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# Impact of the Demand Driven System 2009-2017

March 2019

## Impact of the Demand Driven System – 2009 to 2017

It is ten years since the demand driven system for funding university places was announced. The Government wanted to ensure that all Australians had the opportunity to gain the knowledge and skills in the fields that drive them, as the basis for productive contribution to Australia's future.

The IRU has consistently supported the policy which lets universities meet demand for higher education from the mix of population growth and increased employment need for graduates. IRU members are important contributors to these outcomes, especially the reduction in inequity of access for students from underrepresented groups.

We need Australians to follow their aspirations and graduate across all disciplines to be ready for the challenges ahead. The intent of the policy was to increase higher education attainment, support growth in key areas for the economy, and to reduce inequities in access by people from backgrounds underrepresented in universities.

Overall, demand driven funding improved outcomes for all three objectives. The following analysis sets out:

- the increase overall in student enrollments and new graduates;
- the targeting of increases to health professions and science technology engineering and mathematics (STEM) graduates;
- the improved outcomes for students from low socio economic backgrounds;
- the improved outcomes for Aboriginal and Torres Strait Islander students; but
- lower levels of improvement for students from rural and remote areas.

The analysis is of Australian students enrolled in undergraduate programs, the students subject to demand driven arrangements. All charts and tables refer to this set of students only.

The Government decision to cap university Commonwealth Grant Scheme funding at its 2017 level means that universities will steadily reduce the number of students enrolled to avoid allowing the investment per student to drop below the level needed for quality student learning.

The Government proposals for the university by university funding cap to be indexed to population growth, contingent on meeting performance standards on student experience, graduate outcomes and equity is not a serious mechanism to meet growing demographic demand in the 2020s, let alone the continued steady rise in the proportion of the workforce needing higher level education.

The Government should re-set the higher education funding framework announced at the end of 2017 so that universities can provide needed education outcomes, by removing the cap on Commonwealth Grant Scheme funding for each university.

To address the lower level of improvement for participation for students from regional and remote areas it should create a regional, rural and remote (RRR) program to encourage and reward the enrolment and progress of students from regional, rural and remote areas. The program would parallel the Higher Education Participation and Partnerships Program (HEPPP) and Indigenous Support Program (ISP).

## A. The growing number of students and graduates

There were two distinct periods of demand driven expansion. Domestic undergraduate enrolments increased steadily at four to six percent annually after the introduction of demand driven funding, peaking in 2013 as the system absorbed previously unmet demand (Figure 1).

The risks to Government outlays from rapid growth in the number of students then eased. The second period from 2014 onwards saw expansion continue but at a declining growth rate, dropping to 2% in 2017, the last year with full-year data.

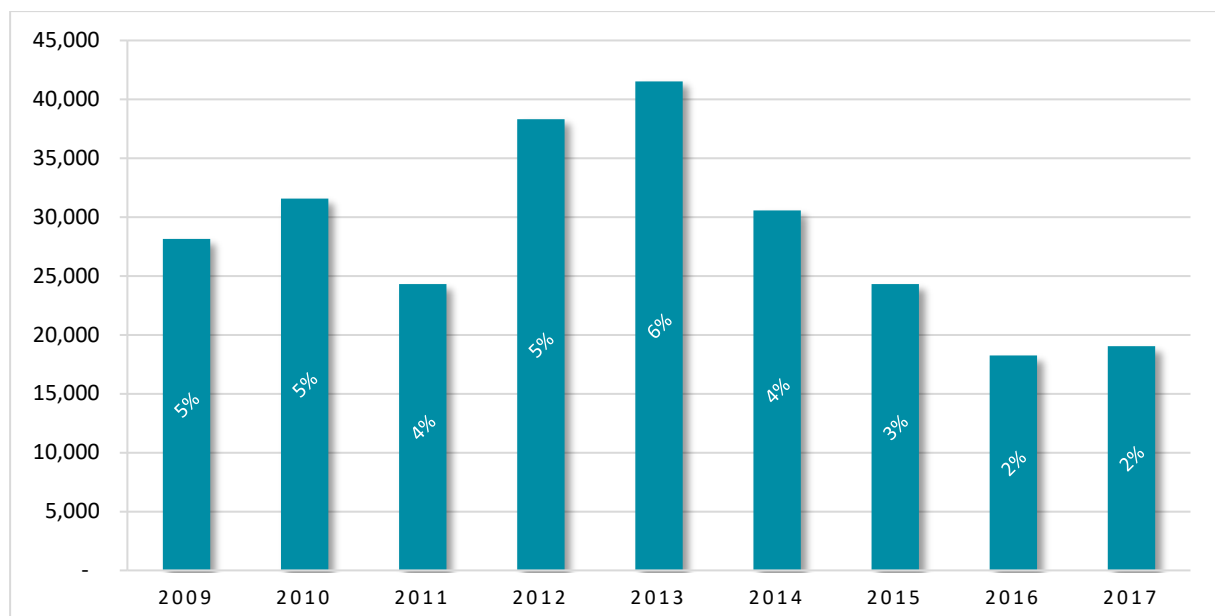
Tables 1 and 2 show that the number of students grew 35% between 2009 and 2017 from 651,527 to 879,435 people. The number of graduates grew 27% between 2009 and 2017 from 122,548 to 155,784.

The expansion in graduates has meant that the target of 40% of people aged between 25 and 34 having a bachelor degree or above was likely met in 2017.

We do not have full-year data for 2018, the first year impacted by the CGS funding freeze, but domestic undergraduate enrolments in the first half of 2018 grew at their lowest rate this decade at 0.5%.

