied. Around 47 per cent of workers have a Certificate III or higher vocational qualification, 23 per cent have a bachelor degree or higher and 25 per cent do not hold a post-school qualification.

Figure 76: Growth in total employment by occupations, May 1990 to May 2021



Source: See Figure 73.

3.3 JOBS IN SKILLS PRIORITY LISTS AND SKILL LEVELS

Figure 77 shows the proportion of jobs or occupations on various skills priority lists by skill level as of June 2021. We have included occupations from the following skills priority lists in our analysis:

- Department of Home Affairs Priority Migration Skills Occupation List (PMSOL);¹⁰
- Department of Home Affairs Medium and Long-term Strategic Skills List (MLTSSL) and Short-term Skilled Occupation List (SSOL);¹¹ and
- National Skills Commission (NSC) *2021 Skills Priority List*.¹²

Majority of the occupations in various skills priority list required a university qualification, including:

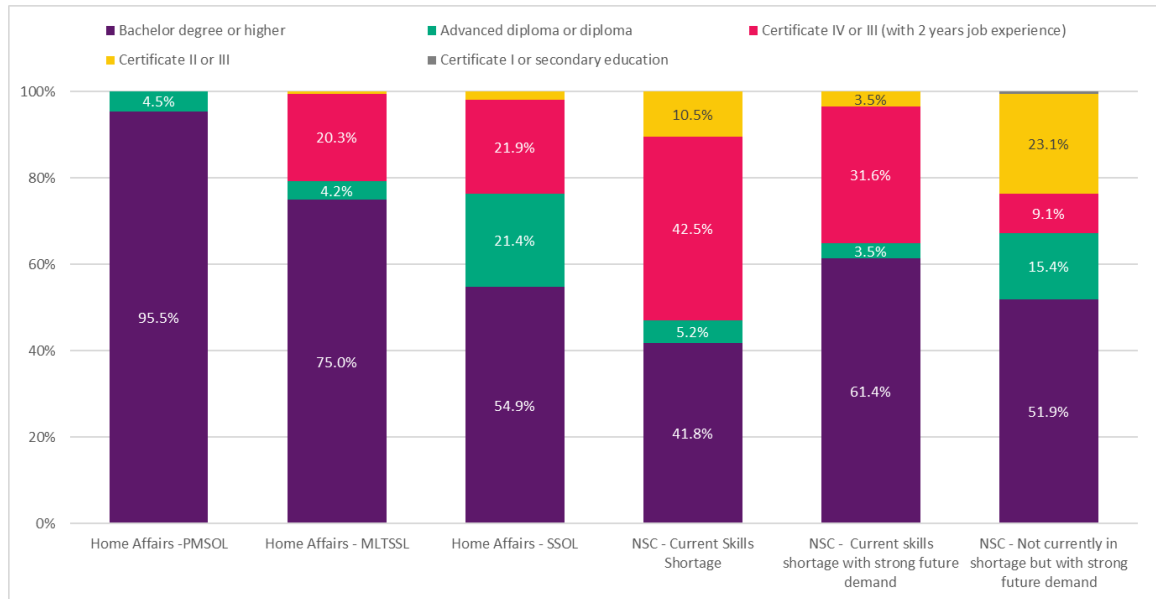
- 95.5 per cent of occupations on PMSOL;
- 75 per cent and 54.9 per cent of occupations on the MLTSSL and SSOL respectively;
- 41.8 per cent of occupations on the National Skills Commission (NSC)'s current skills shortage list;
- 61.4 per cent of occupations which assessed by the NSC as currently in shortage with strong future demand; and
- 51.9 per cent of occupations which assessed by the NSC as not currently in shortage but with strong future demand.

¹⁰ <https://immi.homeaffairs.gov.au/visas/employing-and-sponsoring-someone/sponsoring-workers/pmsol>

¹¹ Migration (LIN 19/051: Specification of Occupations and Assessing Authorities) Instrument 2019, <https://www.legislation.gov.au/Details/F2019C00855>

¹² <https://www.nationalskillscommission.gov.au/2021-skills-priority-list>

Figure 77: Proportion of jobs on various skills priority lists, by skill level, June 2021



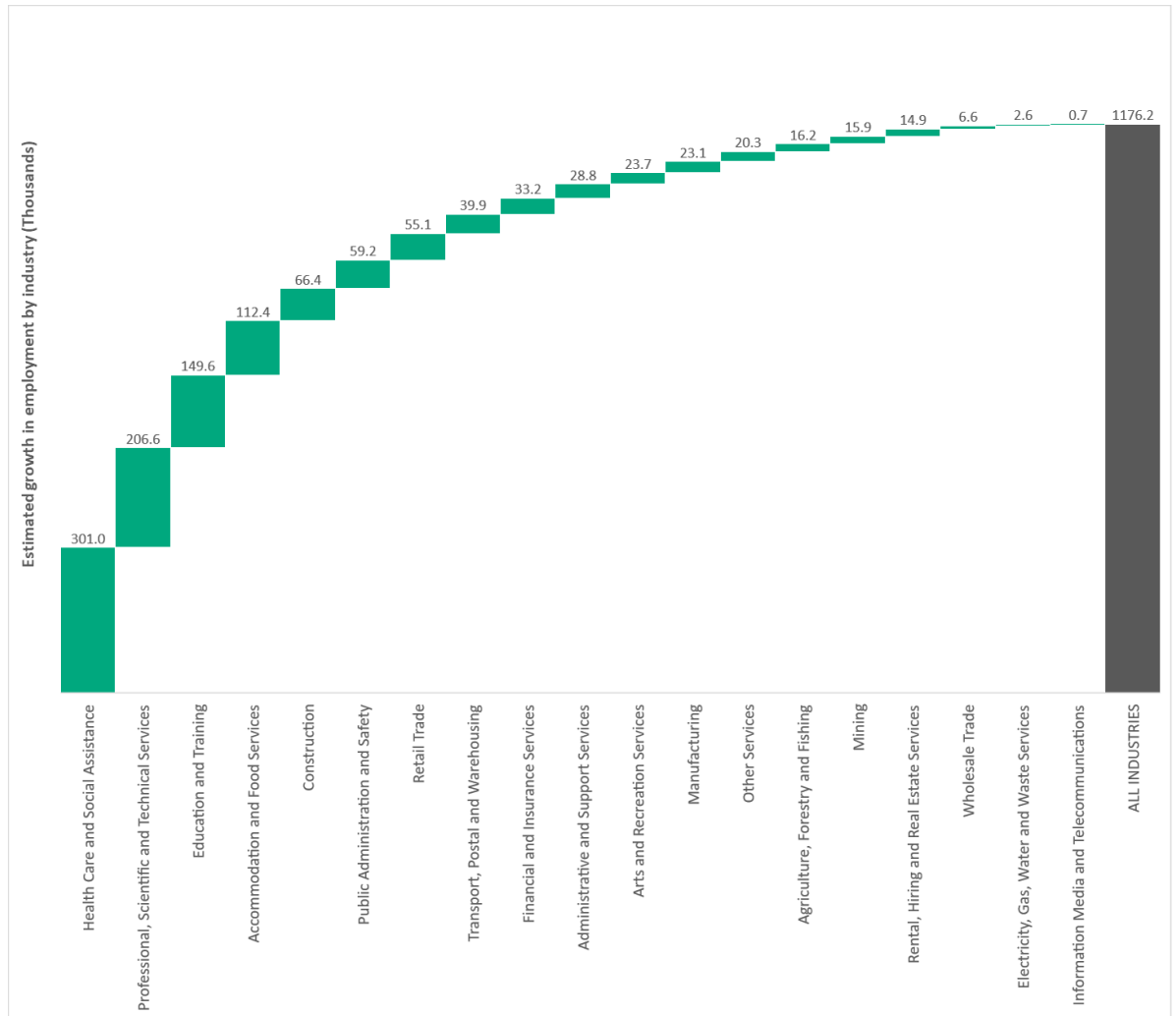
Source: UA analysis based on data matching of occupations on the Department of Home Affairs' and National Skill Commission's Skill shortage lists and Skill level as reported in the Australian Bureau of Statistics ANZSCO - *Australian and New Zealand Standard Classification of Occupations Version 1.3*.

3.4 PROJECTED EMPLOYMENT GROWTH TO NOVEMBER 2026

According to the National Skills Commission (NSC), Australia's total employment is projected to increase by 9.1 per cent or more than one million jobs (1,176,200) over the next five years, from 12.95 million jobs in November 2021 to 14.1 million jobs in November 2026.

Figure 78 shows the projected employment growth over the next five years to November 2026 for different industries. Health Care and Social Assistance industry is expected to experience the largest employment growth (301,000 jobs), followed by Professional, Scientific and Technical Services (206,600 jobs) and Education and Training (149,600 jobs). The top five growth industries collectively represent over 70 per cent of the total projected employment growth over the next five years.

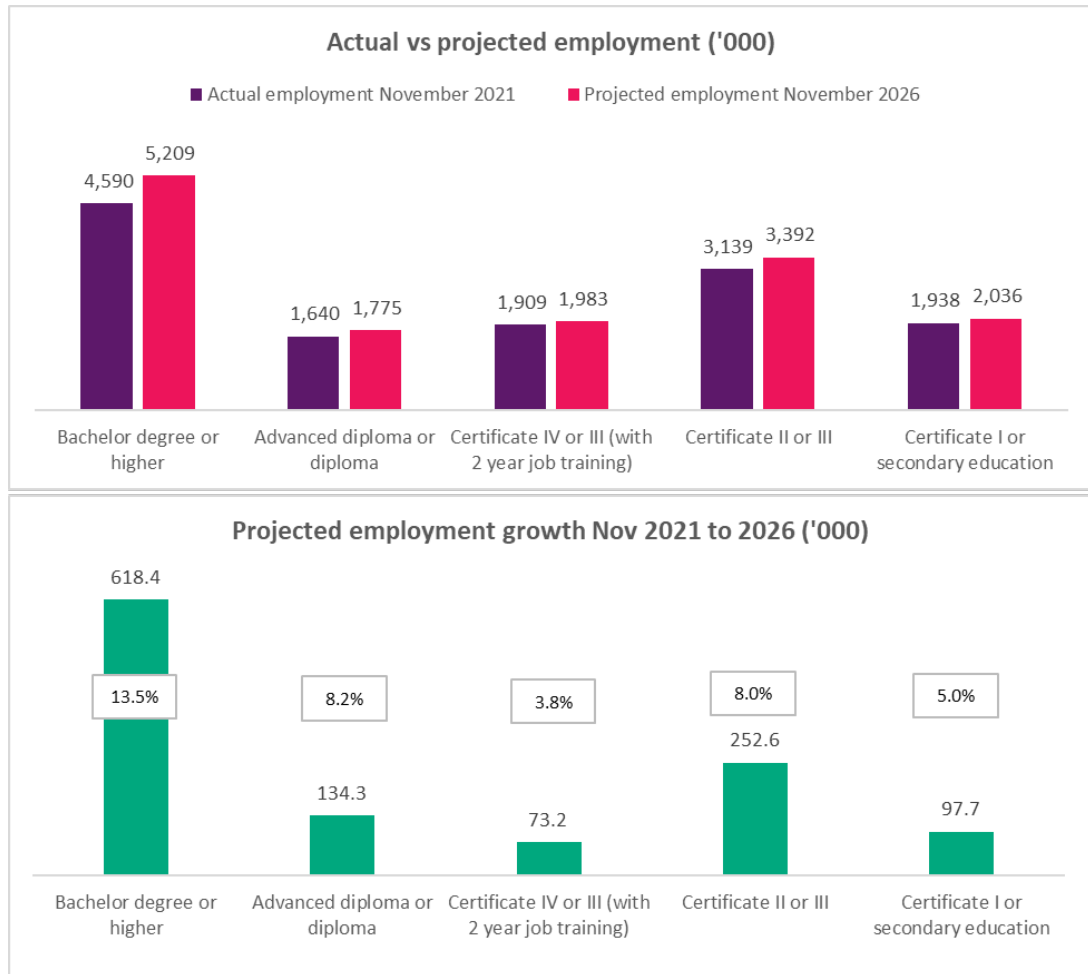
Figure 78: Projected employment growth – five years to November 2026 – by industries (in thousands)



Source: National Skills Commission 2022, *2021 Employment Projections: for the five years to November 2026*, Labour Market Insights.

Figure 79 shows the NSC’s employment projections over five years to November 2026 by skill levels. It is projected that 52.6 per cent of the 1.18 million job increases over the next five years will require a Bachelor degree or higher. The number of jobs which require a university degree is projected to increase by 13.5 per cent (or 618,400 jobs), from 4.59 million jobs in November 2021 to 5.21 million jobs in November 2026. A further 21.5 per cent of total employment growth over the next five years – or 252,600 jobs – will require a Certificate II or III qualification.

Figure 79: Actual and projected employment by skill levels, November 2021 vs November 2026



Source: Figure 79

Note: The percentages in the square brackets are growth in projected employments between November 2021 and November 2026

4 SCIENCE, RESEARCH AND INNOVATION

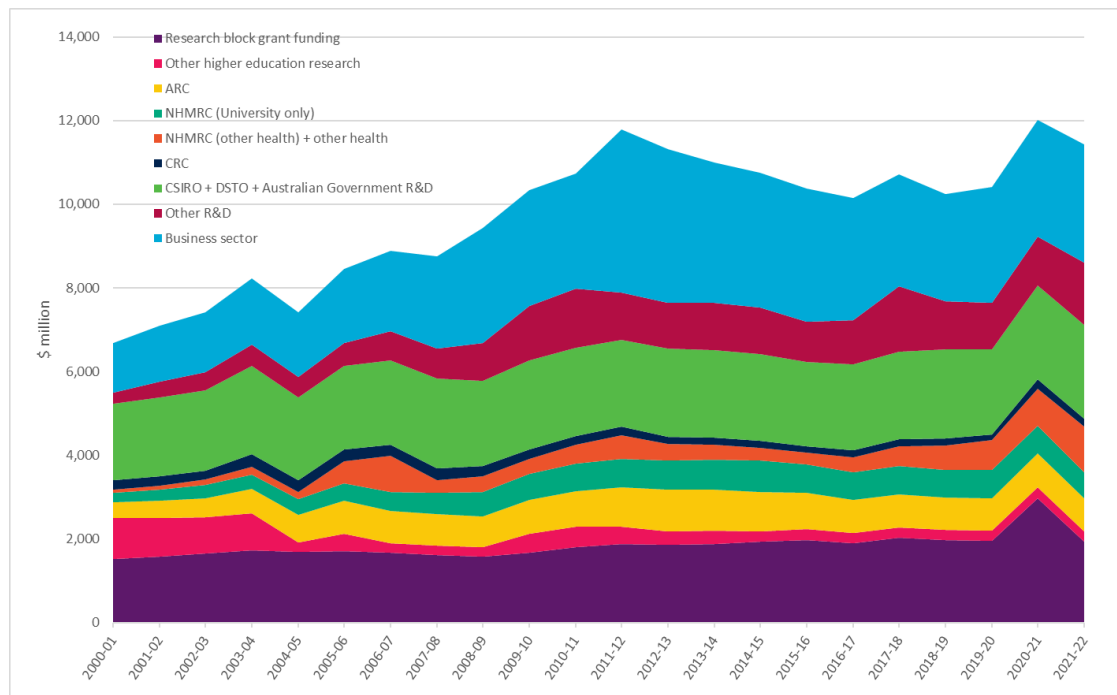
4.1 AUSTRALIAN GOVERNMENT SUPPORT FOR SCIENCE, RESEARCH AND INNOVATION

Total Australian Government spending on science, research and innovation (SRI) increased in real terms from \$6.7 billion in 2000–01 to a peak of \$11.8 billion in 2011–12 before declining to an estimated \$10.1 billion in 2016–17, the lowest level since 2009–10. Spending rose to just over \$12 billion in 2020–21, mainly due to the \$1 billion one-off funding injection to the Research Support Program. Australian Government support for SRI has since declined by 4.9 per cent in real terms to \$11.4 billion in 2021–22 (Figure 80).

Total Australian Government funding for university research – including research block grants and competitive grants (primarily from the Australian Research Council (ARC) and National Health and Medical Research Council (NHMRC)) – increased by 16.3 per cent in real terms, from around \$3.1 billion in 2000–01 to an estimated \$3.6 billion in 2021–22.

Over the same period, support to encourage innovation in business has increased 139 per cent from around \$1.2 billion in 2000–01 to \$2.8 billion a year in 2021–22. However, the principal mechanism for encouraging business R&D – the research and development tax incentive (RDTI) – peaked in 2011–12 at \$3.5 billion and has dropped 19 per cent in real terms over the past decade.

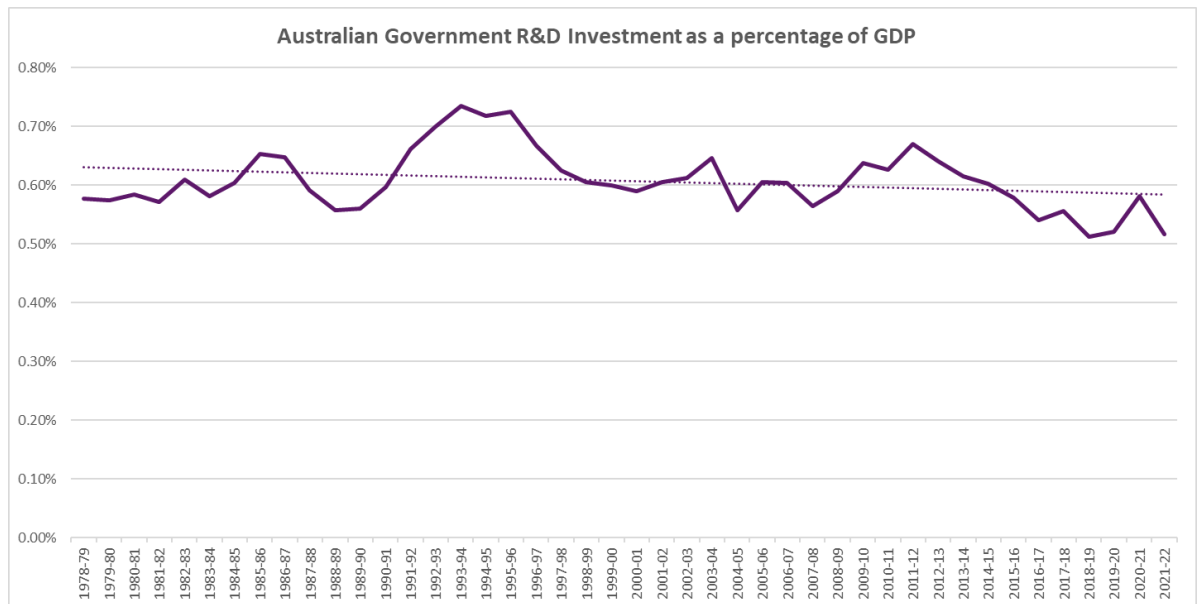
Figure 80: Australian Government support for science, research and innovation, in 2020 dollars



Source: Department of Industry, Science, Energy and Resources 2021, 2021–22 SRI Budget Tables.

Despite the growth in investment, Figure 81 shows total Australian government investment in science, research and innovation has not kept pace with the growth in the size of Australian economy. Total SRI spending declined from 0.59 per cent of GDP in 2000–01 to 0.51 per cent of GDP in 2018–19 – the lowest in four decades – before rising marginally to an estimated 0.52 per cent of GDP in 2021–22.

