



What about diplomas?

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Table of Contents

What about diplomas?.....	3
Executive summary	3
A snapshot, based on 2016-2020 commencements.....	3
Trends over time	4
Impact of the reduction in government funding on diplomas	6
Supply or demand?	6
Discussion.....	6
1. Introduction	10
2. Background	10
3. Trends over time.....	23
4. Comparison with higher education numbers	27
Discussion.....	34
5. Impact of government VET policy on demographic groups.....	36
6. Supply or demand?	38
Discussion.....	46
7. Final Comments	48
References	53

What about diplomas?*

Tom Karmel

Executive summary

In an earlier paper (Karmel, 2022) I argued that an issue for overall skill formation is that diplomas are losing their salience in Vocational Education and Training (VET) with the number funded by Government declining.

It seems to me that this is an issue of fundamental importance for the VET sector, because diplomas represent the skilled end of what VET is offering. To abandon diplomas would residualise the sector to training for lower skilled jobs and allow universities to have a monopoly of vocational education at the post-certificate level. Surely, this is not a good thing.

In this paper, we put diplomas under the microscope, and look at what they are, who does them, how numbers are trending, and how outcomes have fared.

A snapshot, based on 2016-2020 commencements

Diplomas are at level 5 of the 10 level AQF, while advanced diplomas are at level 6 (as are associate degrees. Levels 5 and 6 are qualifications delivered in both higher education (regulated by TEQSA) and Vocational Education and Training (regulated by ASQA). Diplomas outnumber advanced diplomas. VET holds the dominant share of diplomas.

There are over 1,100 different qualifications categorised as a diploma or advanced diploma. However, only 35 or so constitute two thirds of commencements. The largest (representing about 50% of commencements 2016-2020) are early childhood education and care, business, leadership and management, community services, leadership and management, nursing, hospitality management, building and construction, beauty therapy, accounting, business administration and remedial massage.

Over 2016-2020 the annual average number of commencements was 281,000 spread between 85,000 government funded, 114,000 with no government funding (domestic students) and 82,000 international students.

The majority of students are female. There are substantial numbers of young people undertaking them (39.5% of government funded commencements are 24 years and under), but the majority are between 25 years and 49 years.

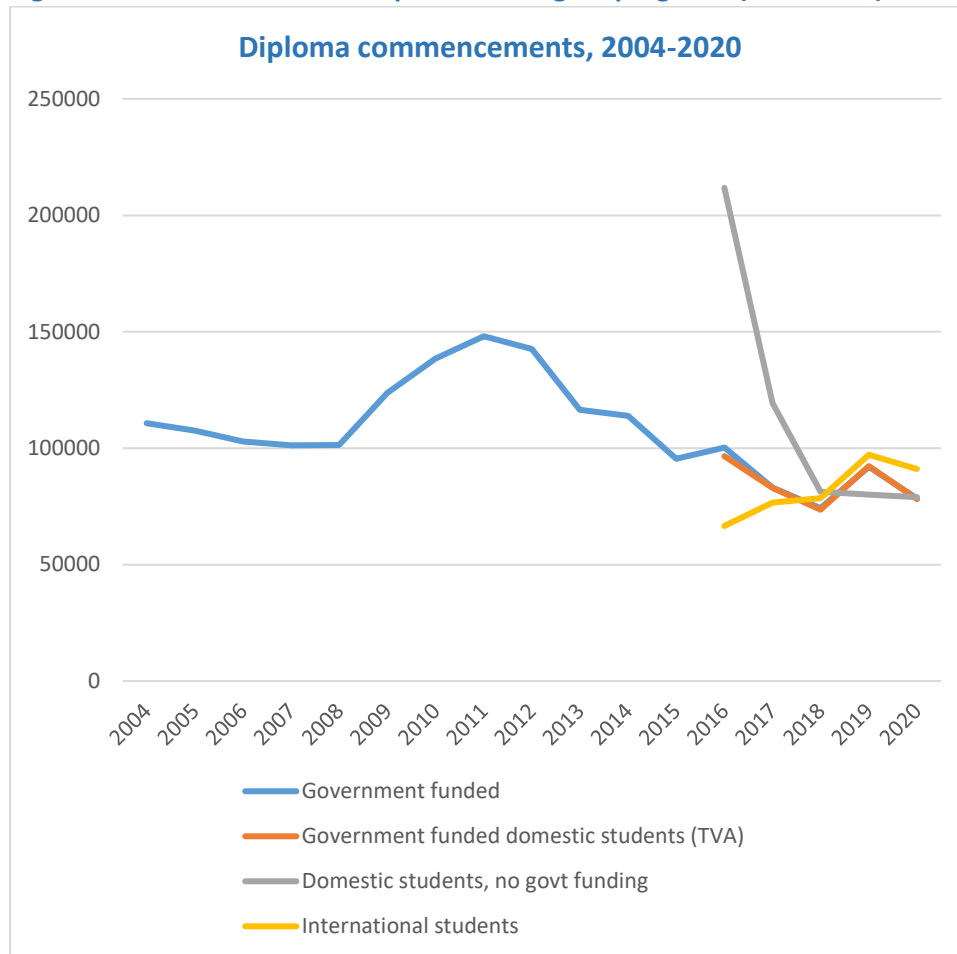
Previous educational experience is broad. Of commencing government funded students around 20% already have a diploma or higher qualification, around a third have a Certificate III/IV, about 30% have year 12.