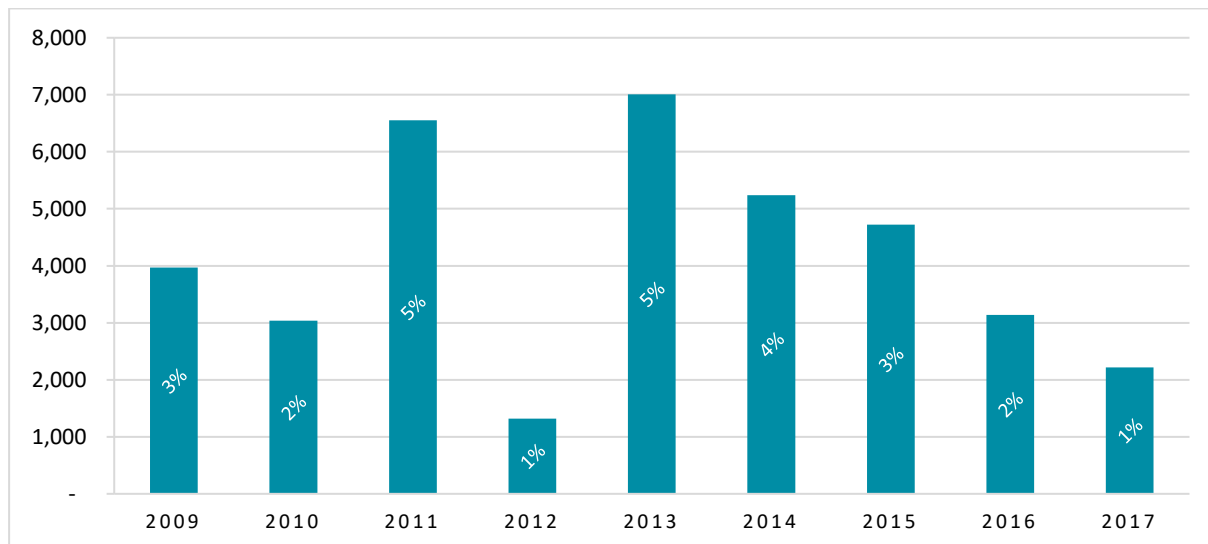
The risk ahead is for a third period of declining access. The key 17 to 18 age group is projected to grow by between 1% and 4% per year in the period 2020 to 2024. Without a return to demand driven funding, we will create a new period of declining higher education participation.

**Figure 1. Growth in Australian undergraduate students, 2009 to 2017**



Data sourced from uCube, Department of Education.

**Figure 2: Growth in Australian undergraduate completions, 2009 to 2017**



**Table 1: Number of enrolments and completions, 2009-2017**

	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Enrolments</b>	651,527	683,109	707,427	745,744	787,277	817,832	842,152	860,394	879,435
<b>Completions</b>	122,548	125,583	132,134	133,455	140,465	145,703	150,424	153,565	155,784
<b>Enrolments</b>									
% Change	5%	5%	4%	5%	6%	4%	3%	2%	2%
<b>Completions</b>									
% Change	3%	2%	5%	1%	5%	4%	3%	2%	1%

**Table 2: Growth in enrolments and completions, 2009 to 2017**

	# Change (09 - 13)	# Change (13 - 17)	# Change (09 - 17)	% Change (09 - 13)	% Change (13 - 17)	% Change (09 - 17)
<b>Enrolments</b>	135,750	92,158	227,908	21%	12%	35%
<b>Completions</b>	17,917	15,319	33,236	15%	11%	27%

## B. Higher education outcomes by discipline

The demand driven expansion led to more students studying science and health degrees, areas identified as needing expansion, with far lower growth rates in business, law and arts degrees, areas the previous system tended to encourage.

### Student enrolments

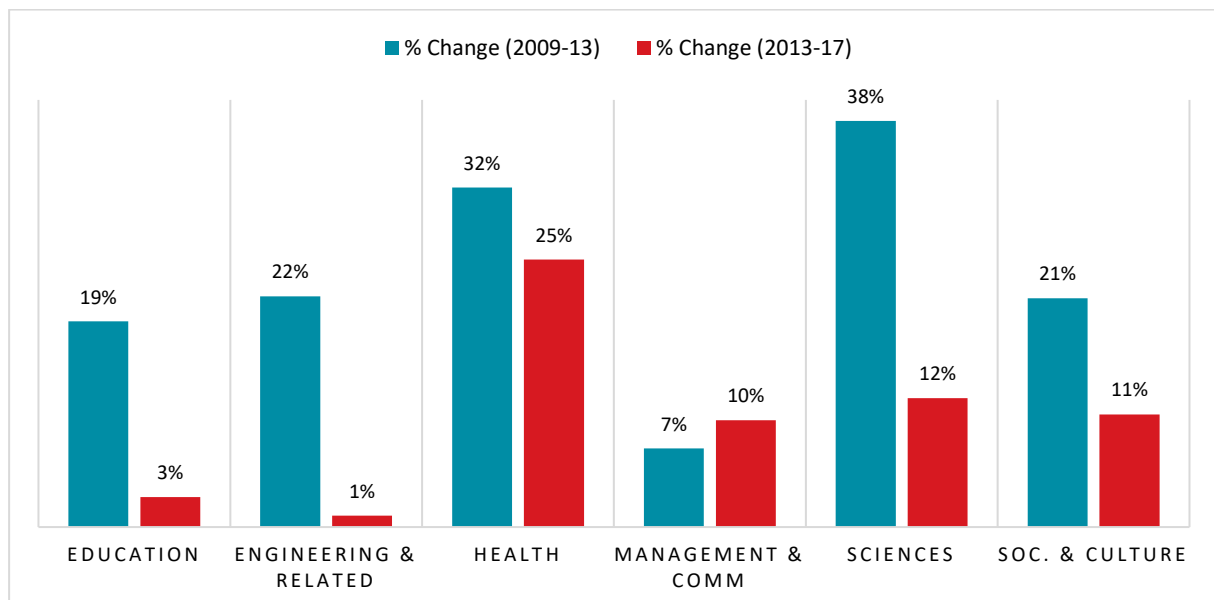
There was an overall 35% growth in domestic undergraduate student enrolments from 2009 to 2017. STEM disciplines showed higher than average growth:

- Health enrolments increased by 64% from 99,222 to 163,547;
- Natural and physical sciences increased by 55% from 56,584 to 87,518;
- Engineering increased by 23%, from 45,142 to 55,480; and
- IT increased by 62%, from 18,545 to 29,993.

The STEM growth was primarily in the first period immediately after introduction of demand driven funding. Figure 3 and Figure 4 show the change in student enrolment growth by percentage growth and total enrolments for the two periods: the high growth (2009-2013) and low growth period (2013-2017). These results suggest that while health disciplines have remained robust and commerce has expanded during the second period, STEM growth is now relatively weaker and heavily reliant on growth in the natural sciences.