Figure 81: Australian Government support for SRI, per cent of GDP



Source: UA analysis based on Department of Industry, Science, Energy and Resources 2021, *2021–22 SRI Budget Tables* and ABS 2022, *Australian National Accounts: National Income, Expenditure and Product December 2021*, Table 36.

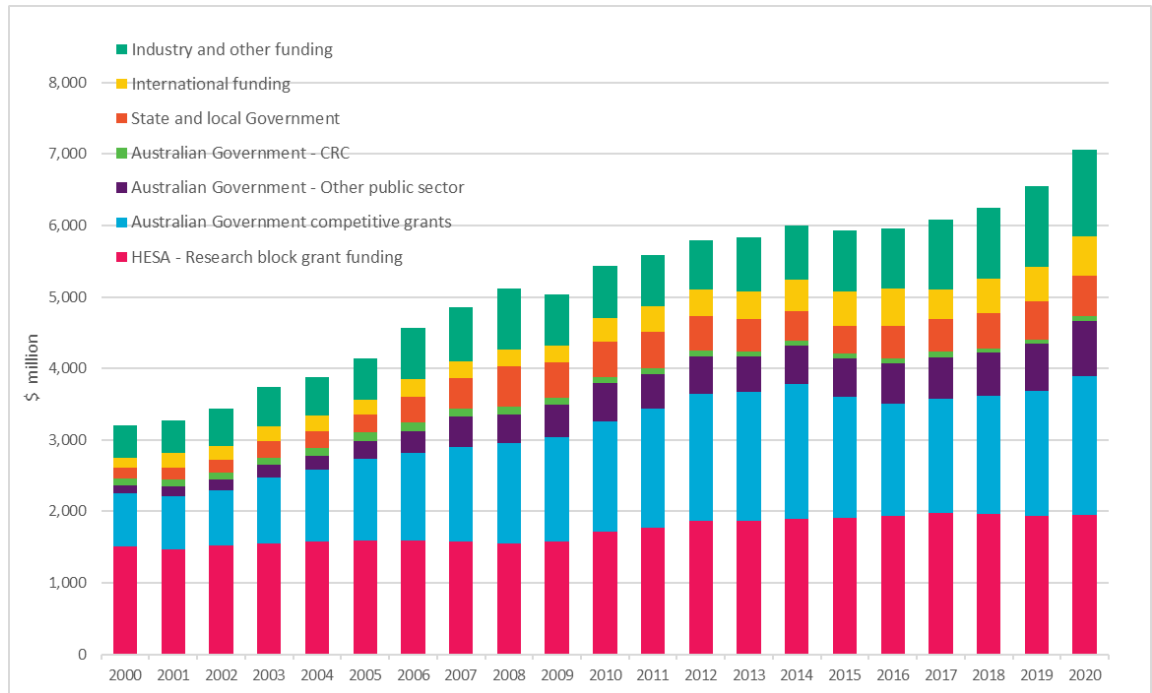
4.2 SOURCES OF UNIVERSITY RESEARCH INCOME

Since 2000, total research income received by universities has increased by 120.3 per cent – in real terms – to \$7.1 billion in 2020. There are large differences in how the various components of this income have grown over time.

Income from Australian Government competitive grants – for example, from the ARC, NHMRC and Medical Research Future Fund (from 2018) – has more than doubled in real terms from \$740 million in 2000 to \$1.95 billion in 2020. However, income from research block grants only – both for research support and research training – increased by 29.3 per cent from 2000 to \$1.95 billion in 2020. Although ‘Australian Government–Other public sector’ income accounts for only \$770 million of total research income in 2020, it has increased more than six-fold since 2000.

Research income from all sources other than the Commonwealth Government has more than tripled – in real terms – from \$748 million in 2000 to \$2.3 billion in 2020 (see Figure 82).

Figure 82: Sources of university research income, in 2020 dollars



Source: Department of Education, Skills and Employment 2021, *Higher Education Research Data Collection (HERDC) – Research Income Data, 1994–2020* and DESE 2021, *Research Block Grants Allocations, 2001–2022*.

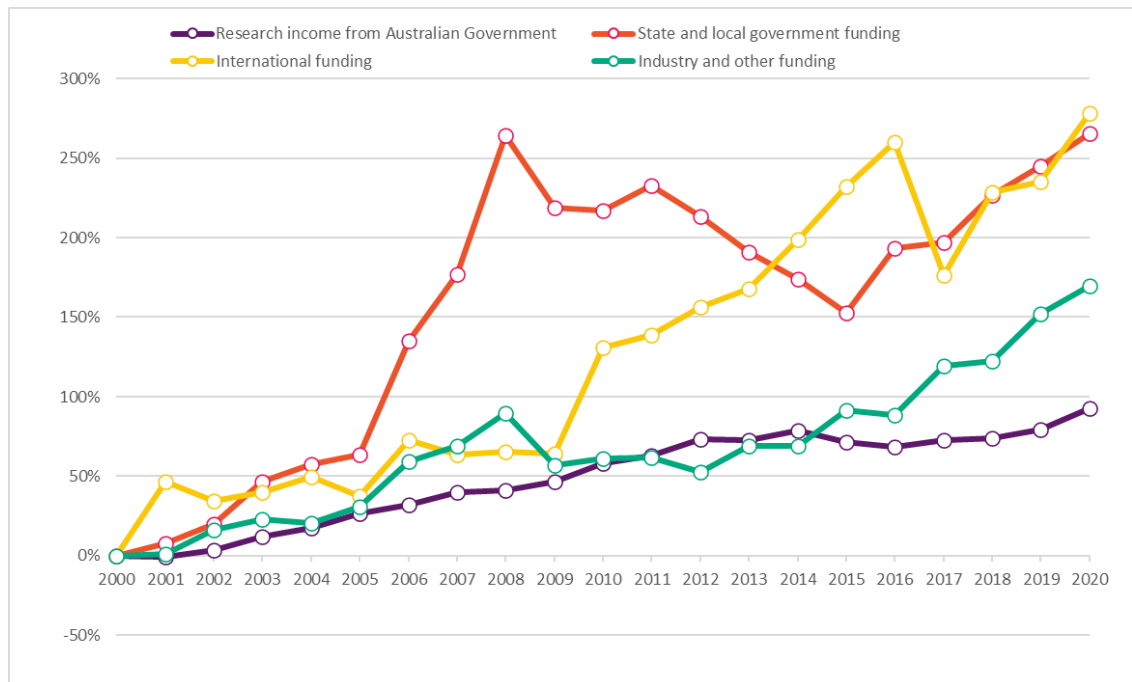
Notes:

- a. Research block grant funding is as defined under the *Higher Education Support Act (HESA) 2003*.
- b. All other categories of research income are defined using the HERDC specifications. There are minor clarifications of the definitions in some years but the concepts behind the classification remain largely unchanged.
 - i. Australian Government income is separately identified for Australian competitive grants (HERDC Category 1); Other public sector (HERDC Category 2); and CRC (HERDC Category 4). HERDC Category 3 does not include any income from Governments.
 - ii. State and local government is defined as local and state government income from within HERDC Category 1 and Category 2.
 - iii. International funding is defined as International income from within HERDC Category 3.
 - iv. Industry and other funding includes Non-Commonwealth competitive income within HERDC Category 1, all HERDC Category 3 income excluding International funding, and CRC income from non-Commonwealth source within HERDC Category 4.

Figure 83 shows total university research income sourced from the Australian Government increased by 93 per cent in real terms, from \$2.46 billion in 2000 to \$4.73 billion in 2020. It constituted 67.1 per cent of universities’ total research income in 2020.

The next largest source of research income is ‘Industry and other funding’, representing 17 per cent of universities’ total research funding in 2020 (\$1.2 million). It has more than doubled in real terms since 2000. The share of total research income sourced from industry has also increased from 14.2 per cent in 2016 to 17.2 per cent in 2020. Income sourced from state and local government and from overseas sources have more than tripled respectively over the same period (albeit from a low base).

Figure 83: Growth in sources of funding for university research since 2000, in 2020 dollars



Source: See Figure 82.

Note: Research income from Australian Government includes research block grant funding plus all HERDC income sourced from the Australian Government.

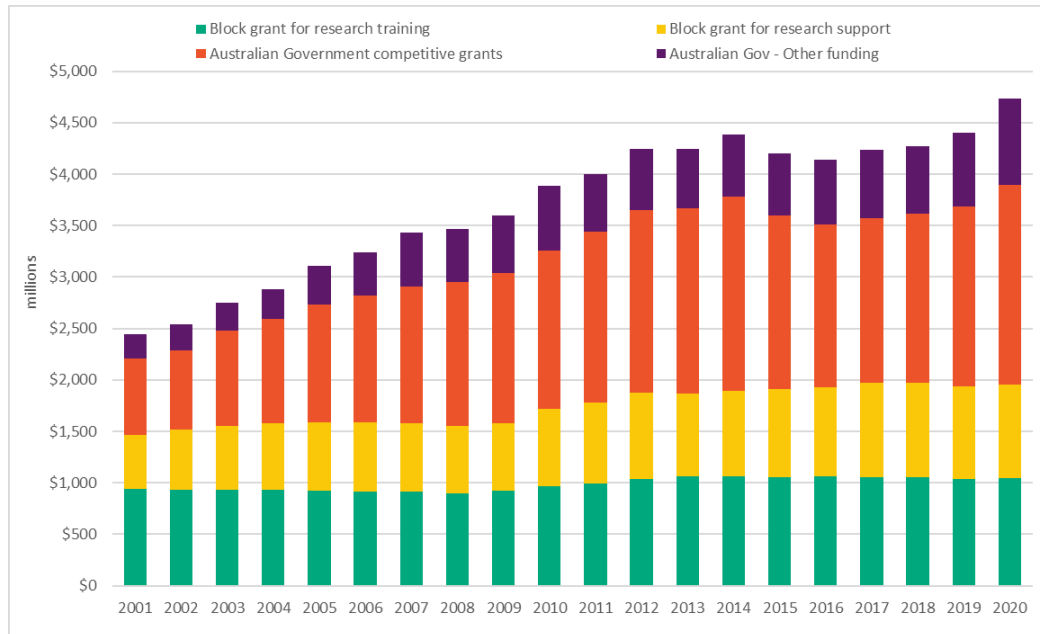
4.2.1 CHANGING COMPOSITION OF AUSTRALIAN GOVERNMENT FUNDING FOR UNIVERSITY RESEARCH

Figure 84 shows that while the real value of total research income sourced from the Australian Government increased by 93.8 per cent between 2001 and 2020, most of the growth has occurred in Australian Government competitive grants, which grew from \$740 million in 2001 to \$1.95 billion in 2020 – a real increase of 163 per cent.

Block grant funding for research support has increased by 72.5 per cent, from \$527 million in 2001 to \$909 million in 2020. However, block grant funding for research training only increased by 11.2 per cent over the same period, from \$940 million in 2001 to just over \$1.04 billion in 2020. Block grant funding from research training has declined in real terms since 2014.

In 2020, 41.1 per cent of total university research income from the Australian Government was competitive grants, another 41.3 per cent was research block grant funding – research support and research training – and the remaining 17.6 per cent was made up of other government funding, including Cooperative Research Centres (CRC).

Figure 84: Composition of research income sourced from Australian Government, in 2020 dollars



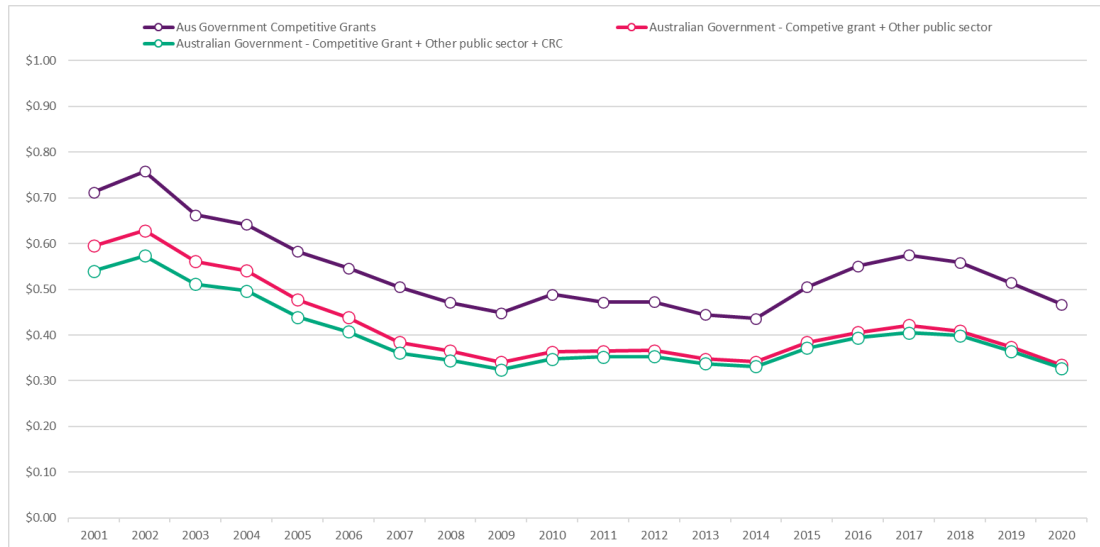
Source: DESE 2021, *Higher Education Research Data Collection (HERDC) – Research Income Data, 1994 – 2020* and DESE 2021, *Research Block Grants Allocations, 2001–2022*.

Note: Block grant for research training includes the former Research Training Scheme, the Australian Postgraduate Awards and International Postgraduate Research Scholarships. Block grant for research support includes the former Research Infrastructure Block Grant, Joint Research Engagement Scheme and Sustainable Research Excellence. Australian Government competitive grants are HERDC Category 1 income from Australian Government. Australian Government–Other funding includes HERDC Category 2 (Other public sector) and Category 4 income (CRC) sourced from Australian Government.

Figure 85 shows the block grant funding for research support as a proportion of other Australian Government research grants – i.e., Australian Government competitive grants (HERDC Category 1 income), Australian Government – Other public sector grants (HERDC Category 2 income) and funding for Cooperative Research Centre (CRC) sourced from Australian Government (HERDC Category 4 income).

Figure 85 shows the block grant for research support has not kept pace with the increase in other Australian Government research grants. Block grants for research support as a proportion of Australian Government’s competitive grants have declined from 76 cents to a dollar of competitive grant in 2002, to just 47 cents in 2020. If we include all research grants sourced from Australian Government, the ratio has declined from 57 cents in 2002 to just 33 cents in 2020.

Figure 85: Block grant for research support as a proportion of Australian Government research grants, in 2020 dollars



Source: See Figure 84

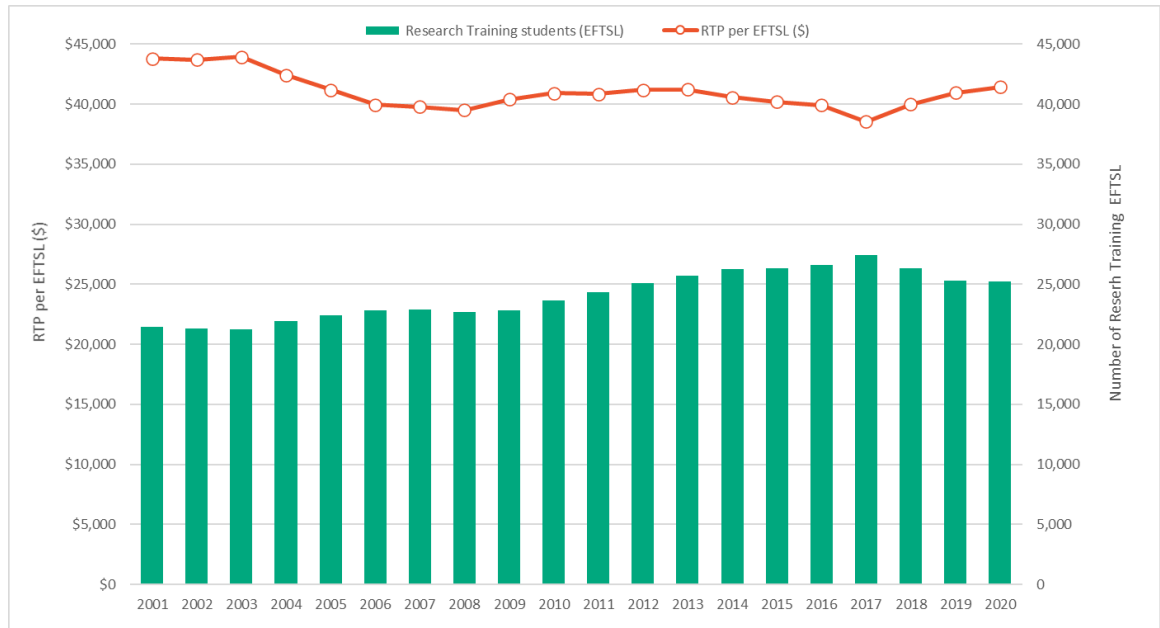
4.2.2 GOVERNMENT FUNDING TO SUPPORT RESEARCH TRAINING

Figure 86 shows the number of research training students increased by 28 per cent, from around 21,450 in 2001 to 27,418 EFTSL in 2017. The number of research training students has declined by eight per cent since 2017 to 25,207 EFTSL in 2020, the lowest since 2013.

Australian Government funding to support the training of Australia's future researchers only increased 11 per cent in real terms between 2001 and 2020. As such, research training funding per student declined by 12 per cent in real terms from \$43,799 in 2001 to \$38,542 in 2017, before increasing to \$41,438 in 2020 due to the decline in the number of research training EFTSL.

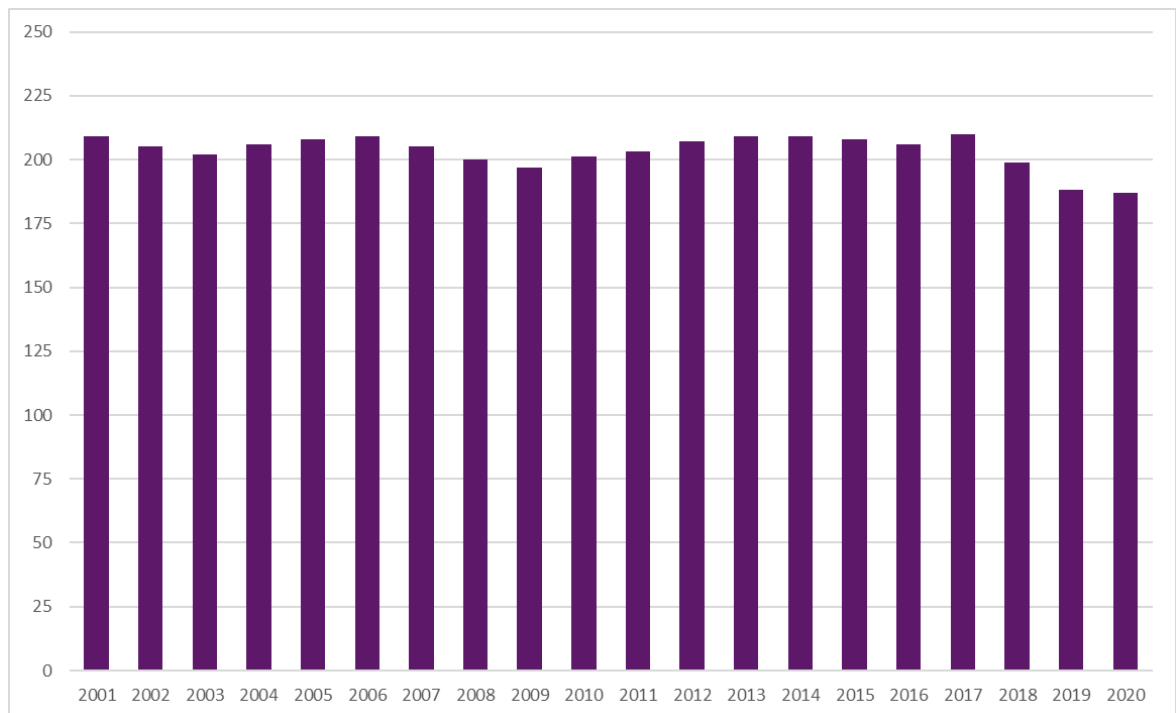
Despite the growth in the absolute number of research training students between 2001 and 2017, the number of research training students as a share of working age population has remained relatively unchanged – at around 200 per 100,000 population aged 25–64 years old. The fall in research training EFTSL since 2017 has caused the number of research training students per population declining from 210 research training student per 100,000 population aged 25–64 years old in 2017 to 187 students in 2020 (Figure 87).