Most diploma students are studying part-time, although more than 50% of government funded commencements are full time in the natural and physical science, information technology, the creative arts, and food, hospitality and personal services.

* I would like to thank the Mackenzie Research Institute Advisory Board for their comments on a draft

Trends over time

Figure 1: Commencements in diploma and higher programs (2004-2020)



The large growth post 2008 in government funded places, and the decline from 2011, together with the precipitous decline in domestic students with no government funding, were driven by the rise and fall in demand driven funding, and the VET FEE-HELP debacle (with its replacement by VET Student Loans). However, abstracting from the turmoil driven by these, there is a clear long-term decline in government funding for diplomas. Over the same period there has been a steady expansion in higher education undergraduate enrolments, and it is clear that there has been a widespread shift from VET diplomas to higher education degrees, and there is clear evidence that university entry standards have declined (as measured by the lowest 10 percentile points of ATAR entry scores). The story by field of study is quite complicated, though:

- Natural and Physical Sciences – VET has virtually abandoned this field although it delivers a small number of diploma courses relating to laboratory technology;
- Information Technology – government funded VET has become a small part of information technology. Domestic non-government funded provision is small but there are large numbers of international students;

- Engineering and Related Technologies - as for information technology, government funded VET is now a very small provider. The non-government domestic provision is of a similar order to government funded provision. By contrast there are considerably more international students;
- Architecture and Building – not so long ago government funded provision of diplomas was on a par with higher education undergraduate places. This is no longer the case, with university provision now dominating the government funded sector. The non-government sector provision of diplomas is very similar in size to the government funded sector. International student numbers are small;
- Agriculture, Environmental and Related Studies - a similar story in that the provision of government funded diplomas was similar to the provision of undergraduate higher education qualifications up to 2013. Since then, government funded diplomas have fallen away. There are relatively low levels of non-government funded provision of diplomas and few international students;
- Health - the VET sector is a niche player in this field, diplomas associated with enrolled nursing and some fringe medical specialties, including massage. One would think that the long-term future for VET in this area is limited, particularly if the long-term trend to longer training and degree level qualifications continues. International student numbers are small.
- Education – as for health, the VET sector is a niche player. Over recent years numbers of VET diplomas have increased greatly, in childcare and early education. The future of VET in this area will depend on the regulation of childcare – so it could continue to be important for the VET sector as diploma level qualifications are mandated. On the other hand, a possibility is that early education becomes a degree level course, in which case growth would not be as strong. International numbers have grown from a low base, and in 2020 the number of domestic non-government funded students was similar to the number of international students.
- Management and Commerce - up to 2012 VET government funded diploma commencements outnumbered the comparable number of higher education enrolments. After 2012, the higher education sector became more important such that in 2020 the higher education sector was twice the size of the government funded sector. Interestingly, domestic non-government funded diplomas outnumber the government funded VET diplomas (more than double). However, it is international students who dominate with their number being larger than the domestic provision. This is a rare field where it appears that the VET sector may be more than competitive, despite government funding dropping.
- Society and Culture – this is an area where higher education provision has dominated for the whole period we are looking at. This dominance is increasing. VET here is a niche player delivering counselling and community support diplomas.
- Creative Arts – in 2004 higher education provision of undergraduate qualifications exceeded VET provision of diplomas by a small margin. This margin has increased so that in 2020