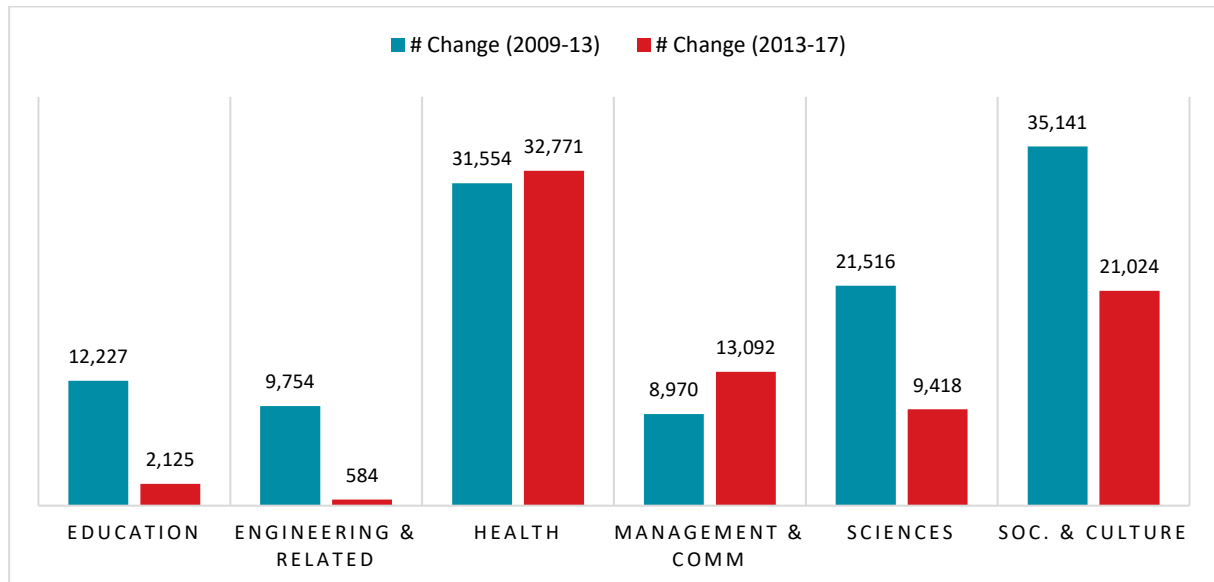
Overall it shows that demand driven funding allowed the built up demand for higher cost courses to be met, such that ongoing growth is spread more evenly.

**Figure 3: Percentage growth in student enrolments by discipline, 2009 to 2017**



Data sourced from uCube, Department of Education

**Figure 4: Growth in student enrolments by discipline**



Data sourced from uCube, Department of Education

### Graduates

Student completions show a similar pattern with a 27% increase in overall completions between 2009 and 2017. 2009 is used as the base year, with graduates from 2013 increasingly likely to have enrolled following the announcement of demand driven funding.

- Health completions increased by 53%, or from 19,483 in 2009 to 29,880 in 2017. Health had the greatest proportional and aggregate increase in completions over this period.
- Science completions increased by 51%, from 11,355 in 2009 to 17,182 in 2017.
- Engineering completions increased by 33%, or from 6,428 in 2009 to 8,556 in 2017.
- Information Technology completions increased by 39%, or from 3,159 in 2009 to 4,405 in 2017.

The change in annual growth in completions (percentage growth and total number) for the high growth (2009-2013) and low growth periods (2014-2017) are shown by discipline in Figure 5 and Figure 6.

Course completions are a lagged indicator for shifts in student preferences, with the initial growth in enrolments from demand driven funding in 2009 impacting completions from around 2013. The slowing of enrolment growth post 2013 will start to affect completions from 2017 onwards.

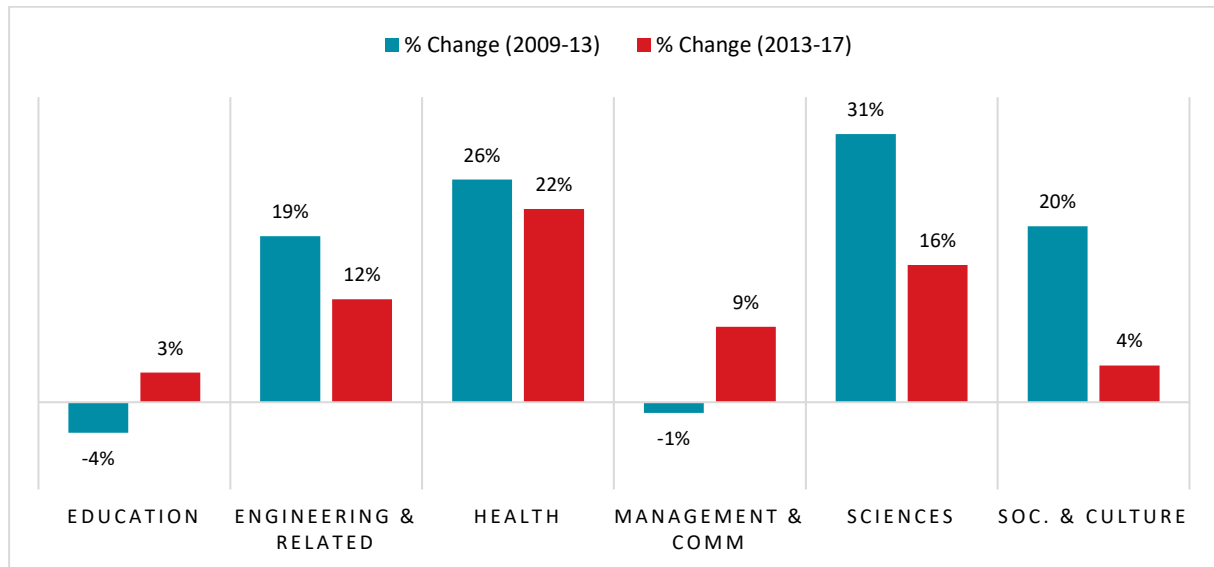
Demand driven funding initially led to the greatest aggregate growth in completions in society and culture (increasing by 5,852 from 2009 to 2013) due it being the largest field of study. In terms of shifts in preferences between fields, natural sciences grew at the greatest rate from 2009 to 2013 (31%), followed by health (26%). Completions growth during the later (low growth) period was also greatest in these fields, but with health increasing more, with a 22% increase in 2017 compared to 2013 levels, versus 16% growth in natural science completions.

The impact of the lower growth in enrolments from 2014 onwards will be felt in the coming years, but the easing of expansion from 2014 to 2017 probably indicates that the backlog of interest has

been met, particularly within STEM fields, with future completions likely to be underpinned by recent growth in health, commerce and society and culture.