Figure 86: Research training funding per student, in 2020 dollars



Source: DESE 2021, *Research Block Grants Allocations, 2001–2022* and DESE 2022, *Visual Analytics – Load Time Series*.

Figure 87: Number of research training students per 100,000 population aged 25–64 years



Source: DESE 2022, *Visual Analytics—Load Time Series*; ABS 2015, *Australian Historical Population Statistics 2014*, Cat. No. 3105.0.65.001, ABS, *Australian Demographic Statistics*, June and ABS, *Data Explorer – Quarterly Population Estimates*, accessed on 24 January 2022 (various years).

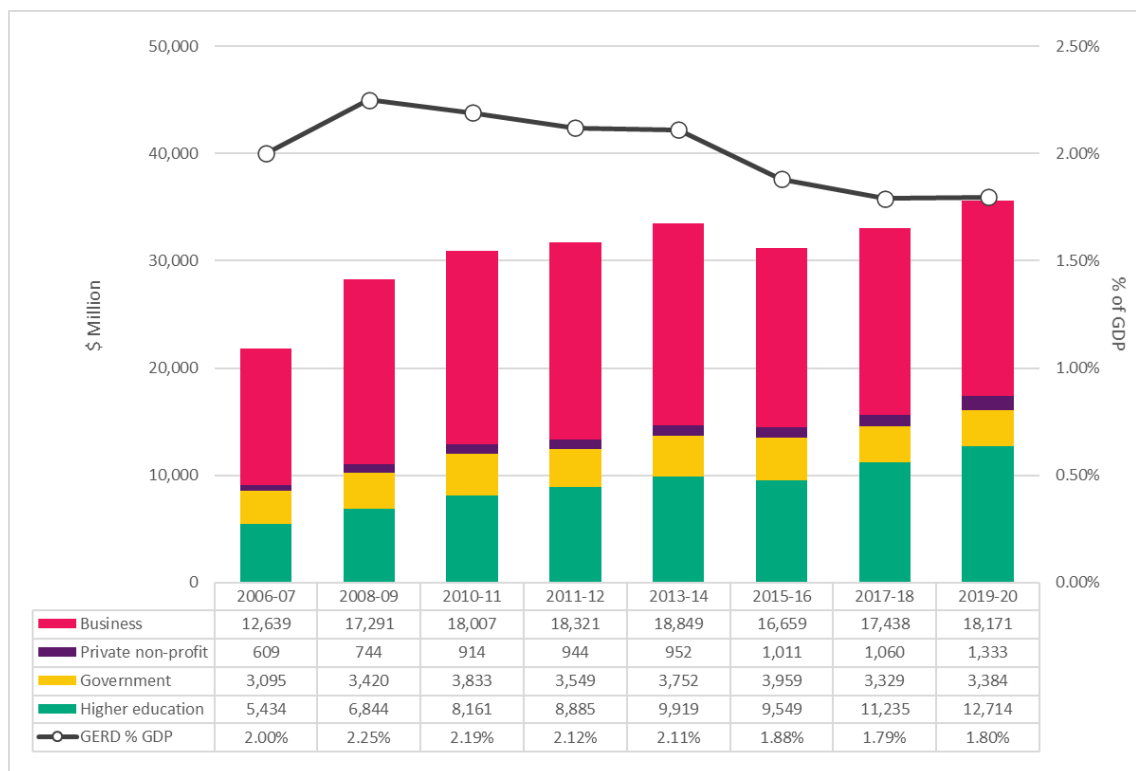
4.3 AUSTRALIA’S GROSS EXPENDITURE ON RESEARCH AND DEVELOPMENT

Despite the growth in government incentives to encourage business research and development (R&D), Australia’s business expenditure on R&D (BERD) is going backwards. The latest ABS data shows that BERD declined by 3.6 per cent between 2013–14 and 2019–20 – or \$678 million – from \$18.8 billion to \$18.2 billion.

While 61 per cent of Australia’s gross or overall expenditure on R&D (GERD) was contributed by the business sector in 2008–09, this proportion had declined to 51 per cent by 2019–20. On the other hand, the higher education sector has increased its contribution to the nation’s research effort, from 24 per cent in 2008–09 to 36 per cent in 2019–20.

Australia’s overall investment in R&D as a percentage of GDP has declined from 2.25 per cent in 2008–09 to around 1.8 per cent in 2019–20.

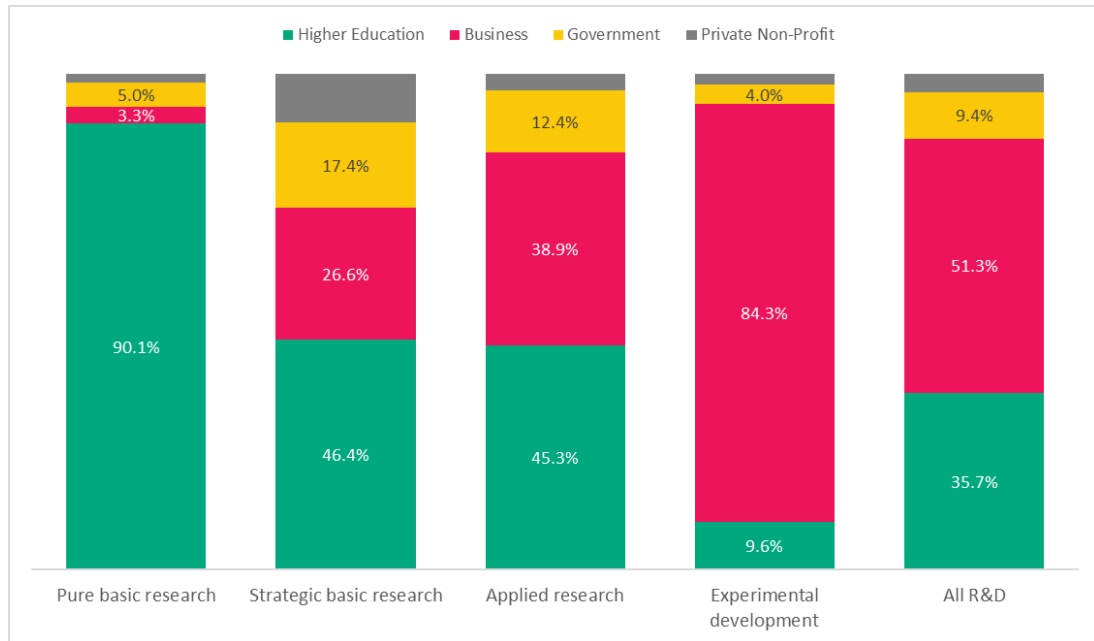
Figure 88: Composition of Australia’s gross expenditure on research and development (GERD), in nominal dollars



Source: UA analysis based on ABS 2021, *Research and Experimental Development, Businesses, Australia, 2019–20*, and ABS 2022, *Australian National Accounts: National Income, Expenditure and Product December 2021*, Table 36.

Latest ABS figures show that Australia spent \$14.8 billion on applied research, \$13.1 billion on experimental development, \$4.8 billion on strategic basic research and just \$2.7 billion on pure basic research. Universities perform 45.3 per cent of all applied research in Australia compared to 38.9 per cent by businesses. Businesses are most active in the experimental development area of research, comprising 84.3 per cent nationally. Universities now perform 90 per cent of pure basic research in Australia (Figure 89).

Figure 89: Share of research and development expenditure, by type of activity and sector, latest available



Source: UA analysis based on ABS 2021, *Research and Experimental Development, Businesses, Australia, 2019–20*, ABS 2022, *Research and Experimental Development, Higher Education Organisations, Australia, 2020*, and ABS 2020, *Research and Experimental Development, Government and Private Non-Profit Organisations, Australia, 2018–19*.

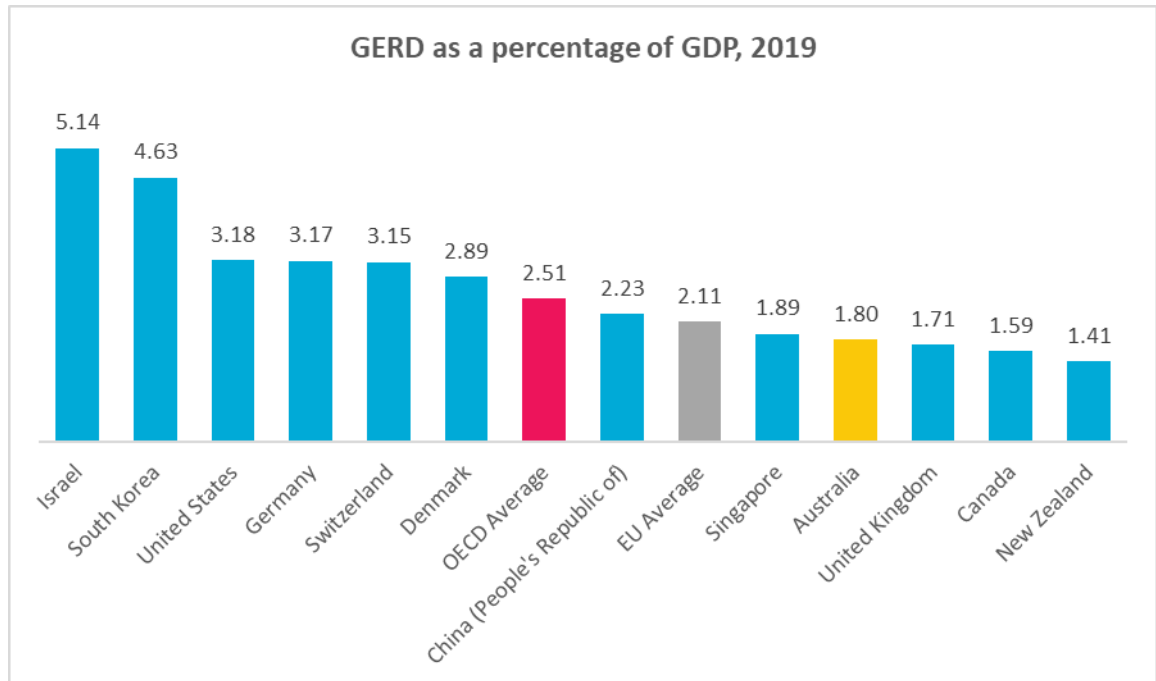
4.3.1 INTERNATIONAL COMPARISONS

Australia’s gross or overall investment on research and development (GERD) as a percentage of GDP has declined from a peak of 2.25 per cent in 2008 to just 1.8 per cent in 2019; while the overall R&D investment for average OECD countries increased steadily from 2.27 per cent to 2.51 per cent over the same period. Figure 90 shows Australia’s overall investment in research and development also lagged significantly behind innovation leaders in 2019 – Israel (5.14 per cent), South Korea (4.63 per cent), the United States (3.18 per cent), Germany (3.17 per cent) and Switzerland (3.15 per cent).

Australia’s higher education sector expenditure on research and development (HERD) as a percentage of GDP was 0.64 per cent in 2019, increasing from 0.54 per cent in 2008. In 2019, Australia’s HERD was higher than the OECD average of 0.41 per cent but remains below Denmark (1.00 per cent), Switzerland (0.91 per cent) and Canada (0.66 per cent) (see Figure 91).

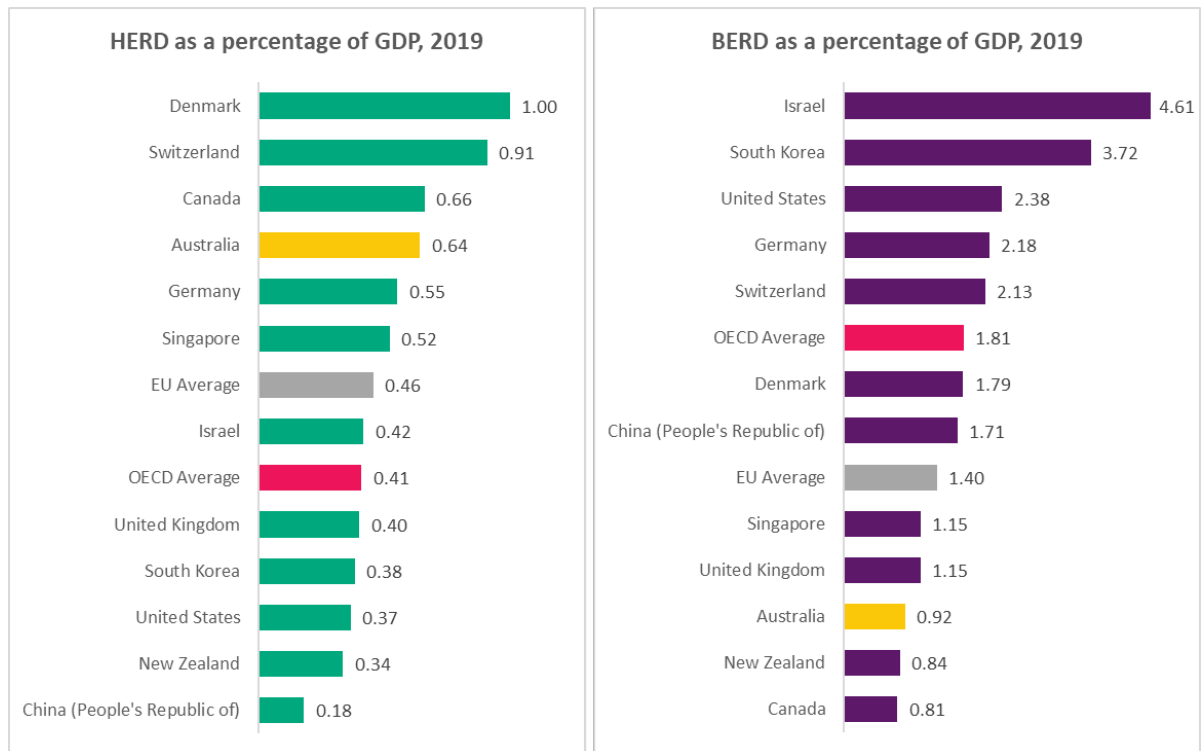
In contrast, Australia’s business investment in R&D (BERD) has been in decline every year since the peak of 1.37 per cent of GDP recorded in 2008. Figure 91 shows that in 2019, Australia’s BERD was 0.92 per cent of GDP, which lagged significantly behind other OECD countries – Israel (4.61 per cent), South Korea (3.72 per cent), United States (2.38 per cent) and Germany (2.18 per cent).

Figure 90: Gross expenditure on research and development (GERD) as a percentage of GDP, by country, 2019



Source: OECD.Stat accessed on 12 April 2022.

Figure 91: HERD vs BERD as a percentage of GDP, by country, 2019



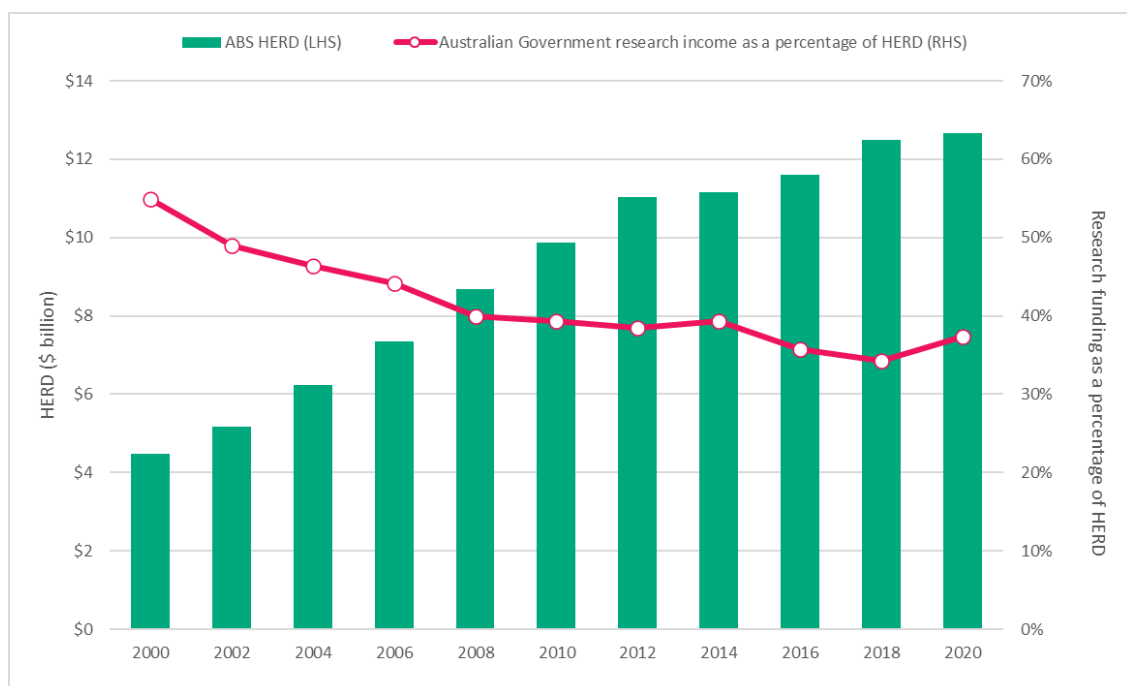
Source: OECD.Stat accessed on 12 April 2022.

4.3.2 UNIVERSITY SPENDING ON RESEARCH AND DEVELOPMENT

According to the ABS, higher education expenditure on research and development (HERD) has increased by just 4.2 per cent in nominal dollar terms, from \$12.2 billion in 2018 to \$12.7 billion in 2020. This is the slowest annual growth since 1992 mainly due to the impact of COVID-19 on universities operating income in 2020. Nonetheless, HERD has increased by 183 per cent in real terms over the long term, from around \$4.5 billion in 2000 to \$12.7 billion in 2020.

The share of HERD which is funded by dedicated research grants from the Australian Government – including research block grants – has declined from 54.9 per cent in 2000 to 37.4 per cent in 2020.

Figure 92: Higher education expenditure on research and development (HERD) compared to research income sourced from Australian Government, in 2020 dollars



Source: ABS, *Research and Experimental Development, Higher Education Organisations, Australia*, various years; DESE 2021, *Higher Education Research Data Collection—Research Income Data, 1994–2020* and DESE 2021, *Research Block Grants Allocations, 2001–2022*.