higher education is clearly the dominant provider.

- Food, Hospitality and Personal Services. This is the one field which is dominated by VET with the higher education having very little presence.

Impact of the reduction in government funding on diplomas

The group most affected is that of young persons (most of whom have year 12 as their previous highest qualification). It appears that governments have abandoned this group or, alternatively, young persons see a higher education undergraduate degree rather than a VET diploma as a destination for further study. There are, though, three exceptions to this pattern: health (enrolled nursing), education (childcare) and food, hospitality and personal services (beauty). The older persons who are upgrading their qualifications (skills deepening) have also seen a widespread decline in the number of government funded diploma commencements. The group that has been least affected is those 25 years and over who already have a qualification at a diploma or higher level.

Supply or demand?

We cannot distinguish between demand and supply but we can test whether outcomes have changed. Our starting position is that a reduction in demand is likely if outcomes have declined. We look at a number of indicators:

- The percentage of those who are employed of those not employed before training;
- The percentage obtaining a job which relates to the area of training;
- The percentage obtaining a job in the management or professional occupations;
- The percentage reporting that their training was relevant to their current job;
- The percentage going on to further study.

Overall, some indicators have gone up and some down but our broad conclusion, although somewhat tentative, is that changes in student demand have largely driven the changes in the provision of diploma places.

Discussion

Overall, we have seen the extent of provision of government funded diplomas decline very significantly. If we exclude health and education, the number of commencements has declined by around 50% between 2004 and 2020. We have seen declines from numbers which saw similar levels of VET diploma provision and higher education undergraduate provision to a position where VET is now only a bit player in many areas.

To understand what has occurred we need to go to individual fields of study which we split into three categories, based on the extent of domestic provision:

- **Category 1:** These are fields which the VET sector now, in relative terms, has only a small presence, and include natural and physical sciences, information technology, engineering and related technologies, agriculture, environmental and related studies, health, society and culture and the creative arts. These are fields where the higher education sector over a

period of time has expanded at the same time as VET has contracted, and fields where governments have contracted VET diploma provision.

- **Category 2:** These are fields where both higher education and VET have a substantial presence and comprise architecture and building, education and management and commerce. In each of these fields non-government funded provision is important (and dominant in the field of management and commerce). In the case of education, VET and higher education are not competitors with the VET provision almost totally relating to childcare.
- **Category 3:** Fields where VET is dominant. There is only one field in this category (food, hospitality and personal services) and the VET provision here is quite narrow, being essentially diplomas of beauty.

It is also interesting to note that international students are playing a larger and larger role in the provision of diplomas. Overall, international students make up around 30% of diploma commencements, and are dominant in management and commerce, information technology and engineering and related technologies.

In the majority of fields it appears that VET is no longer a competitor with higher education, but there are a number of areas where VET provision at the diploma level has flourished. The first one is education, where the numbers of childcare and early education diplomas have reached high levels. This no doubt is driven by regulatory changes in the childcare industry. The second one is nursing, where the health sector has decided that enrolled nurses with a VET diploma are an important part of the health workforce. The third - hospitality and personal services - is quite different, being driven by market demand. These are essentially diplomas in beauty, with numerous young women undertaking such diplomas.