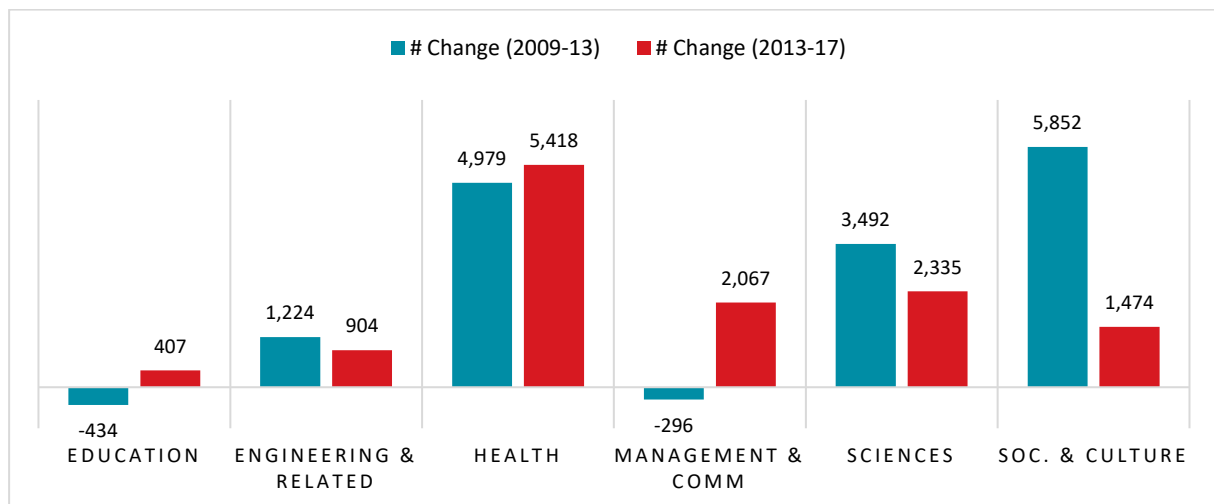
Overall, the enrolment and completion data suggest that the demand driven approach has worked well to support student interest across all discipline areas.

**Figure 5: Percentage change in student completions by discipline, 2009 to 2017**



Data sourced from uCube, Department of Education

**Figure 6: Change in student completions by discipline, 2009 to 2017**



Data sourced from uCube, Department of Education

## The change in the mix of disciplines

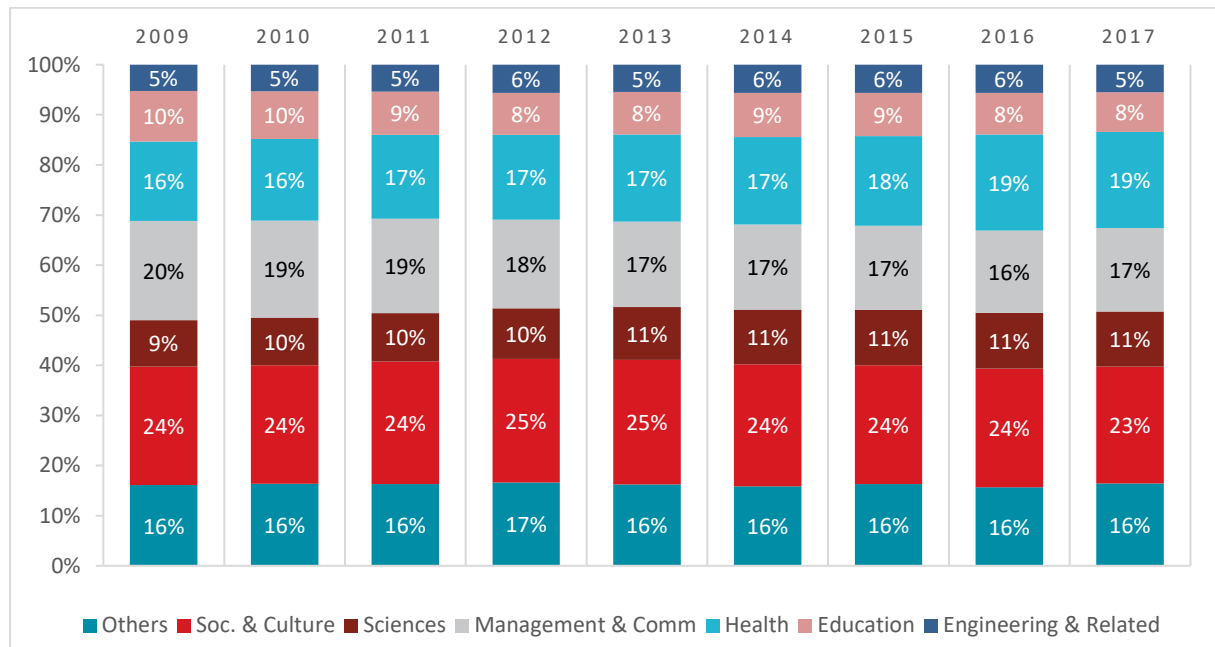
The larger growth in the health and STEM areas has changed the balance of students by discipline (Figure 7). Health graduates have grown from 16% to 19% of all graduates. By contrast, education graduates have fallen from 10% to 8% over the same period, despite arguments that these courses are enrolling too many students.

The change in the balance across disciplines increased the apparent funding per student up until the introduction of the CGS funding freeze. Funding rates did not change other than through indexation but because more students graduated from more highly funded fields the average has increased. The CGS funding freeze reverses the incentives for growth in science and health fields to encourage growth in lower funded fields, especially those with high student contribution amounts such as commerce and law.

This growth trend is evidence that the demand driven system was generally working effectively. It did not imbalance the system or create perverse outcomes. Growth in STEM was achieved through an alignment between university supply and demand from students as a discipline of choice.

It undermines the constant assumption that demand driven funding (and its potential reintroduction) incentivises expansion only in low cost or high charge courses, such as law and business. This remains a constant refrain despite the lack of evidence.

**Figure 7: Percentage of student completions by discipline**



Data sourced from uCube, Department of Education



### C. Participation of Low SES students

One aim of the decision to open university undergraduate education to all interested and capable students was to reduce the imbalance of students according to their socio-economic background. With higher education access already strong for students of high SES backgrounds, the scope for expansion was greatest for students from lower SES backgrounds.