Note: Australian Government research income includes research block grant funding and all HERDC income sourced from Australian Government.

Higher education expenditure on research and development, by type of activity

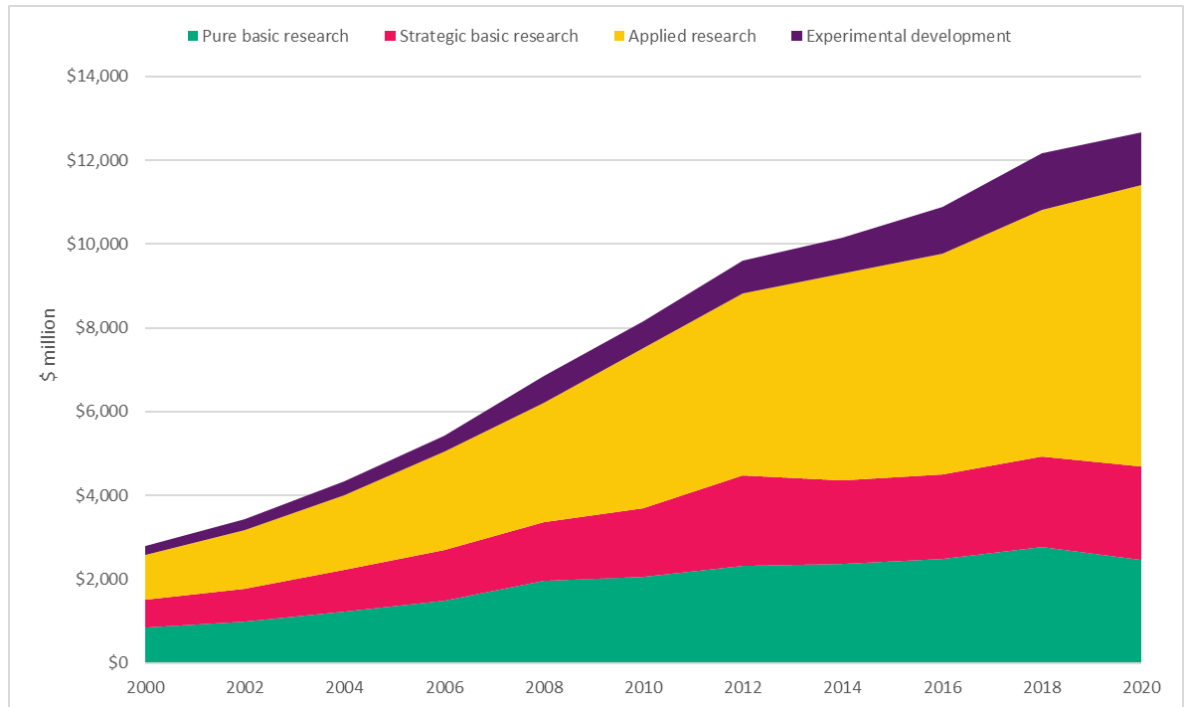
University spending on pure basic research has increased by 25 per cent – in nominal terms – from \$1.96 billion in 2008 to \$2.46 billion in 2020. However, investment in pure basic research declined by 11 per cent in 2020, down from \$2.77 billion in 2018 (see Figure 93).

Between 2008 and 2020, strategic basic research has increased by 59 per cent, from \$1.41 billion to \$2.25 billion; while applied research has more than doubled (136 per cent) over the period, from \$2.84 billion in 2008 to \$6.71 billion in 2020. Universities expenditure on applied research rose 14 per cent in 2020, from \$5.88 billion recorded in 2018.

Expenditure on experimental development has declined by 6 per cent in 2020 to \$1.26 billion from \$1.34 billion in 2018. Nonetheless, expenditure on experimental development has doubled (up 101 per cent) over the long term from \$626.8 million recorded in 2008.

The share of HERD spending on pure basic research has declined from 40 per cent in 1992 to just 19 per cent in 2020. In contrast, the share of spending on applied research has increased from 30 per cent to 53 per cent over the same period.

Figure 93: Higher education expenditure on research and development (HERD), by type of R&D activity, 2000 to 2020, in nominal dollars



Source: ABS, *Research and Experimental Development, Higher Education Organisations, Australia*, various years

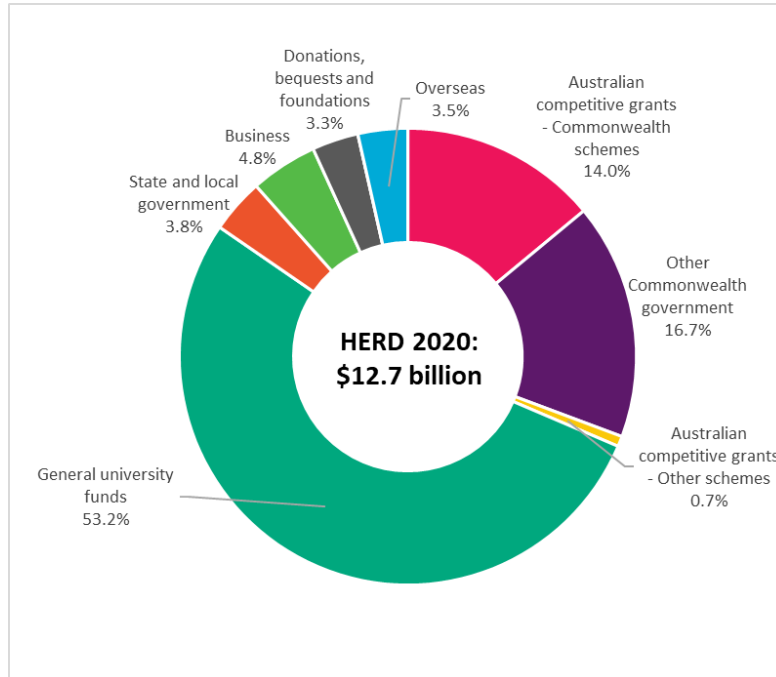
Higher education expenditure on research and development, by source of funds

In 2020, 53.2 per cent of university spending on research and development (R&D) was funded from internal university resourcing – i.e., general university funds – while another 30.7 per cent was funded from Australian Government grants. The remaining 16.1 per cent of HERD was funded from other funding sources, including state and local governments, business, donations and other domestic and international sources (Figure 94).

With the exception of the general university funds, all R&D expenditure by source of funds categories recorded an increase from 2018. R&D expenditure sourced from general university funds has declined 1.3 per cent to \$6.7 billion in 2020, from \$6.8 billion in 2018; while expenditure sourced from business has increased 15.5 per cent from \$521.9 million to \$602.6 million.

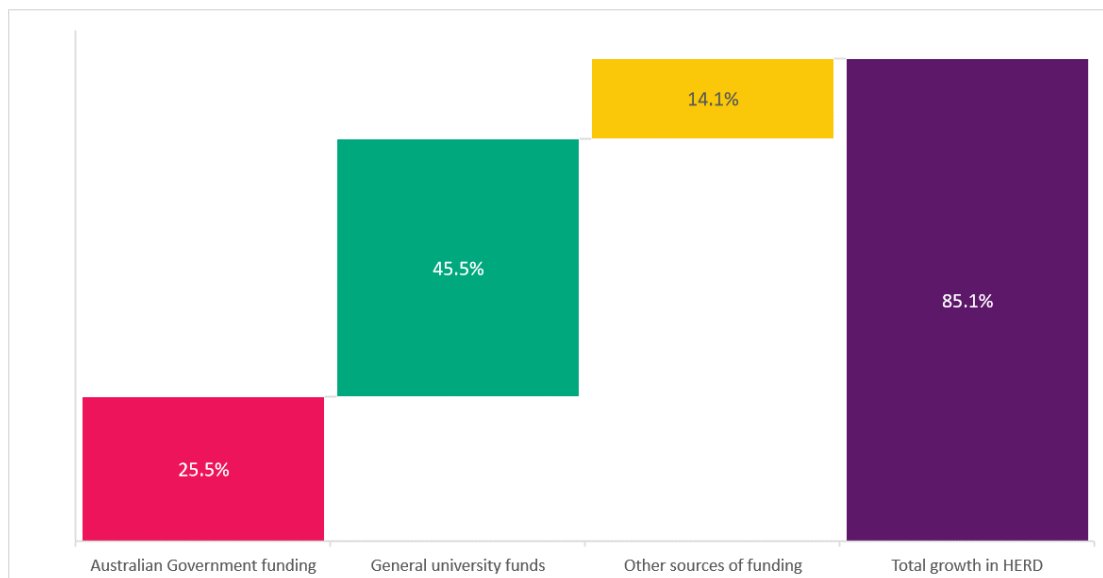
Figure 95 shows university spending on R&D grew 85.1 per cent between 2008 and 2020. Most of this growth was funded by internal university resourcing (45.5 percentage points), while Australian Government funding only contributed 25.5 percentage points of the growth in HERD over the period. Other funding sources contributed the remaining 14.1 percentage points of the growth in HERD.

Figure 94: Higher education expenditure on research and development, by source of funds, 2020



Source: ABS 2022, *Research and Experimental Development, Higher Education Organisations, Australia, 2020*.

Figure 95: Contributions to growth in higher education expenditure on research and development, 2008 to 2020, by source of funds



Source: ABS, *Research and Experimental Development, Higher Education Organisations, Australia, various years*.

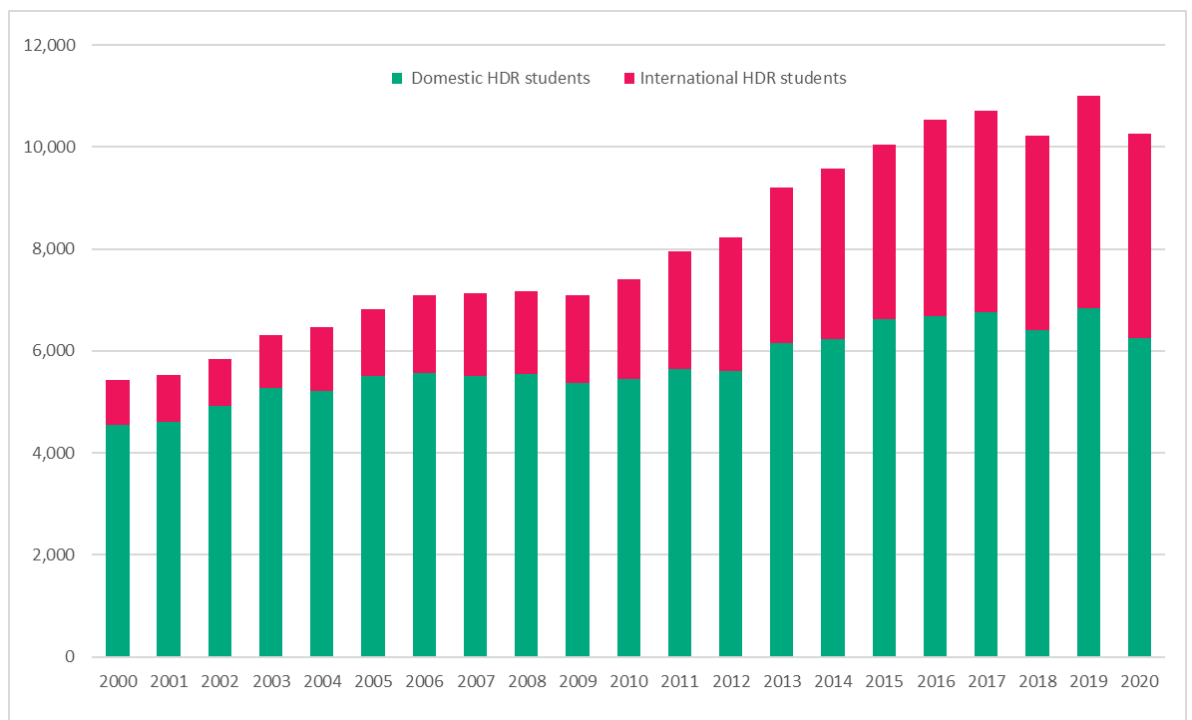
4.4 RESEARCH OUTCOMES

4.4.1 HIGHER DEGREE BY RESEARCH COMPLETIONS

Over the last two decades, the total number of students – both domestic and international – completing a higher degree by research (HDR) has almost doubled.

The number of domestic students completing an HDR qualification has increased by 37.4 per cent, from 4,557 completions in 2000 to 6,261 in 2020. Over the same period, the number of international HDR completions has more than quadrupled, from 877 to 3,996 completions. However, between 2019 and 2020, domestic and international HDR completions fell by 8.4 and 4.1 per cent respectively.

Figure 96: Higher degree by research completions, 2000 to 2020



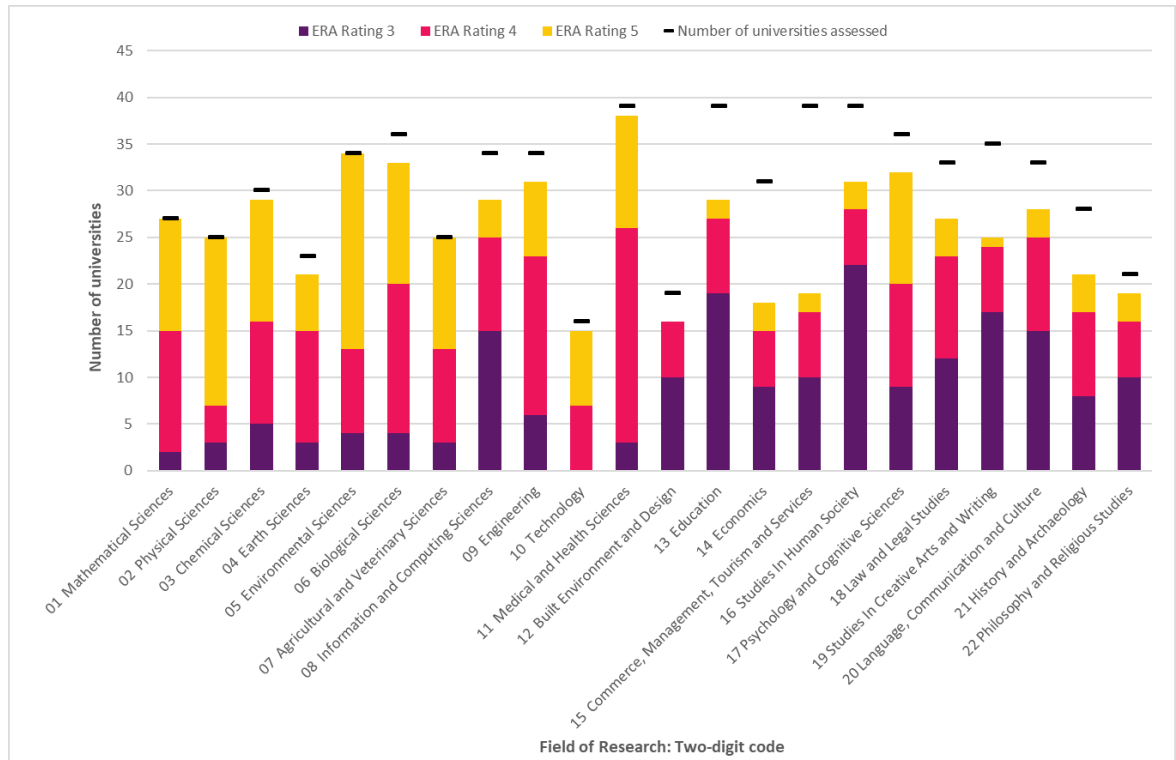
Source: Department of Education, Skills and Employment 2022, *Visual Analytics – Award Course Completions*.

4.4.2 RESEARCH EXCELLENCE

The latest (2018) Excellence in Research for Australia (ERA) national report provides information on the quality of research undertaken by Australian universities. Overall, 92 per cent of Australian university research (at the four-digit Unit of Evaluation) were rated as at or above world standard, with 69 per cent above world standard.¹³

¹³ <https://dataportal.arc.gov.au/ERA/NationalReport/2018/pages/section1/research-quality/>

Figure 97: Universities at or above world standard by Excellence in Research for Australia rating – two-digit field of research code – 2018



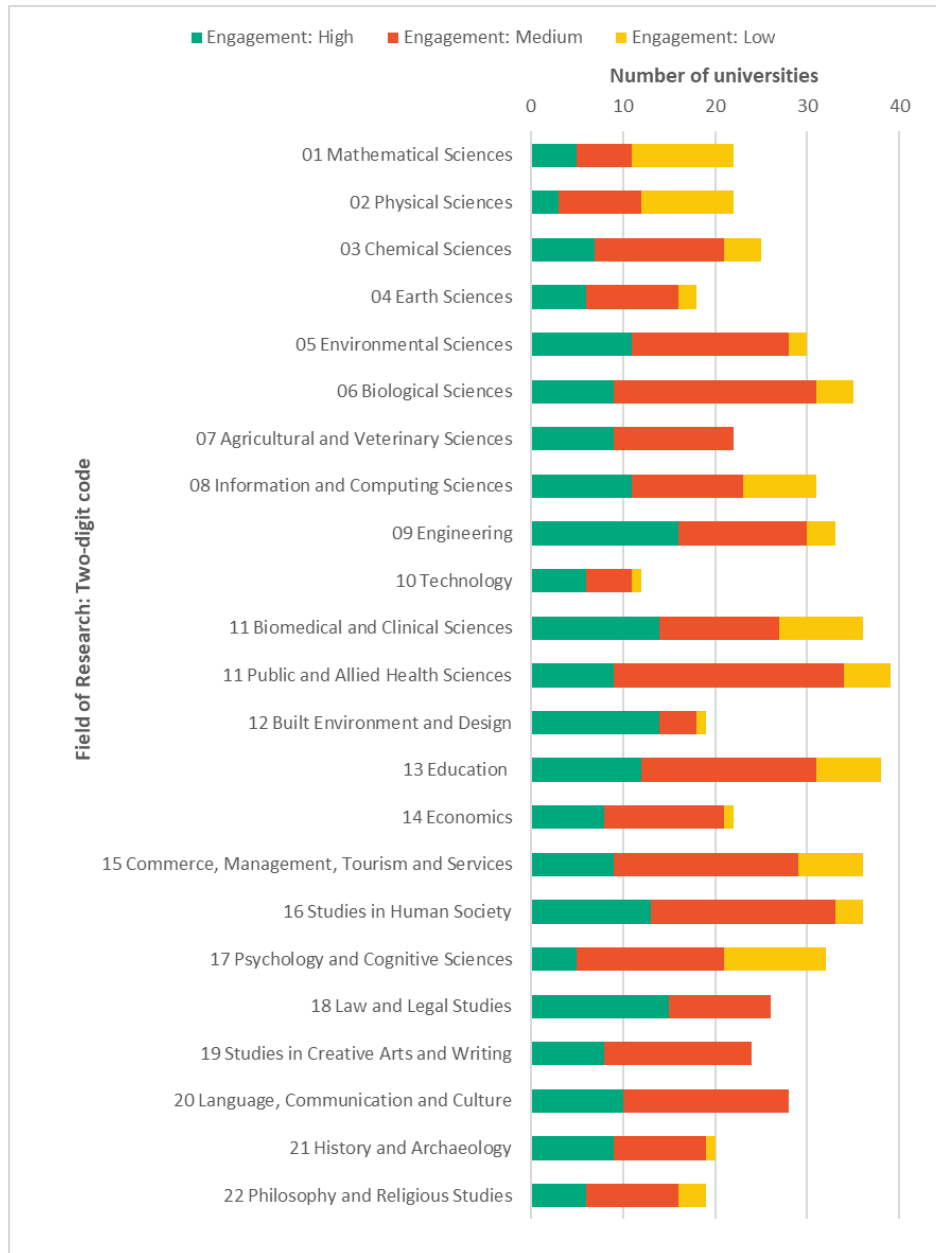
Source: Australian Research Council 2019, *State of Australian University Research 2018–19: ERA National Report*.