Overall, it is a pretty bleak picture for VET if we are of the view that VET should be offering a genuine alternative to higher education. What makes it even bleaker is that government funding of diplomas has contracted in most fields. One would conclude that governments are happy to vacate the higher VET qualifications space to universities offering degrees.

It also suggests that the idea that a high level vocational approach can be a genuine alternative to the more academic approach (with its emphasis on research) provided by higher education is becoming less and less tenable. VET is likely to be left as a provider of lower level training to meet short term industry needs. For VET to become a genuine alternative to university it would need to begin offering substantial numbers of degree level qualifications in addition to diplomas.

However, current funding models are very unhelpful. The fact that there are dual sector institutions indicates that there are no fundamental structural barriers for VET based institutions to offer higher education awards. The threshold standards within the higher education standards framework (Australian Government 2021) include two categories under which non-university providers can operate: Institutes of Higher Education (some with limited self-accrediting powers) and the University College with self-accrediting powers.

In this context a number of TAFEs do deliver degrees, and some of these places are funded by the Commonwealth. That said, it is not clear how many students undertake these courses. The higher education statistics show that in 2020 the non-university providers accounted for around 6.6% of all

domestic undergraduate commencements. So it is clear that in principle there is no reason why VET providers cannot extend their offerings into higher education. However, they do face a significant barrier in terms of fee structures. Unless a student can obtain a Commonwealth Supported Place (CSP) undertaking a degree is an expensive proposition.

I have formed the view that VET will continue its decline unless there are some significant structural changes so that degrees become an integral part of VET. My suggested reforms are:

- Changes to the AQF so that it is agnostic in respect to whether a bachelors degree is VET or higher education.
- An amalgamation of TEQSA and ASQA so that accreditation and regulatory oversight of a tertiary provider is the responsibility of one body.
- A rebalancing of government funding such that the Commonwealth is responsible for supporting tertiary education at levels five and above (that is, diplomas and above) with States being responsible for Certificates I-IV. A balance would need to be achieved in the distribution of Commonwealth funding at the AQF 5-7 level across universities and other providers.
- A consolidation of statistical data such that we would have a complete picture of the activity of each provider.

Even these reforms may not be sufficient. A continuing issue is the schism between higher education which is largely self-accrediting, and VET with its foundation of training packages. This split has educational dimensions with general education in VET subservient to industry specified competencies. VET has downplayed the role of educators since the development of training packages. For VET to have a better prospect of competing with the universities there would need to be more emphasis on general education so that students had multiple options to both acquire technical skills and also leave open the possibility of higher level study.

A further issue is that there needs to be a reinvention of institutional identity in the VET sector. In higher education we automatically think of universities as the fundamental entity, despite the fact that many universities are registered training organisations delivering VET qualifications. However, in VET there are thousands of small providers and only a few institutions of considerable size, namely the TAFEs. It is difficult to see VET competing with higher education unless it is delivered by strong institutions.

Thus it would need a fundamental shift in philosophy and serious institutional reform for the VET sector to embrace bachelor degrees as a key element of vocational education. There are a number of reasons why this is worth arguing for.

The first is an educational one; there are numerous fields where a practice based training philosophy (as distinct from a theory based approach) is a good one and, arguably, will meet the needs of the labour market more effectively. This is the notion, put forward by Mackenzie (2019), of a professional university with strong links to industry and putting its emphasis on teaching over research.

The second is a diversity argument. The so-called unified system in which colleges of advanced education morphed into universities, has led to a system where all universities aspire to become

comprehensive research universities. Surely, some diversity, with strong institutions with a different focus, would be of benefit to the nation – and it would bring Australia in line with the practice in many countries. That diversity can come from specialisation and a focus on teaching rather than research.