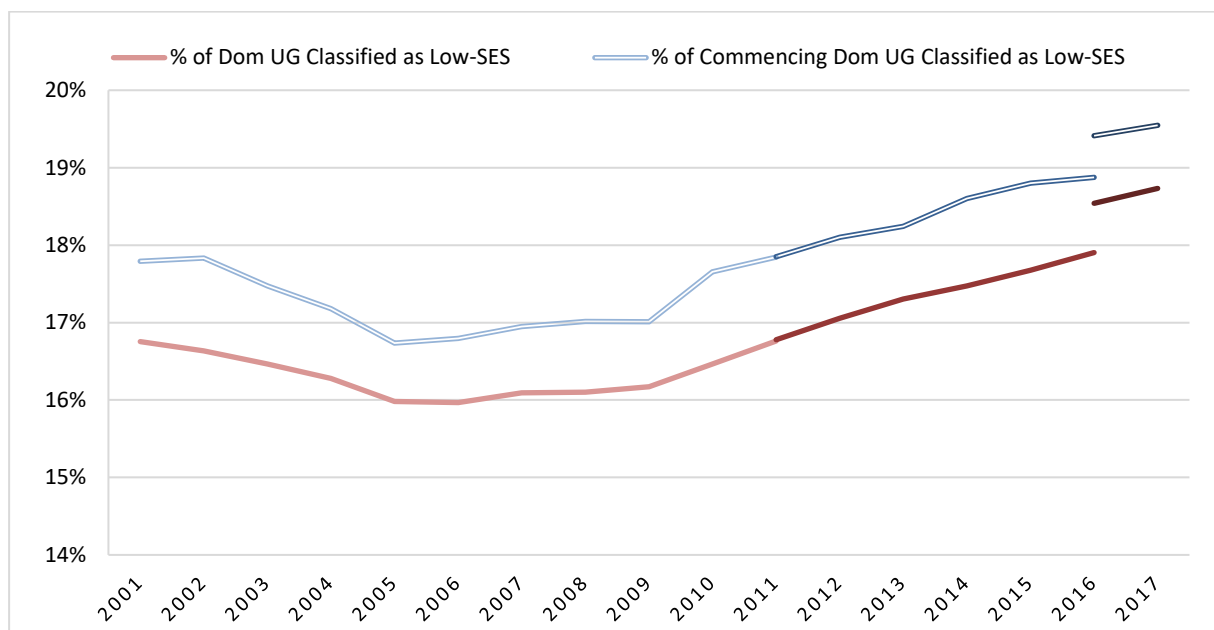
If access by any capable person were even, students from regions in the lowest SES quartile would comprise 25% of students. Instead they have been well short of this. By contrast, students from high SES regions have been almost twice as likely to attend. The difference is hard to ascribe to differences in interest, let alone to differences in capability.

Some have inverted the intent to argue that demand driven funding was an expensive way to redress lower levels of access by people from low SES backgrounds. This argument ignores the real growth in the number and proportion of such students, while attempting to undermine demand driven access through forgetting its prime intent to increase higher education attainment across all groups.

The national data is clear (Figure 8). Demand driven access combined with a large Higher Education Participation and Partnerships Program (HEPPP) works.

- Following the expansion of university places across the 1990s, the slow growth in places across the 2000s saw universities become harder to access. The increased selectivity led to a decline in the proportion of students from low SES backgrounds from 16.8% in 2001 to 16.0% in 2005.
- Better funding and extra places saw the low SES proportion stabilise in the mid-2000s.
- From 2009 it grew consistently, such that since 2012 it has been higher than any point earlier in the century, reaching 18.7% in 2017. Changes in the classification of postcodes by SES in 2017 data may marginally inflate the figure from this year.

**Figure 8: Percentage of students from low SES backgrounds**



Data sourced from Department of Education Statistics, 2017 Student Data Section 11, 2016 Appendix 2.

Of the extra 213,064 undergraduate students between 2009 and 2017, 54,983 (25%) are low SES, almost at the point the parity.

Low SES students as a proportion of commencing students has been consistently higher than their proportion of all students, implying a relatively greater difficulty in retention of low SES students compared to others.

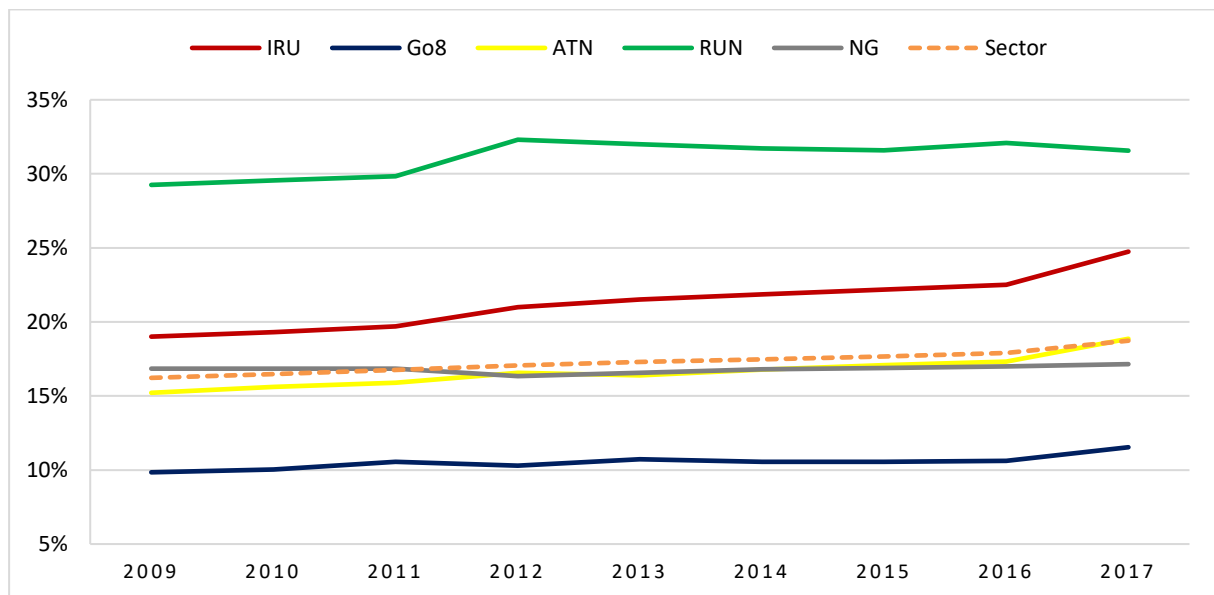
If current growth rates were to continue and retention improve, low SES enrolment could reach 19% by 2020 – still short of the Bradley benchmark of 20% of all students by 2020. However, there is considerable risk that with the CGS funding freeze low SES participation rates have peaked and may be at risk of decline in future years if access overall tightens.

### Where have low SES students enrolled?

IRU members have been crucial to the growth in low SES student numbers. Consistent with our commitment to inclusive education, IRU members focus on encouraging students from all backgrounds with well-designed programs to attract and support them.

Between 2009 and 2017 IRU members enrolled an additional 30,829 Australian undergraduate students. This has raised the proportion of low SES students in IRU members from 19% to 25%. Members of the Regional University Network and other universities located outside the inner cities have also had strong growth in the number and proportion of low SES students.