The inaugural Australian Research Council Engagement and Impact Assessment (EI) – which assesses how well researchers in Australian universities are engaging with end-users of research and shows how universities are translating their research into economic, social, environmental, cultural and other impacts – was conducted in 2018. EI used a three-point rating scale – high, medium and low.

The EI report found that overall 85 per cent of the 626 Units of Assessment (UoAs) for engagement and 88 per cent of the 637 UoAs for impact were rated at medium or high in 2018.¹⁴

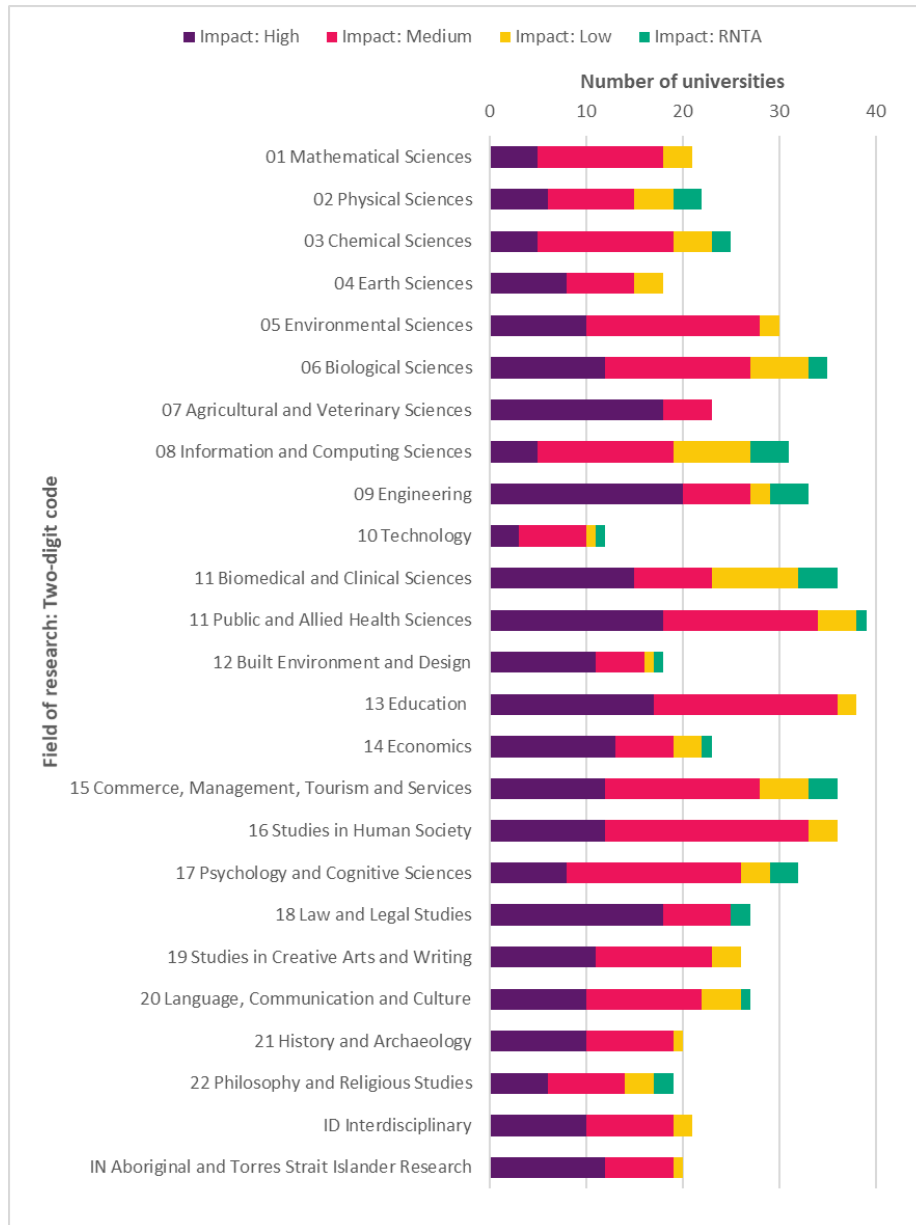
¹⁴ ARC 2019, *Engagement and Impact Assessment 2018–19: National Report*.

Figure 98: Ratings for research engagement by two-digit field of research, 2018



Source: Australian Research Council 2019, *Engagement and Impact Assessment 2018–19: National Report*.

Figure 99: Ratings for research impact by two-digit field of research, interdisciplinary and Aboriginal and Torres Strait Islander research, 2018

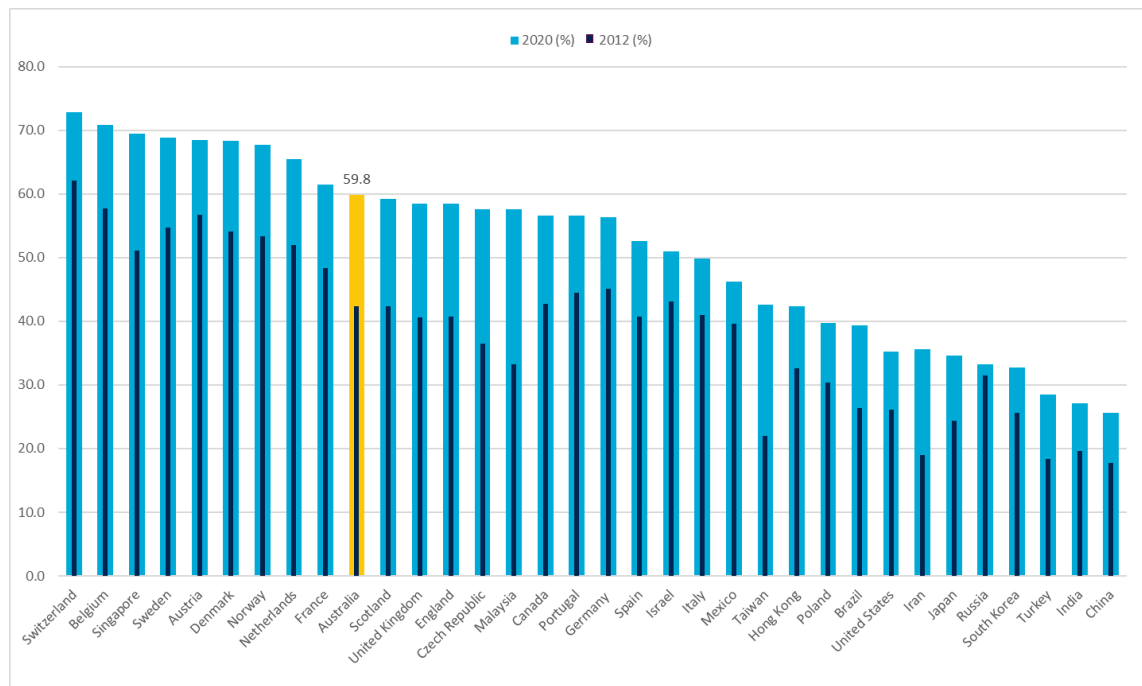


Source: Australian Research Council 2019, *Engagement and Impact Assessment 2018–19: National Report*.
 Note: RNTA denotes cases where institution requested that the UoA not be assessed for impact. For example, the majority of research output were primarily basic research.

4.4.3 INTERNATIONAL RESEARCH COLLABORATION

The level of research collaboration with other countries is recognised as an important contributor to a nation’s research performance. Figure 100 shows all countries have increased their international collaborations between 2012 and 2020, with Russia experiencing the smallest growth in international collaboration. While Australia is geographically isolated, our rate of international collaboration is above that of the UK, Canada and the US. In 2020, 59.8 per cent Australia’s Web of Science documents were co-authored with international researchers, compared to 42.4 per cent in 2012.

Figure 100: Percentage of Web of Science documents with international collaborators, 2012 and 2020



Source: Thomson Reuters, *Incites™ Database*, extracted on 20 April 2022.

4.4.4 UNIVERSITY-INDUSTRY COLLABORATION

The OECD indicators reported in Table 4 suggests that Australia lags other OECD nations on collaboration between business and higher education institutions. However, these OECD indicators are only one set of metrics, based upon a survey of businesses.

Analysis using metrics of cooperation on patents shows a different picture, in which collaboration between Australian universities and industry is at a higher level. This research by IP Australia (2017) shows that Australia ranks 13th of 35 OECD countries for proportion of industry-university collaborative patent applications and is in the top ten for patents filed by a university.¹⁵ Yet Australian entities are ranked 23rd of 35 for filing of collaborative patents overall, suggesting Australian businesses prefer to not collaborate in development of intellectual property. As the authors note, '*Comparing [these results] suggests that Australia's issues with collaboration do not lie with universities*'.¹⁶

Table 4: Selected OECD metrics for engagement between business and higher education institutions, various years

	Firms collaborating on innovation with higher education institutions	Business-funded R&D in the higher education and government sectors
1999	Not reported for Australia	16 of 28
2001	Not reported for Australia	18 of 29
2003	Not reported	Not reported
2005	Not reported	19 of 30
2007	26 of 26	21 of 33
2009	20 of 23	21 of 36
2011	Not reported for Australia	16 of 37
2013	33 of 33	16 of 36
2015	Not reported for Australia	22 of 37
2017	28 of 28	20 of 38
2019	32 of 32	20 of 41

Source: OECD, *Science, Technology and Industry Scoreboard*, various years.

¹⁵ IP Australia 2017, *University–Industry Collaboration and Patents*, Australian Government, Canberra, https://www.ipaustralia.gov.au/sites/g/files/net856/ff/reports_publications/university-industry_collaboration_and_patents.pdf

¹⁶ Ibid, p.7

5 INTERNATIONAL RANKINGS

Australia consistently ranks highly in the *Universitas 21 Report* which assesses the national higher education systems – rather than individual universities – of 50 countries. Australia ranked ninth in 2020, one position lower than in 2019.

In 2020, Australia ranked third on ‘outputs’, which includes measures of student participation rates, employability of graduates and research performance. However, Australia is one of only two countries – the other being the United Kingdom – that are in the top five for output but do not rank in the top ten for resources.

Australia is ranked 14th based on the resources available to its universities. Australia’s ranking for resources is dragged down by Australia’s low (34 out of 50 countries) government expenditure on tertiary education institutions as a percentage of GDP.

Table 5: Top 10 university systems and their measures for resources and output, 2020

	Overall ranking		Resource measure		Output measure	
	Rank	Score	Rank	Score	Rank	Score
United States	1	100.0	10	86.2	1	100.0
Switzerland	2	90.1	3	97.9	5	67.5
Denmark	3	85.7	4	97.6	4	67.8
Singapore	4	84.5	2	98.2	11	59.0
Sweden	5	84.3	5	94.2	6	65.1
United Kingdom	6	83.6	19	65.5	2	72.9
Canada	7	83.2	6	93.0	7	64.1
Finland	8	82.8	9	86.3	9	60.9
Australia	9	82.2	14	71.8	3	67.8
Netherlands	10	81.6	11	79.3	8	62.4

Source: Universitas21 2020, *Ranking of National Higher Education Systems 2020*.

Notes:

- The 2020 report presents the results for the ninth and the last annual ranking of national systems of higher education undertaken under the auspices of the Universitas 21 (U21) network of universities. Fifty national systems of higher education – from all continents – are evaluated across 24 attributes. The measures are standardised for population size. Countries are ranked overall and on each of four modules: Resources, Policy Environment, Connectivity and Output. Within each measure the highest achieving country is given a score of 100 and scores for other countries are expressed as a percentage of this highest score.
- Resources** module is one of the input variables and covers government expenditure, total expenditure and R&D expenditure in tertiary institutions. Resources, whether private or public, are a necessary condition for a quality system of higher education but they must be complemented by a policy environment which facilitates their efficient use.
- Output** module is one of the outcome measures. The nine output measures encompass research output and its impact, student throughput, the national stock of graduates and researchers, the quality of a nation’s best universities, and the employability of graduates.

Australian universities perform well on the various international university ranking systems. The latest ranking shows more than eight Australian universities are ranked in the top 200 universities and almost two-thirds of Australia's 39 universities are in the top 500.

Table 6: Australian universities performance in different university ranking systems

	Times Higher Education World University Rankings		Academic Ranking of World Universities (SHJT)		QS World University Rankings	
	2022	2021	2021	2020	2022	2021
Top 100	6	6	7	7	7	7
Top 200	12	12	8	8	13	11
Top 400	26	27	22	22	21	21
Top 500	29	28	24	23	26	26

Source: The Times Higher Education *World University Rankings* (various years); Shanghai Jiao Tong University *Academic Ranking of World Universities* (various years); QS *World University Rankings* (various years).

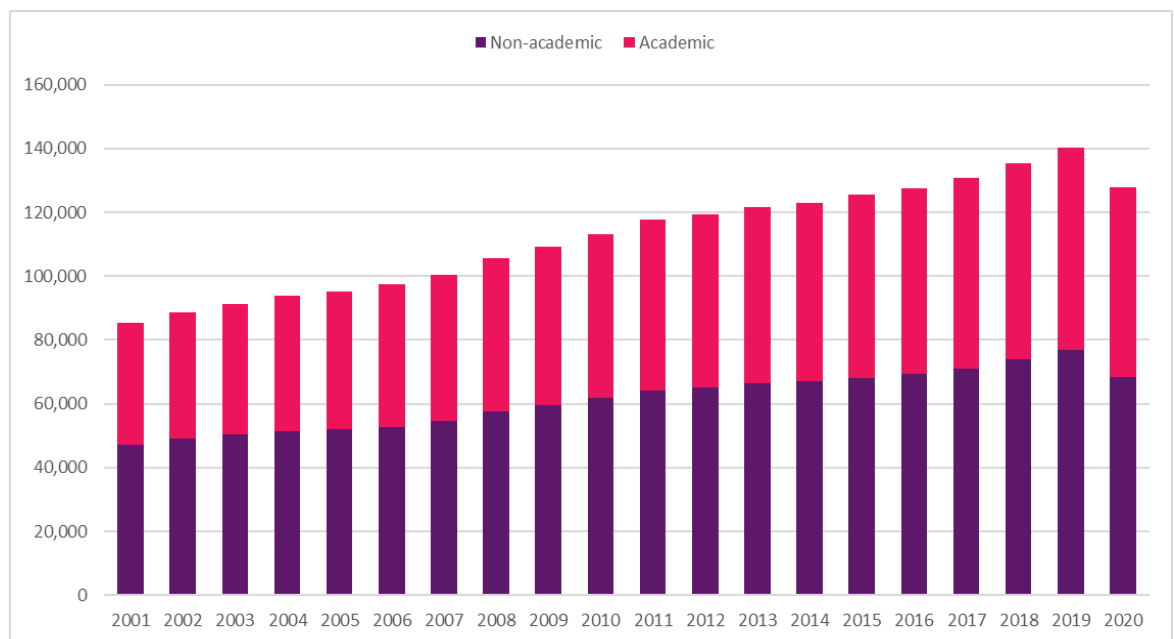
6 UNIVERSITY WORKFORCE¹⁷

In 2019, Australia’s 39 comprehensive universities employed 140,342 full-time equivalent (FTE) staff. Total FTE staff count has grown by 32.9 per cent, from 105,602 in 2008. Over the same period, the growth in academic and professional or non-academic staff was similar at around 33 per cent.

Total staff FTE fell 8.8 per cent in 2020 to 128,011, with non-academic staff declining by 10.8 per cent compared to a 6.4 per cent decline for academic staff. This is the first decline in staff FTE since 2001 due to the COVID-19 pandemic.

Since 2001, academic staff have consistently made up around 45 to 46 per cent of all university staff FTE.

Figure 101: Full-time equivalent (FTE) staff count, academic and professional, including casual staff



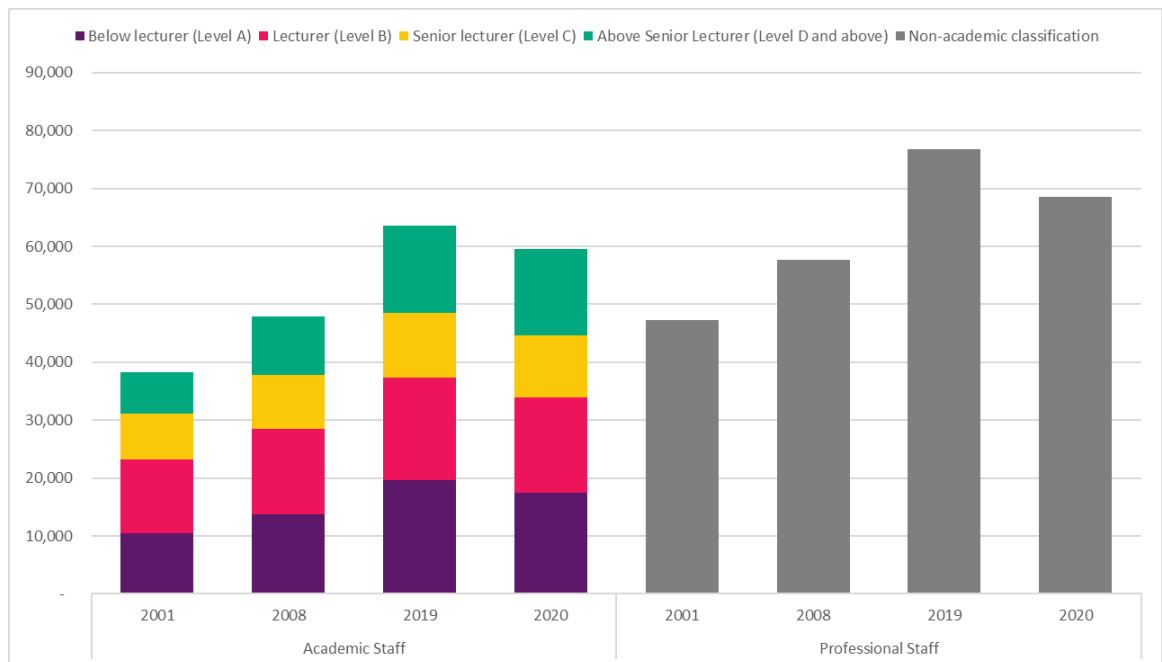
Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset, various years.

¹⁷ The reference period and staff count for the Department of Education, Skills and Employment (DESE) staff data collection differ between casual staff and permanent/fixed-term staff (i.e., fractional full-time/full-time). The reference period for permanent and fixed-term contract staff is as of 31 March each reference year; while for casual staff the reference period is for the full calendar year (not as of 31 March). Only full-time equivalent (FTE) data is collected for casual staff; while both headcount and FTE information are collected for permanent/fixed-term staff. Thus for this Chapter, data for each calendar year has been imputed. For year X, we combined actual casual staff FTE for year X and permanent/fixed-term staff FTE for year X+1, e.g., 2020 Staff FTE = 2020 Actual casual staff FTE + 2021 permanent/fixed-term staff FTE.

Over the last decade, there has been significant growth in more experienced senior academic staff and junior academic staff. Between 2008 and 2019, academic staff at Level D and above grew by 48.9 per cent – from 10,148 to 15,106 – and academic staff at Level A grew by 42.5 per cent – from 13,790 to 19,651. Over the same period, academic staff at Level B and Level C increased by around 20 per cent (Figure 102).

In 2020, the largest decline in staff FTE was in academic staff at Level A (fell 10.9 per cent) followed closely by non-academic staff (fell 10.8 per cent); while the smallest reduction was academic staff at Level D and above (fell 1.6 per cent).

Figure 102: Full-time equivalent (FTE) staff count, by classification, including casual staff

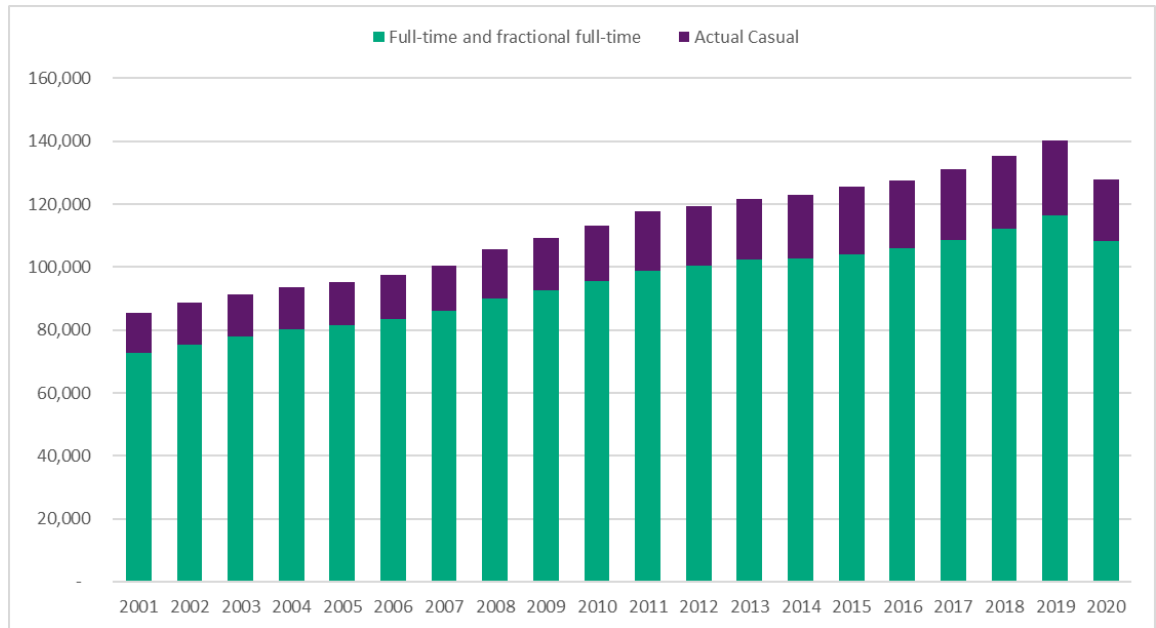


Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset.

Figure 103 shows casual staff FTE has increased 54.6 per cent from 15,553 in 2008 to 24,043 in 2019, while full-time and fractional full-time staff FTE rose by 29.2 per cent – from 90,049 in 2008 to 116,300 in 2019. However, in 2020, casual staff FTE fell 18.1 per cent to 19,696; while full-time and fractional full-time staff FTE fell 6.9 per cent to 108,315. The proportion of casual staff has increased from 14.7 per cent in 2008 to 17.1 per cent in 2019, before declining to 15.4 per cent in 2020.

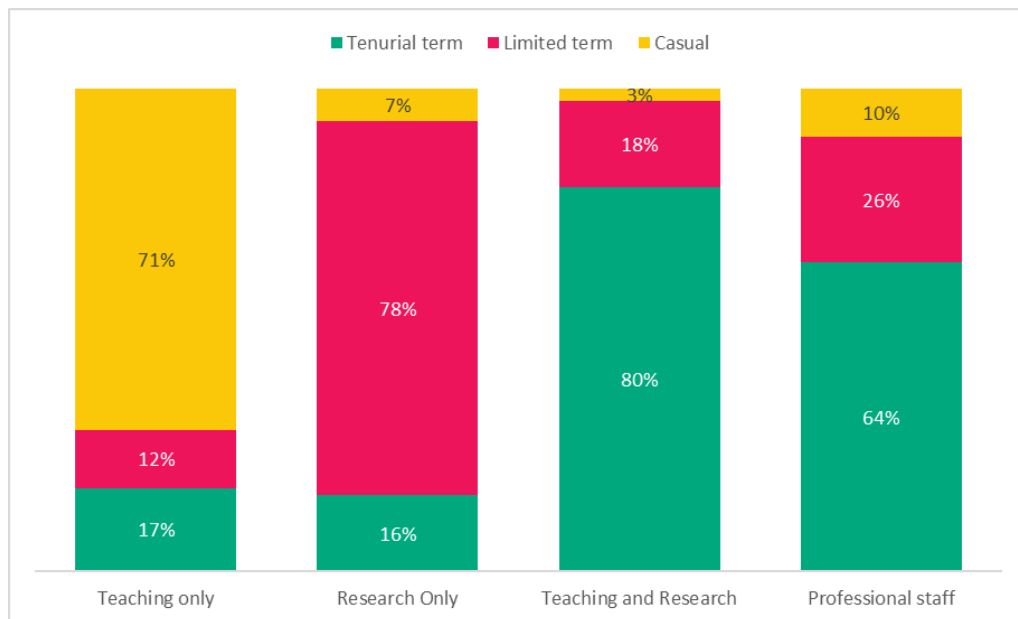
In 2020, most of the teaching-only staff were casual staff (71 per cent); while most of the staff with a research-only function (78 per cent) were on fixed-term contracts. In contrast, 80 per cent of teaching and research staff and 64 per cent of professional staff were tenured or permanent ongoing staff (see Figure 104).

Figure 103: Full-time equivalent (FTE) staff count, by work contract



Source: Department of Education, Skills and Employment, unpublished HEIMS UA dataset.

Figure 104: FTE staff count, by function and duties term, 2020



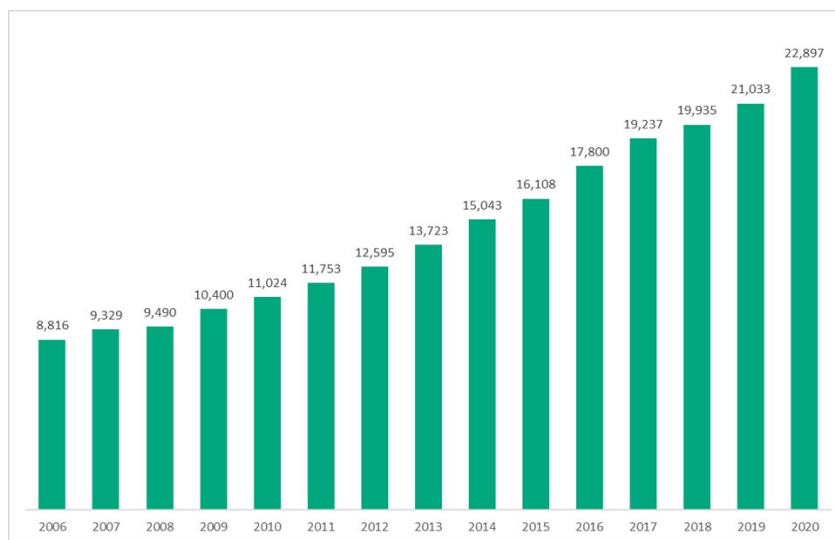
Source: Department of Education, Skills and Employment's *Staff Data: Visual Analytics*

7 INDIGENOUS STUDENTS AND STAFF

7.1 INDIGENOUS STUDENT ENROLMENTS

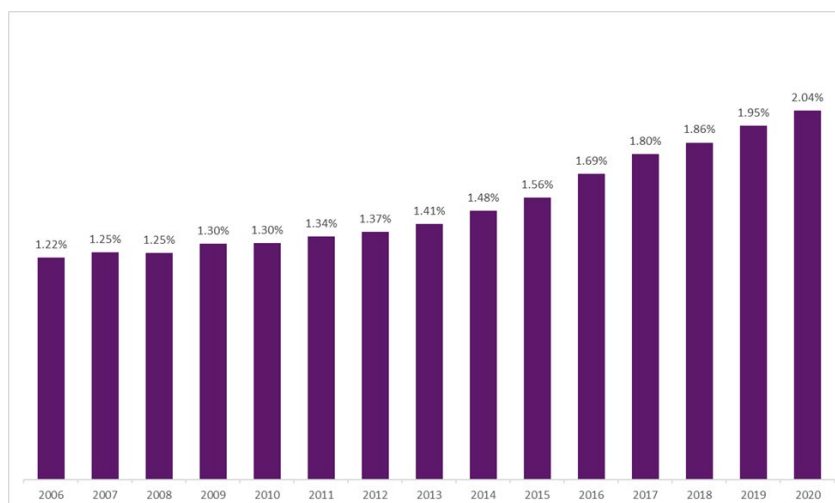
Figure 105 shows Indigenous student enrolments have more than doubled since 2008 – increasing by 141.3 per cent – from 9,490 students in 2008 to 22,897 students in 2020 with an annual average growth rate of 7.6 per cent. Despite this significant growth, Indigenous student enrolments remain well below population parity (i.e. 3.1 per cent). Indigenous students – as a proportion of all domestic enrolments – has increased from 1.25 per cent in 2008 to 2.04 per cent in 2020 (Figure 106)

Figure 105: Indigenous student enrolments, 2006 to 2020



Source: Department of Education, Skills and Employment 2022, *Selected Higher Education Statistics – 2020 Student data*, Section 11: Equity Group.

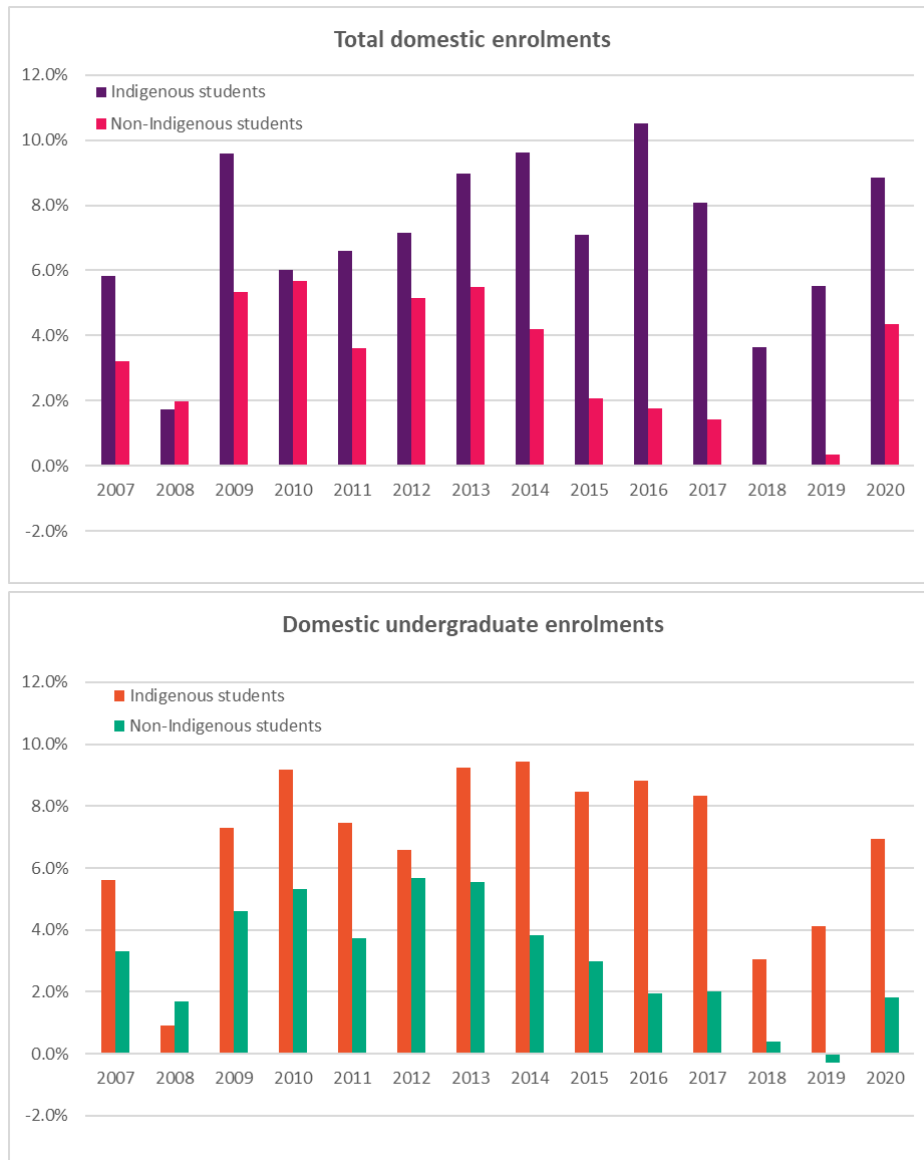
Figure 106: Share of Indigenous student enrolments, 2006 to 2020



Source: see Figure 105.

Figure 107 shows annual growth in Indigenous student enrolments has more than tripled the rate of growth in non-Indigenous student enrolments in recent years, especially undergraduate enrolments. In 2020, Indigenous undergraduate enrolments grew by 6.9 per cent while non-Indigenous undergraduate enrolments rose just 1.8 per cent. Total Indigenous enrolments rose by 8.9 per cent in 2020, compared to a growth of 4.3 per cent in total non-Indigenous enrolments.

Figure 107: Annual growth in Indigenous student enrolments, 2007 to 2020

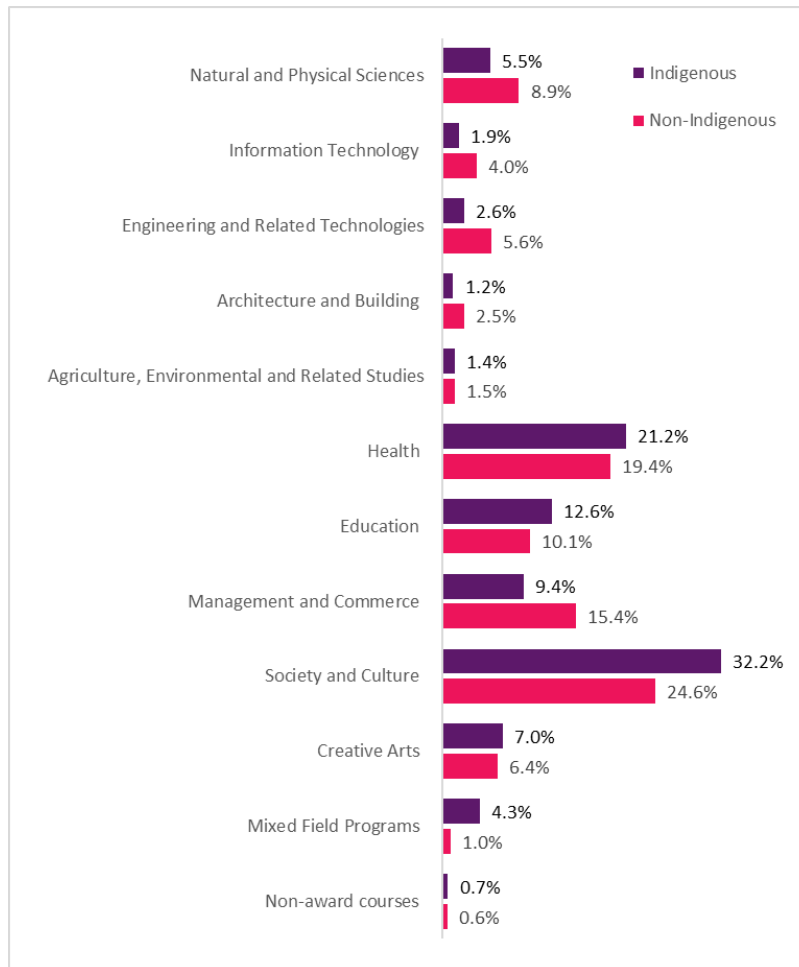


Source: Department of Education, Skills and Employment 2022, *Selected Higher Education Statistics – 2020 Student data*, Section 11: Equity Group.

7.1.1 FIELD OF EDUCATION

Figure 108 shows Indigenous students are more likely than non-Indigenous students to enrol in courses in Society and Culture (32.2 per cent for Indigenous students vs 24.6 per cent for non-Indigenous students), Health (21.2 vs 19.4 per cent) and Education (12.6 vs 10.1 per cent) and less likely to enrol in Management and Commerce (9.4 vs 15.4 per cent), Natural and Physical Sciences (5.5 vs 8.9 per cent) and Engineering (2.6 vs 5.6 per cent).

Figure 108: Enrolments by broad disciplines, 2020



Source: Source: Department of Education, Skills and Employment 2022, *Selected Higher Education Statistics – 2020 Student data*, Section 6: Indigenous students.

7.1.2 COURSE LEVEL

Indigenous enrolments in Bachelor degree courses grew by an average of 7.6 per cent per year, from 6,352 in 2008 to 15,291 in 2020. Annual average growth for Indigenous enrolments in enabling courses was 7.6 per cent, from 871 in 2008 to 2,097 in 2020. While Indigenous student postgraduate research enrolments grew by a modest 5.5 per cent per annum on average between 2008 and 2020 – from 393 to 751– enrolments in postgraduate coursework degrees have increased by 9.4 per cent per annum on average over the same period, from 1,138 to 3,330.

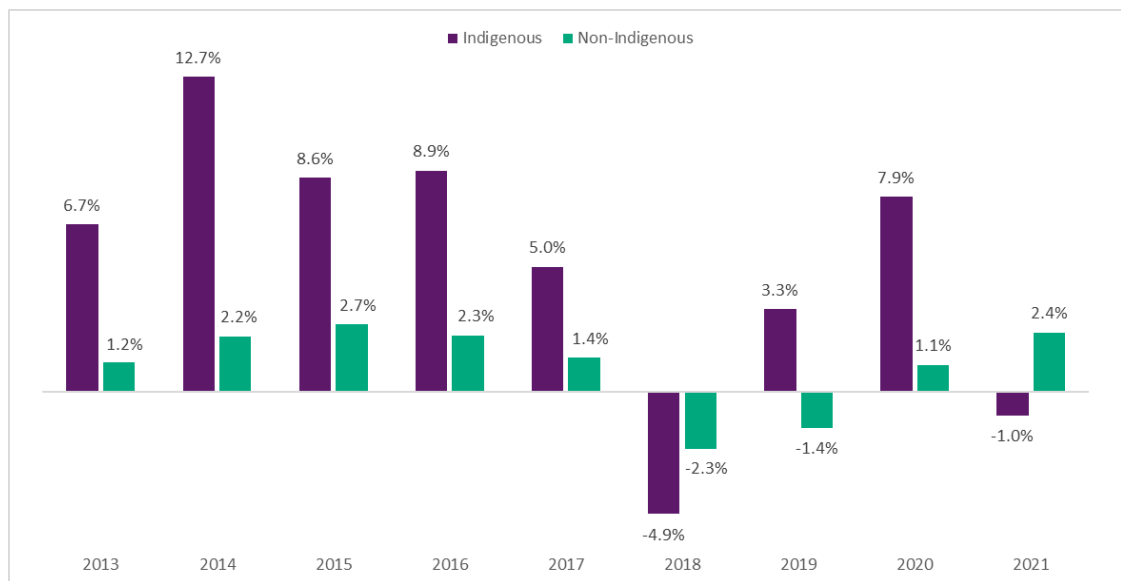
Table 7: Indigenous enrolments, by course level, 2008 and 2020

Course level	2008	2020	Growth since 2008	Annual average growth since 2008
Postgraduate research	393	751	91%	5.5%
Postgraduate coursework	1,138	3,330	193%	9.4%
Bachelor	6,352	15,291	141%	7.6%
Sub-bachelor	686	1,268	85%	5.3%
Enabling	871	2,097	141%	7.6%
Non-award	50	160	220%	10.2%
All courses	9,490	22,897	141%	7.6%

Source: Department of Education, Skills and Employment 2022, *Visual analytics – Enrolment time-series*.