**Figure 9: Percentage of students who are Low-SES, 2009 to 2017**



Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

**Table 3: Low-SES domestic undergraduate students 2009 to 2017, by university group**

Groups	SEIFA 2006			SEIFA 2011					
	2009	2010	2011	2012	2013	2014	2015	2016	2017
IRU	19,252	20,717	21,887	24,499	26,252	27,570	28,702	29,288	32,693
Go8	15,034	15,800	16,858	16,849	18,094	18,110	18,000	18,009	19,391
ATN	10,765	11,263	11,803	13,244	14,073	15,336	16,141	16,869	19,049
RUN	14,543	15,261	16,129	18,509	19,254	19,948	21,156	22,197	22,656
NG	31,857	38,986	41,088	42,802	46,520	49,344	51,860	54,099	56,274
<b>Total</b>	<b>91,451</b>	<b>102,027</b>	<b>107,765</b>	<b>115,903</b>	<b>124,193</b>	<b>130,308</b>	<b>135,859</b>	<b>140,462</b>	<b>150,063</b>
<b>% of Sector who are Low-SES</b>	<b>15%</b>	<b>16%</b>	<b>16%</b>	<b>17%</b>	<b>17%</b>	<b>17%</b>	<b>18%</b>	<b>18%</b>	<b>19%</b>

Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

**Table 4: Low-SES domestic undergraduate students, change from 2009 to 2017**

Groups	# Change (2009-13)	# Change (2013-17)	# Change (2009-17)	% Change (2009-13)	% Change (2013-17)	% Change (2009-17)
IRU	7,000	6,441	13,441	36%	25%	70%
Go8	3,060	1,297	4,357	20%	7%	29%
ATN	3,308	4,976	8,284	31%	35%	77%
RUN	4,711	3,402	8,113	32%	18%	56%
NG	14,663	9,754	24,417	46%	21%	77%
<b>Total</b>	<b>32,742</b>	<b>25,870</b>	<b>58,612</b>	<b>36%</b>	<b>21%</b>	<b>64%</b>

Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

## D. Participation of Aboriginal and Torres Strait Islander students

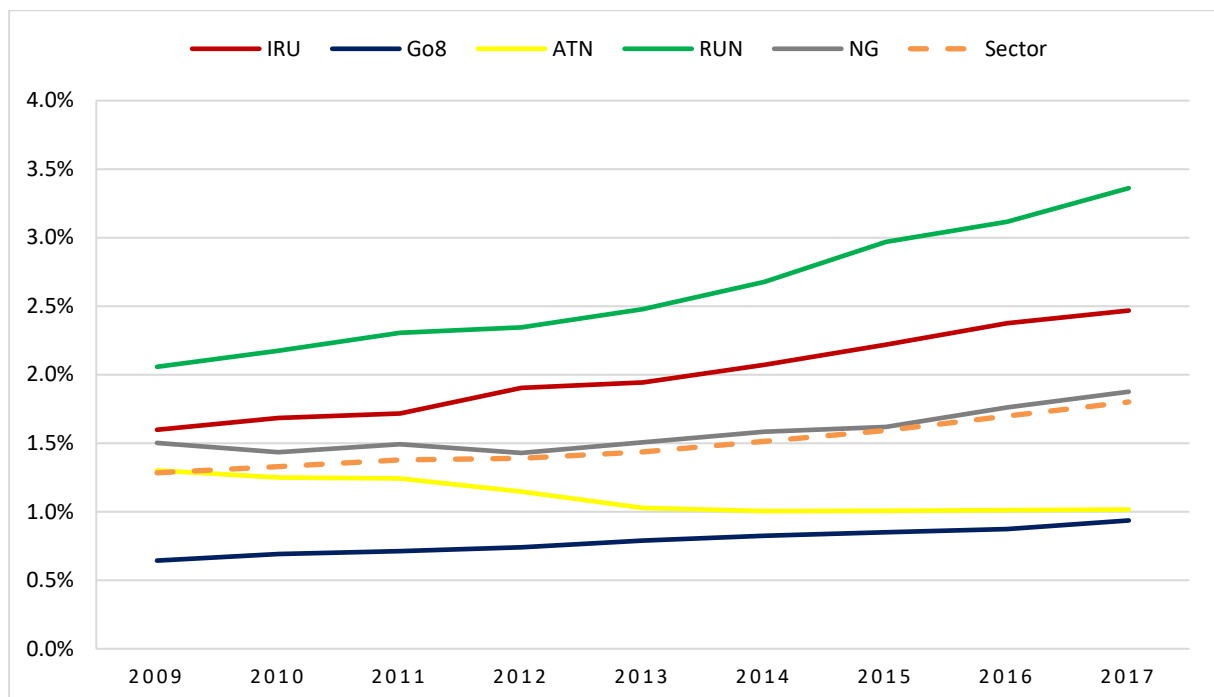
The growth in student numbers through the demand driven system has supported a major increase in Aboriginal and Torres Strait Islander participation and completions across all universities and at IRU members in particular.

The members of the IRU have long been committed to providing high quality and accessible education Aboriginal and Torres Strait Islander students. IRU members educated 23% of Australia’s Aboriginal and Torres Strait Islander student population in 2017.

The number of Aboriginal and Torres Strait Islander students has risen from 7,391 in 2009 to 14,429 in 2017, pushing up participation from 1.3% of all students to 1.8%. This is still well short of the benchmark of the proportion of Aboriginal and Torres Strait Islander people in the Australian working age population (2.6% in 2016 according to Australian Bureau of Statistics).

Aboriginal and Torres Strait Islander undergraduate enrolments have grown at a far greater rate than other groups, roughly doubling over the 2009 to 2017 period (increasing 91%), compared to a 36% increase across all students. Aboriginal and Torres Strait Islander students accounted for 3% of the overall growth in student numbers across the sector, including 5% of the overall growth at IRU members. This is a significant proportion, particularly when considered in relation to the performance of other groupings of higher education providers in this area, and a positive outcome of demand driven funding.

**Figure 10: Aboriginal and Torres Strait Islander Students, 2009-2017**



Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

Since 2009 the number of Aboriginal and Torres Strait Islander students attending an IRU member has increased from 1,619 in 2009 to 3,261 in 2017, an increase of 1,642 students. In 2017, Aboriginal and Torres Strait Islander students comprised 2.5% of all IRU students, second only to the RUN members with 3.4% and well above the sectoral total of 1.8%.

As Table 7 shows the higher number of students flows into the number of Aboriginal and Torres Strait Islander graduates which rose from 912 in 2009 to 1611 in 2017. This represents a change from 0.8% of all graduates to 1.2%, but still far less than the proportion of students.