7.1.3 UNDERGRADUATE APPLICATIONS¹⁸

Figure 109 shows Indigenous undergraduate applications fell marginally in 2021 (-1 per cent) – following an increase of 7.9 per cent and 3.3 per cent in 2020 and 2019 respectively. In 2021, applications from non-Indigenous students increased by 2.4 per cent, the highest level since 2015. The share of Indigenous applications remained at around two per cent of all undergraduate applications in 2021.

Figure 109: Annual growth in undergraduate applications, 2013 to 2021


Source: Department of Education, Skills and Employment 2021, *Undergraduate Applications Offers and Acceptances*, unpublished data

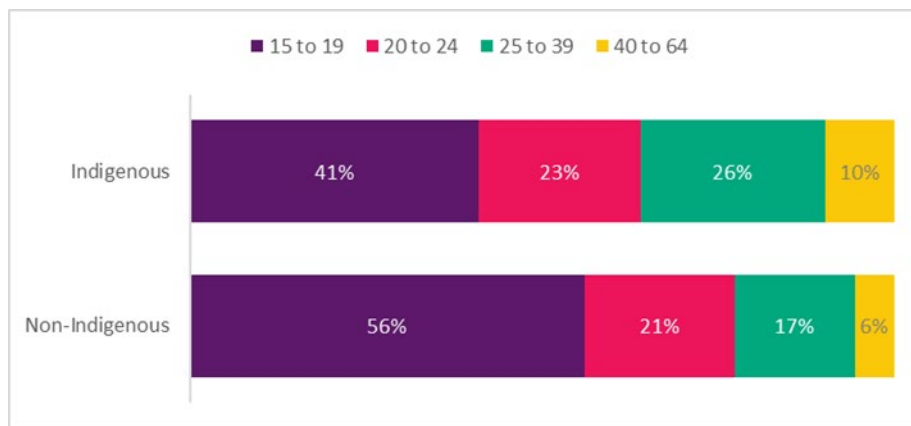
¹⁸ In 2007, the Queensland government introduced an additional year of schooling before Year 1 with only a half-cohort of students enrolling that year. As a result of the Queensland half-year cohort effect, the number of Year 12 students in Queensland in 2019 was around 30 per cent less than the previous year leading to lower applications for higher education among Queensland school leavers in 2020. Thus, analysis in this section for 2020 and 2021 exclude applications and offers from the Queensland Tertiary Admissions Centre, unless specified otherwise.

Figure 110 shows Indigenous applicants for undergraduate courses are more likely to be older than non-Indigenous applicants. In 2021, more than one-third (36 per cent) of Indigenous applicants are aged 25 or older, compared to 23 per cent for non-Indigenous applicants.

The share of Indigenous undergraduate applications at younger age cohorts remains significantly below the share of the young Indigenous population. Just 1.6 per cent of all undergraduate applicants aged 15–19 were Indigenous, compared with an Indigenous population share of 5.8 per cent in 2021. For the 20–24-year-old age group, Indigenous people are 2.3 per cent of applicants but 5.0 per cent of the population as a whole. In contrast, for the 40–64-year-old age group, Indigenous students are 3.6 per cent of applications but represent 2.4 per cent of the whole population (Figure 111).

Indigenous undergraduate applicants are also more likely to be female compared to non-Indigenous applicants. In 2021, 72 per cent of Indigenous undergraduate applicants were female compared to 61 per cent for non-Indigenous applicants (Figure 112).

Figure 110: Share of undergraduate applications, by age, 2021



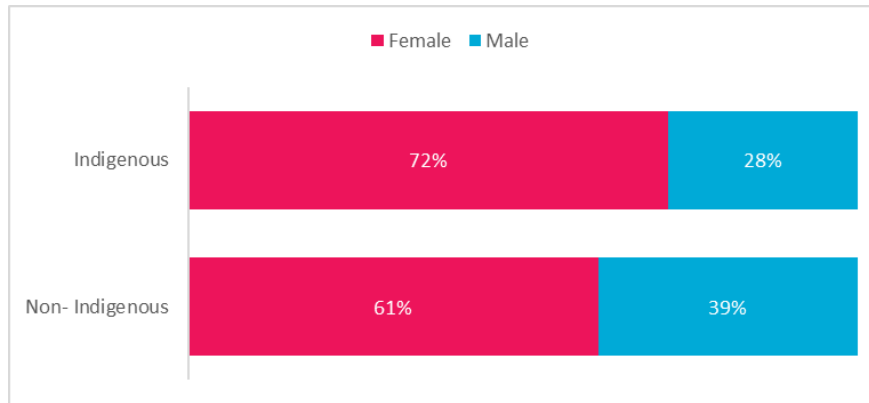
Source: see Figure 109

Figure 111: Share of Indigenous undergraduate applications compared to share of Indigenous population, by age, 2021



Source: UA analysis based on Department of Education, Skills and Employment 2021, *Undergraduate Applications Offers and Acceptances*, unpublished data, Australian Bureau of Statistics (ABS) 2019, *Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2016 to 2031*, Cat. No. 3238.0., Series B and ABS 2021, *National, State and Territory Population*, June 2021.

Figure 112: Share of undergraduate applications, by gender, 2021



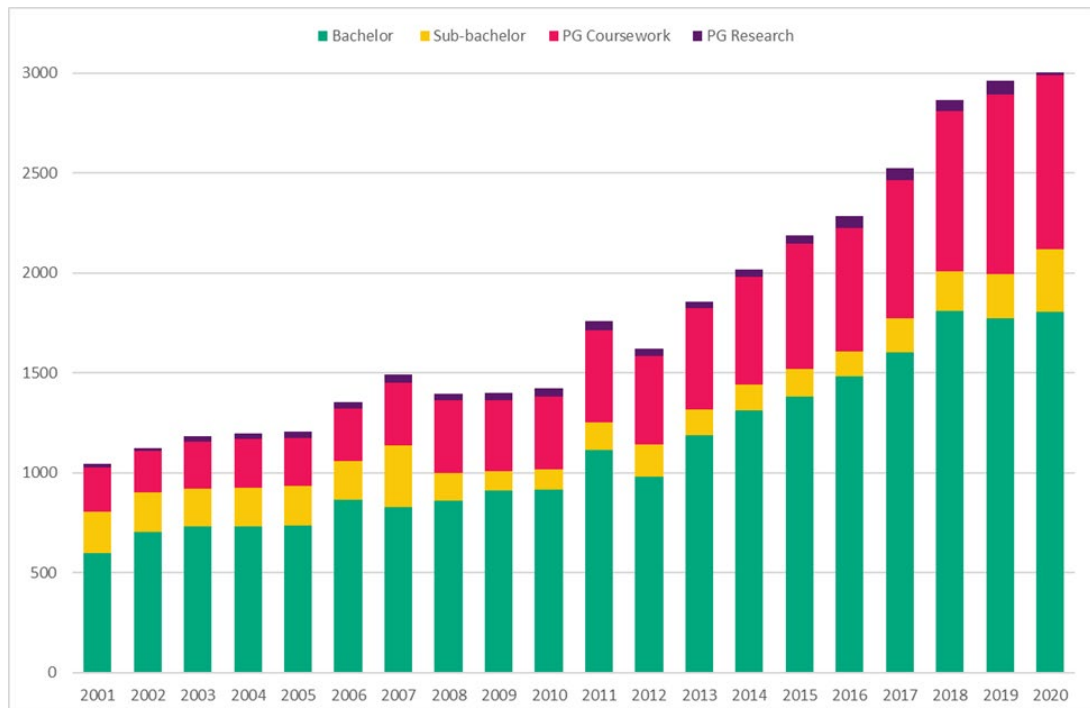
Source: See Figure 109

7.2 INDIGENOUS STUDENT OUTCOMES

7.2.1 AWARD COURSE COMPLETIONS

Since 2008, award course completions by Indigenous students have continued to grow year-on-year, consistent with the growth in Indigenous enrolments. Indigenous Bachelor award course completions grew by 109.8 per cent – from 860 degrees awarded to Indigenous students in 2008 to 1,804 in 2020. Postgraduate research course completions rose 115.2 per cent – from 33 in 2008 to 71 in 2020 – and postgraduate coursework completions rose 139 per cent – from 364 to 870 (Figure 113).

Figure 113: Number of award course completions by Indigenous students, by course level

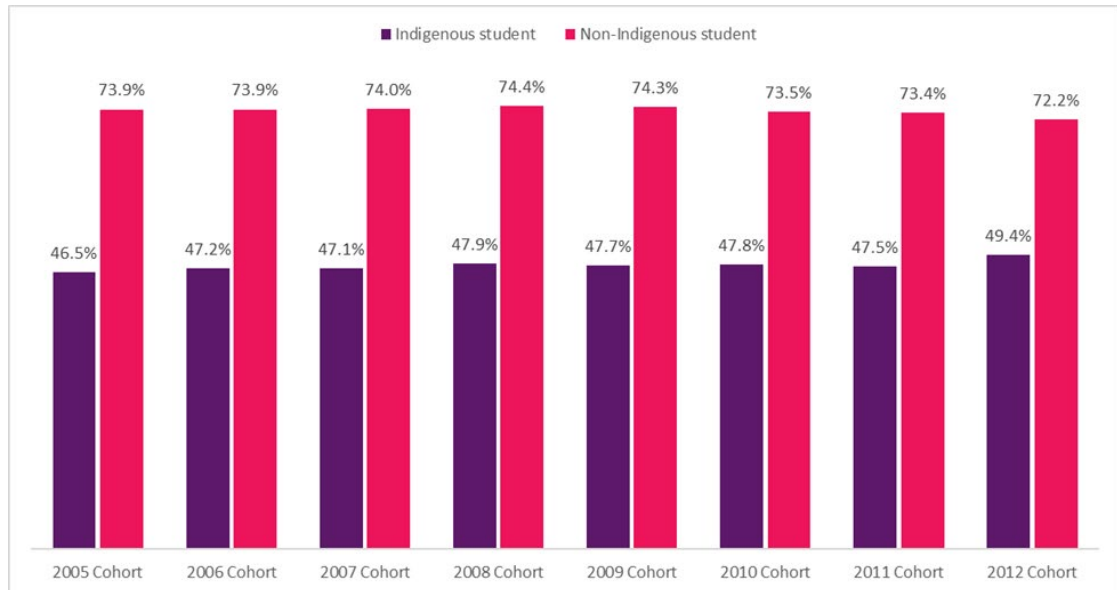


Source: Department of Education, Skills and Employment 2022, *Visual analytics – Award course completions time series*.

7.2.2 COMPLETION RATES

Bachelor degree completion rates for Indigenous students remain low compared to non-Indigenous students. Nine-year completion rates for Indigenous students remains significantly below the completion rates for non-Indigenous students (Figure 114). Nonetheless, nine-year completion rates for Indigenous students have increased over time from 46.5 per cent for Indigenous student who started university in 2005 to 49.4 per cent for the 2012 cohort.

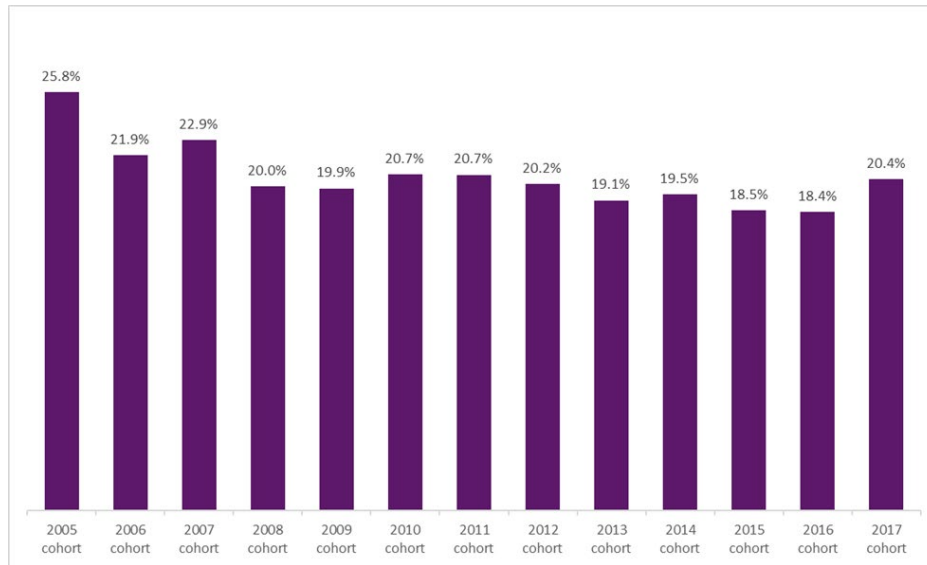
Figure 114: Nine-year completion rates of commencing Indigenous and non-Indigenous Bachelor degree students



Source: Department of Education, Skills and Employment 2022, *Completion Rates of Higher Education Students – Cohort Analysis, 2005–2020*.

On a positive note, since 2005, fewer Indigenous students leave their studies and do not return. Of the Indigenous students who started university in 2005, 25.8 per cent had left their studies four years later. For Indigenous students who started university in 2016, the attrition rate had fallen to 18.4 per cent – a substantial improvement (Figure 115). However, the attrition rate has increased to 20.4 per cent for the 2017 cohort.

Figure 115: Share of Indigenous students commencing a Bachelor degree that never return – after four years



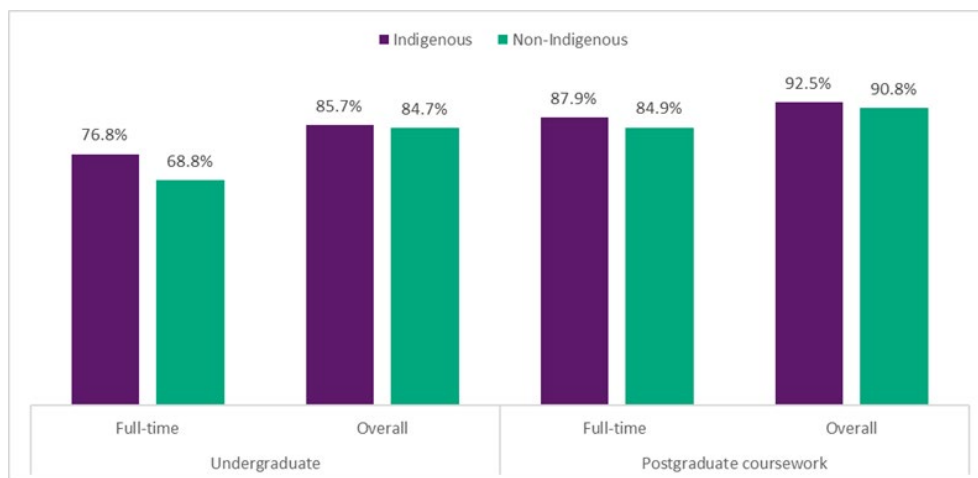
Source: Department of Education, Skills and Employment 2022, *Completion Rates of Higher Education Students – Cohort Analysis, 2005–2020*.

7.2.3 LABOUR MARKET OUTCOMES

Indigenous graduates generally experience strong employment outcomes, comparable to non-Indigenous graduates and often better (Figure 116). In 2021, 76.8 per cent of Indigenous undergraduates were in full-time employment four months after completion, outperforming non-Indigenous undergraduates (68.8 per cent).

For graduates with postgraduate degree, 87.9 per cent of Indigenous graduates were in full-time employment four months after completion in 2021, compared to 84.9 per cent for non-Indigenous graduates.

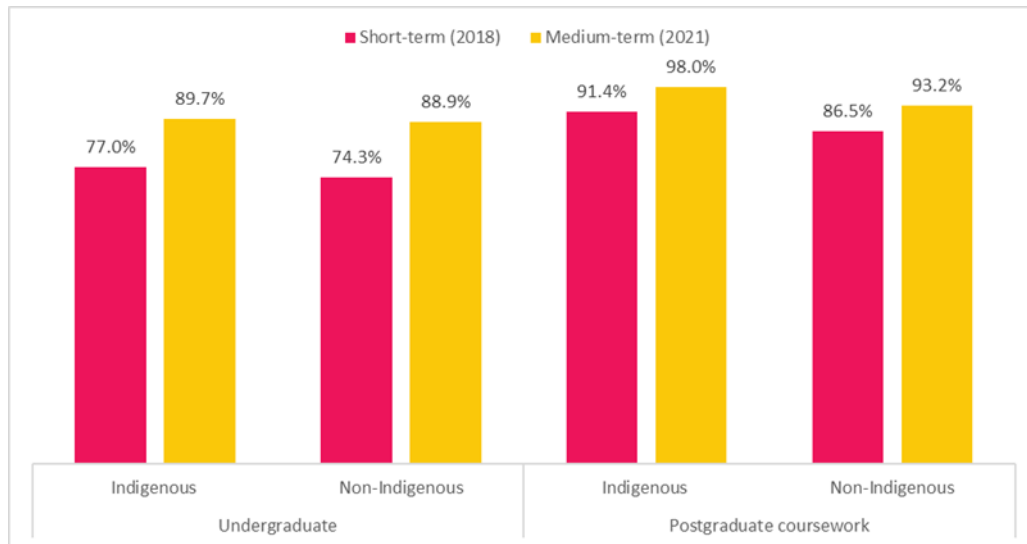
Figure 116: Short-term graduate employment outcomes, 2021



Source: Social Research Centre 2021, *2021 Graduate Outcomes Survey*.

Figure 117 shows that over the medium-term – three years after finishing their degrees – employment outcomes for Indigenous graduates are similar to non-Indigenous graduates. While Indigenous graduates with an undergraduate degree have higher full-time employment outcomes (77.0 per cent) than non-Indigenous graduates (74.3 per cent) in the short-term, non-Indigenous graduates catch up in full-time employment in the medium-term to trail Indigenous graduates by around 0.8 percentage points in 2021.

Figure 117: Short and medium-term full-time employment outcomes, for 2018 graduates



Source: SRC 2021, *2021 Graduate Outcomes Survey–Longitudinal*.

Indigenous undergraduates continued to earn more than non-Indigenous undergraduates immediately upon graduation, with a median full-time salary of \$65,800 compared to \$62,000 for non-Indigenous graduates in 2018. Three years after graduation, median full-time salaries for non-Indigenous undergraduates were still trailing Indigenous undergraduates by \$2,000 in 2021.

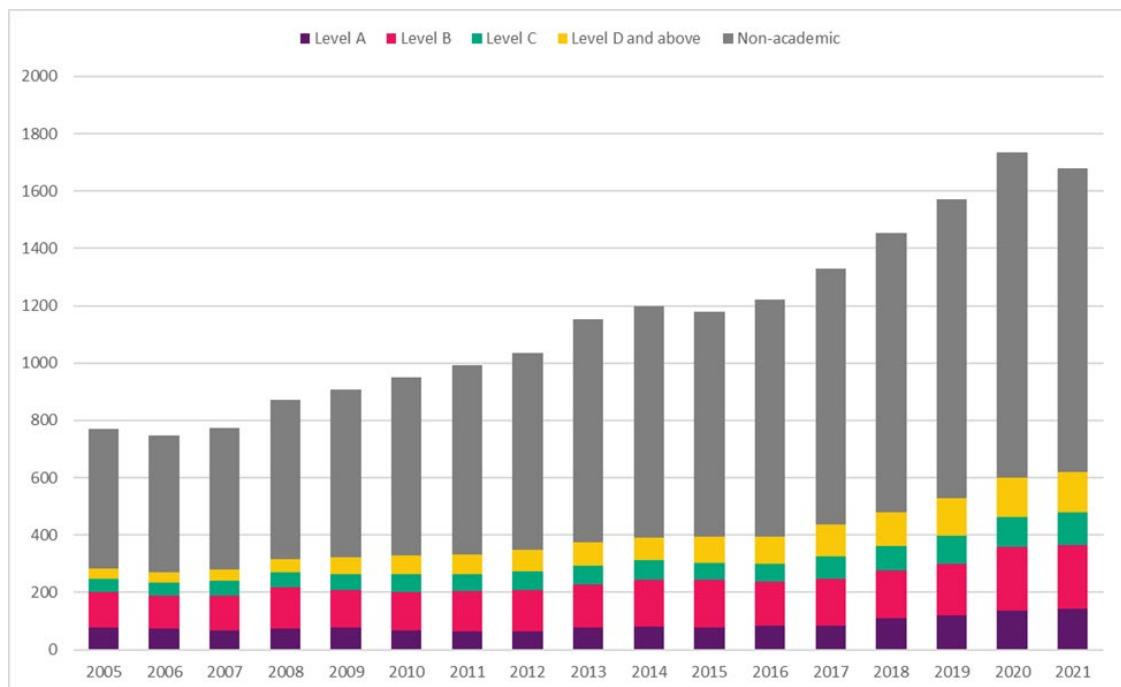
7.3 INDIGENOUS WORKFORCE¹⁹

7.3.1 ACADEMIC VS NON-ACADEMIC

Figure 118 shows total number of Indigenous staff has more than doubled since 2005, from 771 staff to 1,735 staff in 2020, before declining by 3.2 per cent to 1,680 staff in 2021. In 2021, 37 per cent of Indigenous staff were academic staff and the remaining 63 per cent were non-academic staff.

The number of Indigenous academic staff has increased by 119.5 per cent between 2005 and 2021, from 282 in 2005 to 619 in 2021. Despite the COVID-19 pandemic, Australian universities continued to grow their Indigenous academic staff in 2021 (increased 3.2 per cent or 19 staff) amid a 6.5 per cent reduction in Indigenous non-academic staff (or down 74 staff).

Figure 118: Number of Indigenous staff by duties classification, 2005 to 2021



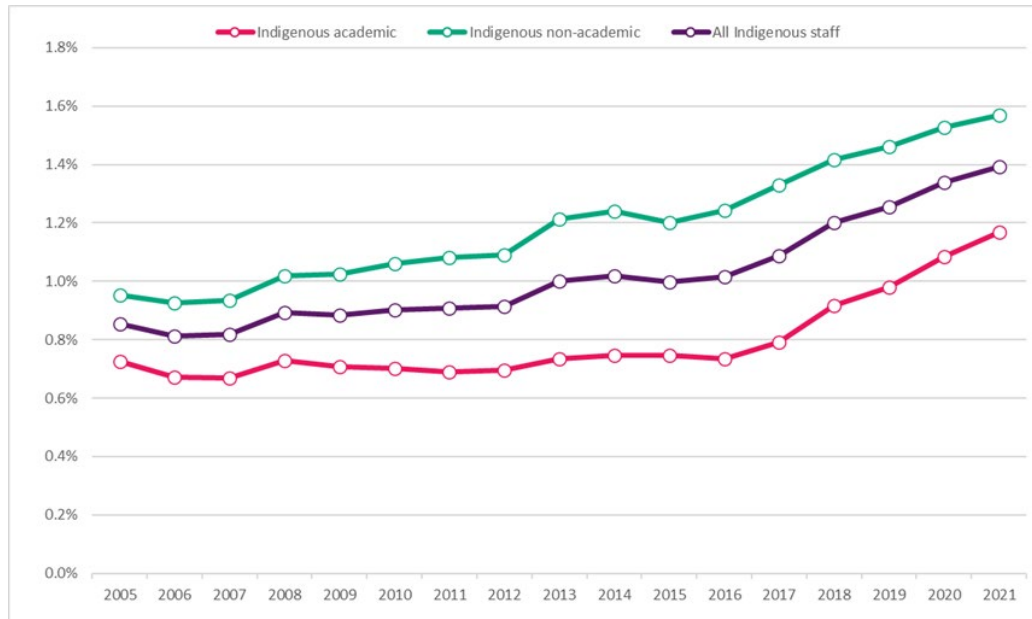
Source: Department of Education, Skills and Employment, Unpublished HEIMS UA dataset, various years.

Figure 119 shows that Indigenous staff as a proportion of total academic staff has increased from 0.73 per cent in 2005 to 1.17 per cent in 2021, with most of the increases occurring after 2016. There has been slightly greater growth in the proportion of non-academic positions held by Indigenous people over the same period. The share of non-academic Indigenous staff increased from just 0.95 per cent in 2005 to 1.57 per cent in 2021.

In 2021, just 1.4 per cent of Australian university staff – both academic and non-academic – were from an Indigenous background, significantly below the working-age population parity figure of 3.1 per cent.

¹⁹ In this section, data refers to staff headcount (rather than full-time equivalent (FTE)) and only includes permanent and fixed-term contract staff with reference period ending 30 March of each calendar year. Note that Indigenous status indicator is not collected for casual staff.

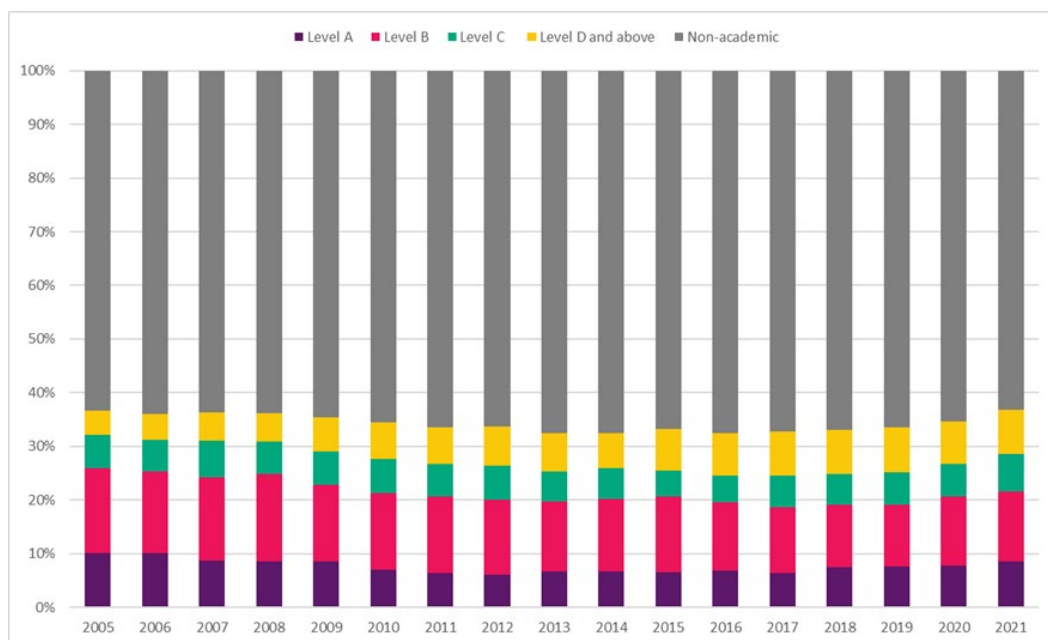
Figure 119: Share of Indigenous staff, 2005 to 2021



Source: Department of Education, Skills and Employment, Unpublished HEIMS UA dataset, various years.

Figure 120 shows the share of Indigenous staff in non-academic roles has increased from 63.4 per cent in 2005 to 66.5 per cent in 2019, before declining to 63.2 per cent in 2021. The share of Indigenous staff at academic Level A positions has declined from 10.1 per cent to 7.6 per cent in 2019, before increasing to 8.6 per cent in 2021. In 2021, 8.3 per cent of Indigenous staff were employed in senior academic roles – Level D and above – increasing from 4.4 per cent in 2005.

Figure 120: Proportion of Indigenous staff by duties classification



Source: Department of Education, Skills and Employment, Unpublished HEIMS UA dataset, various years.

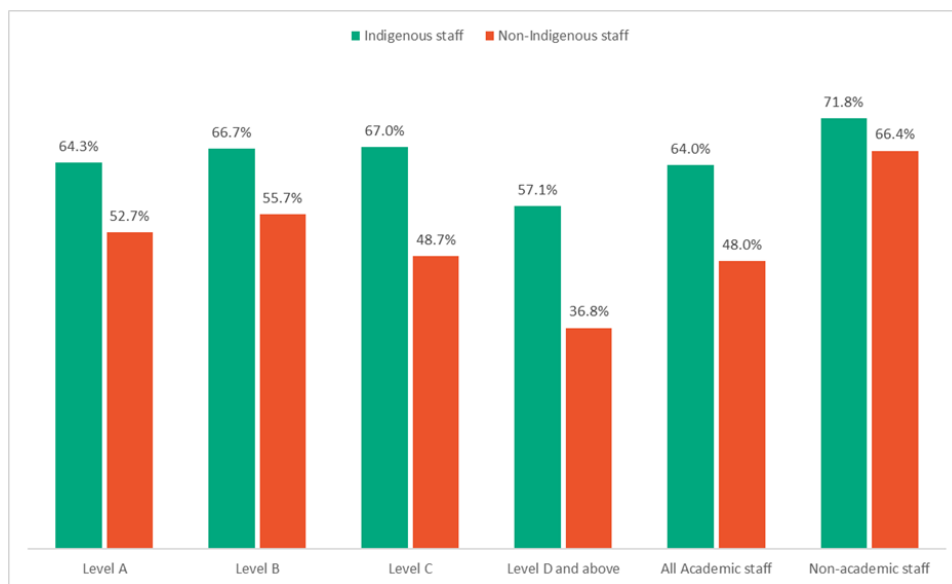
7.3.2 STAFF CHARACTERISTICS

In 2021, a greater proportion of Indigenous staff were women, over 40 years old and in lower academic positions and in teaching-only roles compared to non-Indigenous staff.

Gender

Indigenous staff are more likely to be female compared to non-Indigenous staff, particularly at senior academic positions – at Level C and Level D and above. In 2021, 64 per cent of all Indigenous academic staff were female compared to 48 per cent of non-Indigenous staff; while 71.8 per cent of Indigenous non-academic staff were female compared to 66.4 per cent for non-Indigenous staff.

Figure 121: Share of female staff by duties classification, 2021



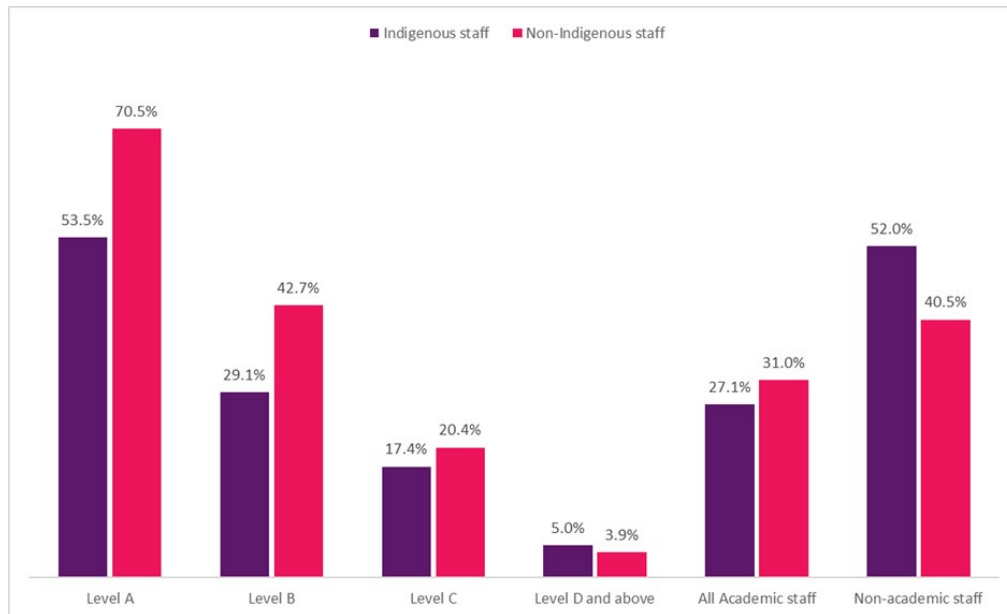
Source: Department of Education, Skills and Employment 2022, Unpublished HEIMS UA dataset.

Age

Indigenous academic staff are more likely to be older than non-Indigenous academic staff (see Figure 122). In 2021, 27.1 per cent of all Indigenous academic staff were aged under 40 compared to 31 per cent of non-Indigenous academic staff. The share of Indigenous academic staff under 40 has declined since 2005 – from 32.3 per cent to 27.1 per cent in 2021 – while the share of non-Indigenous academic staff under 40 has increased over the same period.

The share of Indigenous staff aged under 40 is significantly lower than non-Indigenous staff for staff employed in junior academic positions – i.e., below lecturer (Level A) and lecturer (Level B) positions. In contrast, 52 per cent of Indigenous staff employed in non-academic roles were aged under 40 in 2021, compared to 40.5 per cent of non-Indigenous staff.

Figure 122: Proportion of staff aged under 40 by duties classification, 2021



Source: Department of Education, Skills and Employment 2022, Unpublished HEIMS UA dataset.

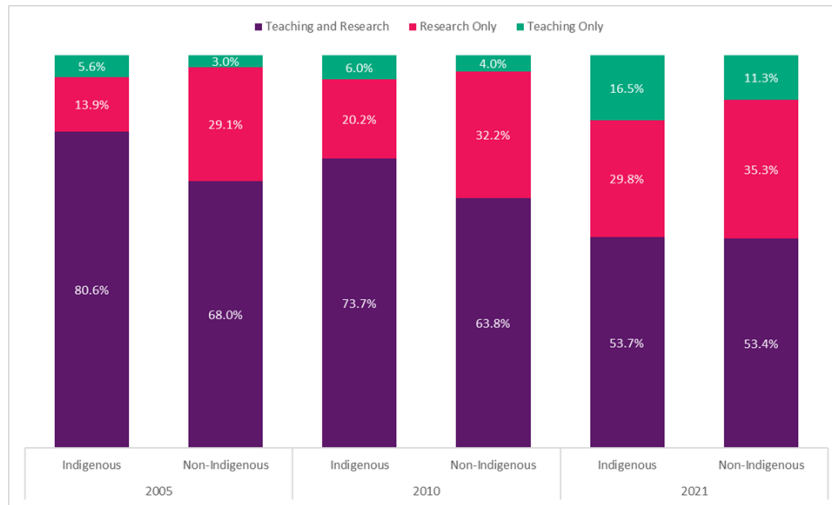
Academic functions

Indigenous academic staff are more likely to be employed in teaching and research or teaching-only positions and less likely to be employed in research-only functions. However, similar to non-Indigenous academics, the share of staff employed in teaching and research functions has declined over time, with more staff being employed in teaching-only or research-only roles.

In 2021, most Indigenous academic staff were employed in teaching and research functions (53.7 per cent), declining from 80.6 per cent in 2005. The proportion of Indigenous academic staff employed in teaching-only roles increased from 5.6 per cent in 2005 to 16.5 per cent in 2021; while the share of research-only Indigenous staff increased from 13.9 to 29.8 per cent over the same period.

This compares to just 11.3 per cent of non-Indigenous academic staff employed in teaching-only function and 35.3 per cent in research-only function in 2021. Nevertheless, similar proportion of Indigenous and non-Indigenous staff were employed in teaching and research functions in 2021.

Figure 123: Share of staff by academic functions, 2005, 2010 and 2021



Source: Department of Education, Skills and Employment, Unpublished HEIMS UA dataset, various years.

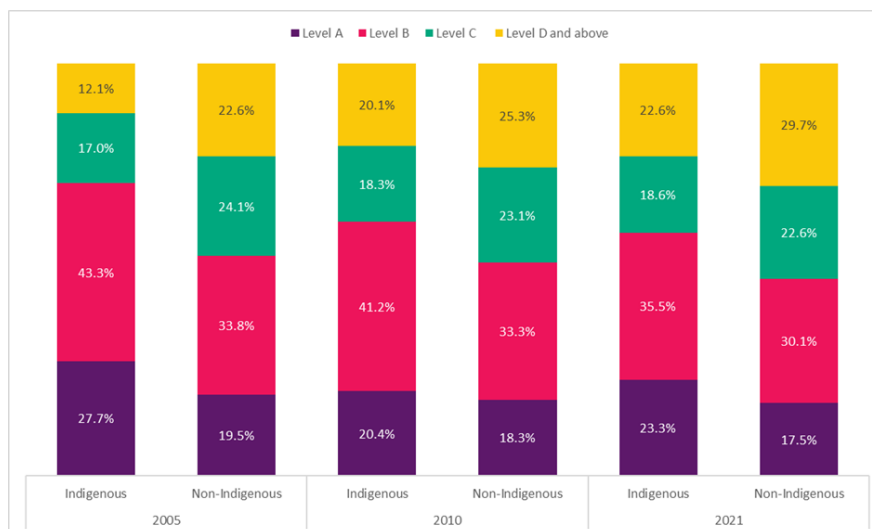
Duties classification

In 2021, Indigenous academic staff were employed in greater proportion at more junior academic ranks compared to non-Indigenous staff. This includes levels below lecturer (Level A) – 23.3 per cent, compared to 17.5 per cent for non-Indigenous staff – and lecturer (Level B) – 35.5 per cent, compared to 30.1 per cent for non-Indigenous staff.

In contrast, Indigenous academic staff were employed in lower proportion at levels of senior lecturer and above, compared to non-Indigenous staff. In 2021, 18.6 per cent of Indigenous staff were employed at the level of senior lecturer (Level C), compared to 22.6 per cent for non-Indigenous staff – and above senior lecturer (Level D and above) – 22.6 per cent, compared to 29.7 per cent for non-Indigenous staff.

Nonetheless, the share of Indigenous staff in senior academic roles – Level D and above – has increased since 2005, from 12.1 per cent to 22.6 per cent in 2021.

Figure 124: Share of staff by academic duties classification, 2005, 2010 and 2021



Source: Department of Education, Skills and Employment, Unpublished HEIMS UA dataset, various years.