**Table 5: Aboriginal and Torres Strait Islander Students**

Group	2009	2010	2011	2012	2013	2014	2015	2016	2017
IRU	1,619	1,807	1,907	2,221	2,371	2,613	2,873	3,091	3,261
Go8	983	1,089	1,137	1,211	1,333	1,418	1,450	1,480	1,574
ATN	921	901	923	917	883	918	952	985	1,026
RUN	1,023	1,123	1,247	1,344	1,492	1,684	1,988	2,156	2,412
NG	2,845	3,319	3,641	3,744	4,233	4,653	4,972	5,604	6,156
<b>Sector</b>	<b>7,551</b>	<b>8,243</b>	<b>8,857</b>	<b>9,441</b>	<b>10,314</b>	<b>11,286</b>	<b>12,240</b>	<b>13,320</b>	<b>14,429</b>
<b>Sector %</b>	<b>1.3%</b>	<b>1.3%</b>	<b>1.4%</b>	<b>1.4%</b>	<b>1.4%</b>	<b>1.5%</b>	<b>1.6%</b>	<b>1.7%</b>	<b>1.8%</b>

Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

**Table 6: Growth in Aboriginal and Torres Strait Islander students, 2009-2017**

Group	Aboriginal and Torres Strait Islander Students			All Domestic Undergraduate	
	% of Growth	# Increase	% Increase	# Increase	% Increase
IRU	5.3%	1,642	101%	30,829	30%
Go8	3.8%	591	60%	15,356	10%
ATN	0.3%	105	11%	30,228	43%
RUN	6.3%	1,389	136%	22,036	44%
NG	2.4%	3,311	116%	138,902	73%
<b>Sector</b>	<b>3.2%</b>	<b>6,878</b>	<b>91%</b>	<b>213,064</b>	<b>36%</b>

Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

**Table 7: Aboriginal and Torres Strait Islander completions, 2009-2017**

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Aboriginal and Torres Strait Islander Completions	912	919	1,124	983	1,189	1,314	1,386	1,485	1,611
% of Domestic Completions	0.8%	0.8%	1.0%	0.8%	0.9%	1.0%	1.0%	1.1%	1.2%

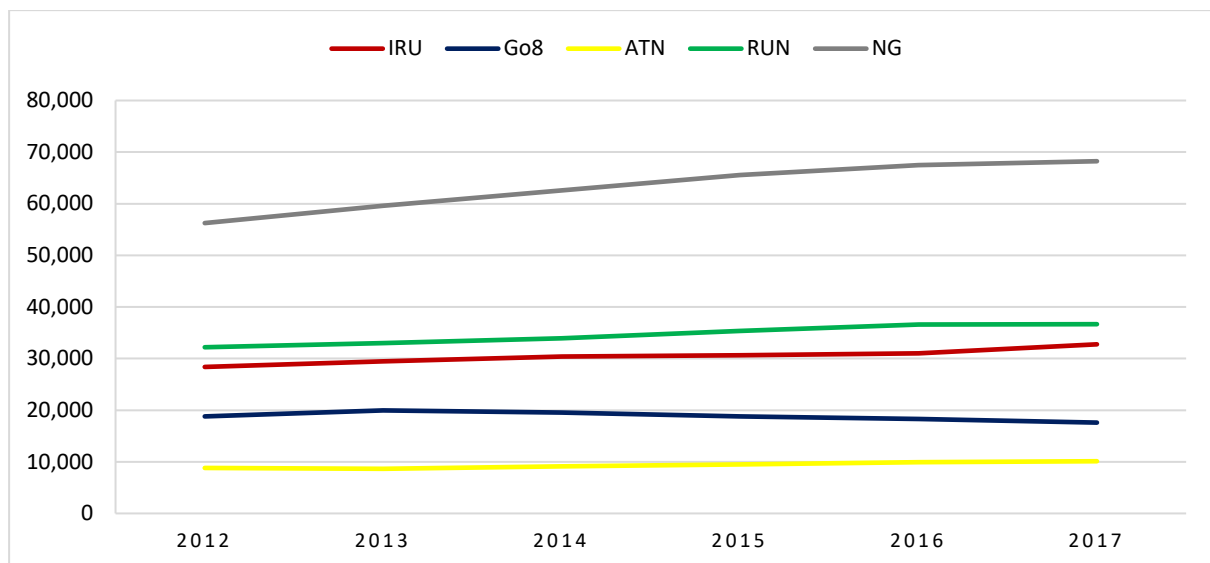
Source: Department of education Statistics, Award course Completions (2009-2017)

## E. Participation of Regional and Remote students

The outer metropolitan locations of IRU members position them as important tertiary education providers to students coming from regional and remote areas in Australia. The demand driven funding system saw an increase in student numbers from regional and remote areas. However, the general increase in student numbers means that the low comparative participation of students from these regions did not improve.

Government definitions of regional and remote permanent addresses have changed twice over the 2009 to 2017 period, which complicates trend analyses for regional participation. From 2009 to 2011 the definition was more restrictive for regional students, leading to a comparatively large increase in 2012 when remote but large towns were included. The definition was refined again in for the 2017 collection, but with less impact on the results. While these changes can skew institutional-level results, the overall trend is clear. University participation in regional populations increased steadily during the period of demand driven expansion.

**Figure 11: Number of regional & remote students, 2012 to 2017**



Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

### University participation amongst regional students

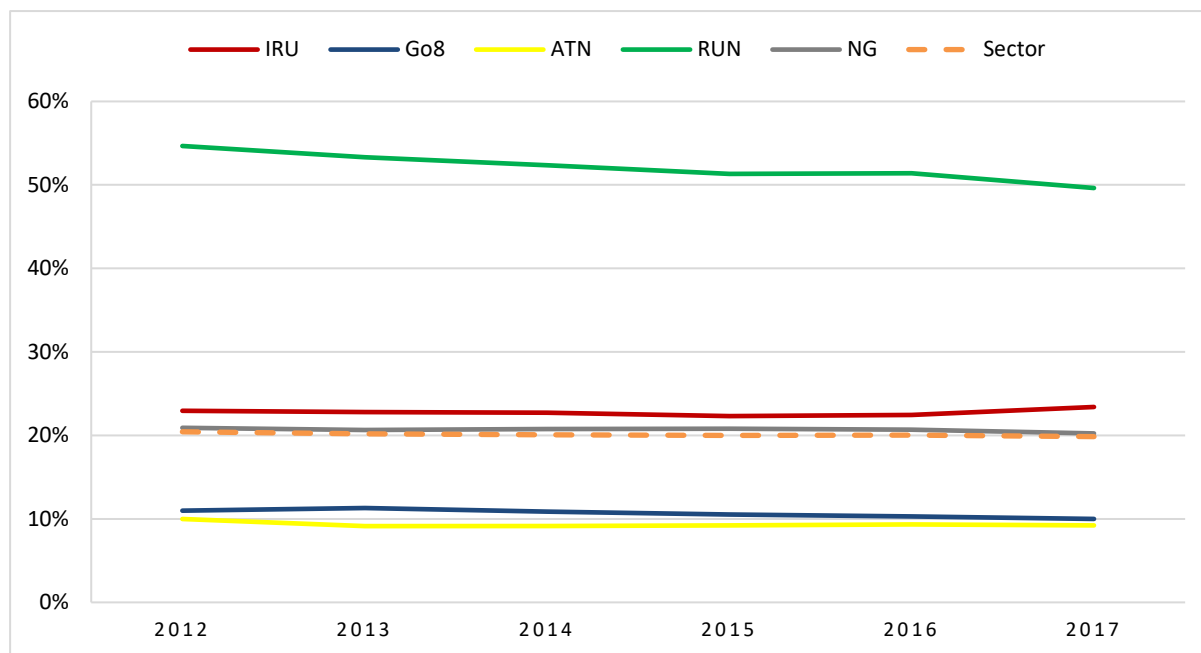
The number of students from regional areas increased from 138,854 in 2012 to 159,050 in 2017.

However, whereas the demand driven system saw steady increases in the proportion of all students from low SES and Aboriginal and Torres Strait Islander backgrounds, regional student growth has only just kept pace with overall growth. Regional students have comprised 20% of all students across all years from 2009 to 2017.

Despite relatively stable regional student participation rates, the enrolment flexibility and accessibility under the demand driven funding model did underpin aggregate increases in regional students across the sector. The challenge will be to achieve expansion into more difficult to access

remote areas during a time of governmental fiscal constraint. In the absence of demand driven funding, additional places specifically for regional and remote education may be warranted.

**Figure 12: Regional students as a proportion of all students, 2009 to 2017**



Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

**Table 8: Regional Domestic Undergraduate Students, 2012 to 2017**

Group	ASGS (2011)					ASGS (2016)
	2012	2013	2014	2015	2016	2017
IRU	26,778	27,798	28,637	28,871	29,219	30,921
Go8	17,996	19,065	18,660	17,969	17,479	16,800
ATN	7,988	7,842	8,367	8,727	9,105	9,309
RUN	31,320	32,082	32,929	34,371	35,551	35,610
NG	54,775	58,063	60,982	63,860	65,761	66,409
<b>Sector</b>	<b>138,854</b>	<b>144,848</b>	<b>149,574</b>	<b>153,873</b>	<b>157,116</b>	<b>159,050</b>
<b>Sector %</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>

Source: Selected Higher Education Statistics – Student data 2009 to 2017 See for 2015 Appendix 2.

**Table 9: Change in number of regional students, 2012 to 2017**

Group	# Change (2012-17)	% Change (2012-17)
IRU	4,143	15%
Go8	-1,196	-7%
ATN	1,321	17%
RUN	4,290	14%
NG	11,634	21%
<b>Sector</b>	<b>20,196</b>	<b>15%</b>

Source: Selected Higher Education Statistics – Student data 2012 to 2017 See for 2015 Appendix 2.

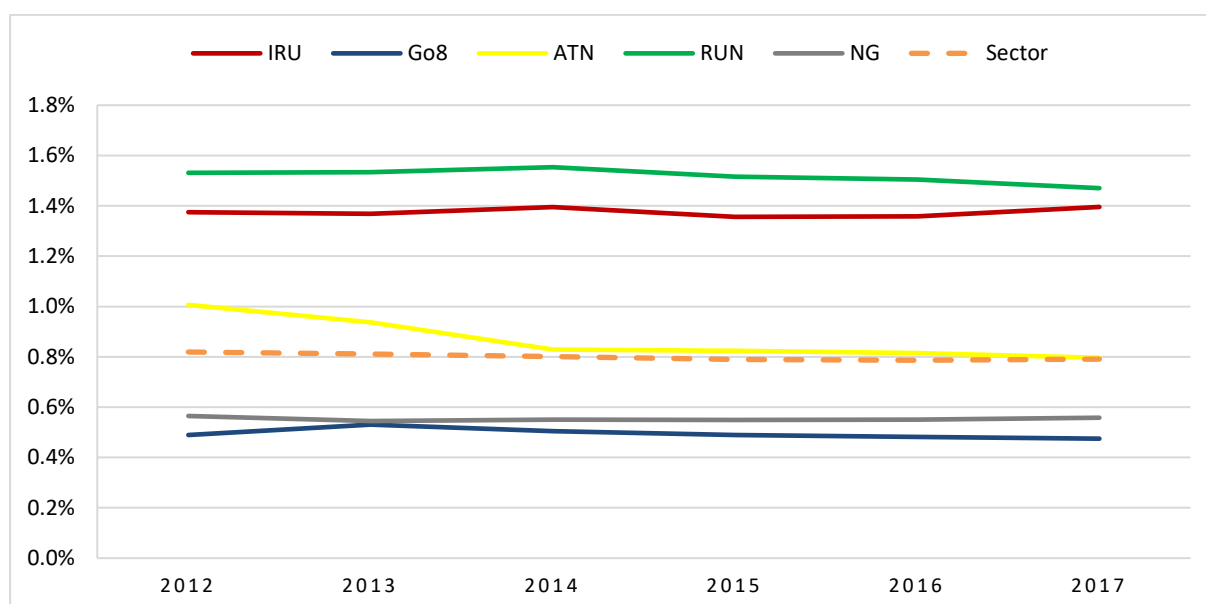
### University participation among remote students

IRU members have the highest number of remote student numbers of any higher education group in Australia. Data collected between 2012 and 2017 points to an increase in remote student numbers.

This positive trend indicates an increase by 772 over the 2012 to 2017 period (14% increase). Remote students grew by 15% at IRU members and 24% at unaffiliated universities, RUN grew 20% comprising the bulk of the total growth in remote students across the sector.

The small number of remote students makes the numbers susceptible to fluctuation. Demand driven funding did not appear to benefit remote student participation to the same extent as other groups, with their share staying at 0.8% of all students in the sector. Remote students range from 1.5% of all students at RUN members and 1.4% at IRU members, to 0.5% at the Go8. However, despite their relatively lower growth rate, the total number of remote students has increased in most university groups.

**Figure 13: Remote students as a proportion of all students, 2012 to 2017**





**Table 10: Remote students, 2012 to 2017**

Group	ASGS 2011					ASGS 2016
	2012	2013	2014	2015	2016	2017
IRU	1,604	1,670	1,760	1,755	1,767	1,844
Go8	801	895	867	835	817	798
ATN	805	805	757	779	794	804
RUN	877	923	977	1,015	1,041	1,055
NG	1,480	1,531	1,615	1,686	1,750	1,830
<b>Sector</b>	<b>5,565</b>	<b>5,830</b>	<b>5,983</b>	<b>6,076</b>	<b>6,176</b>	<b>6,337</b>
<b>Sector %</b>	<b>0.8%</b>	<b>0.8%</b>	<b>0.8%</b>	<b>0.8%</b>	<b>0.8%</b>	<b>0.8%</b>

**Table 11: Change in number of remote students, 2012 to 2017**

Group	# Change (2012-17)	% Change (2012-17)
IRU	240	15%
Go8	-3	0%
ATN	-1	0%
RUN	178	20%
NG	350	24%
<b>Sector</b>	<b>772</b>	<b>14%</b>

March 2019