The third is an efficiency argument. Teaching only institutions do not have the option of cross subsidising research with funds notionally allocated to teaching.

The fourth is an equity argument. While there is much rhetoric from the universities concerning equity, it is unarguable that the VET in has a broader reach than universities in terms of students' age, educational background, social and cultural backgrounds.

Thus there are very good reasons for VET to embrace bachelor degrees as a key element of vocational education, so that VET can become a genuine alternative to university. However, considerable institutional reform is necessary before this can occur.

1. Introduction

In an earlier paper (Karmel, 2022) I argued that an issue for overall skill formation is that diplomas are losing their salience in Vocational Education and Training (VET) with the number funded by Government declining.

Government now funds relatively low numbers of diplomas. It would appear that Australia's skills formation focuses on degrees in higher education and low skill/intermediate skills in VET. To some extent this may mirror the workforce where we see professional jobs growing and low skilled jobs growing but few working in the intermediate level at the para-professional level. It also might be reflecting 'credentialism' with degree level qualifications usurping diplomas in professional occupations. Technology may also be playing a part with automation replacing middle skilled jobs – an obvious example is the development of computer-aided design programs which obviate the need for large numbers of skilled draftspersons. The skilled immigration programs, at least prior to the pandemic, may be crowding out local training in the higher intermediate skills space. Another characteristic of VET in Australia that does not assist diploma level qualifications is the emphasis on entry level training, as embodied by apprenticeships and traineeships, rather than general education to provide a foundation for lifelong learning. The terminal nature of the majority of diplomas undermines diploma level study. In this regard, there are relatively few pathways between diplomas and degrees – although the nursing diploma can provide credit toward the nursing degree at a number of institutions.

Such factors do not support growth in diploma level qualifications. If such a decline continues then VET will become the residual provider of lower level training with a narrow industry focus. In this paper, we look at diplomas in some detail. In the next section we describe diploma qualifications, and the demographics of the individuals that undertake them. In Section 3, we look at the historical pattern of enrolments. In Section 4, we compare trends in VET diploma enrolments with higher education undergraduate enrolments to judge the extent to which VET diplomas are being crowded out by degrees. We then look at the impact of the change (mostly decline) in VET government funded diploma commencements on various demographic groups (Section 5). In Section 6 we scrutinise the outcomes of diploma graduates to see whether the outcomes for graduates have deteriorated over time. Our intention is to test the proposition that diplomas have declined because outcomes have. We conclude with a discussion.

2. Background

In Australia, qualifications are defined by the Australian Qualifications Framework (AQF). The framework (Table 1) labels all qualifications at AQF level 5 or above as higher education qualifications, despite diplomas (a level 5 qualification) being predominantly offered in the VET sector. The reference to 'higher education' or 'vocational education and training' emanates from the responsible regulatory body; the Tertiary Education Quality and Standards Agency (TEQSA) for higher education qualifications and the Australian Skills Quality Authority (ASQA) for VET qualifications. In VET (as defined by the official NCVER statistics collections) the diplomas and above category is made up of diplomas (level 5), advanced diplomas (level 6) and a smattering of graduate certificates (level 8). By contrast degrees are level 7. Associate degrees are also offered in the university sector and are set at level 6 in the AQF.

Table 1: Higher education qualifications as defined in the AQF

AQF level	Qualification	Degree level	Regulatory responsibility
10	Higher Doctoral Degree * ^	Postgraduate	TEQSA
10	Doctoral Degree * ^	Postgraduate	TEQSA
9	Masters Degree (Research) * ^	Postgraduate	TEQSA
9	Masters Degree (Coursework) *	Postgraduate	TEQSA
9	Masters Degree (Extended) *	Postgraduate	TEQSA
8	Graduate Diploma *	Postgraduate	TEQSA
8	Graduate Certificate *	Postgraduate	TEQSA
8	Bachelor Honours Degree	Undergraduate	TEQSA
7	Bachelor Degree	Undergraduate	TEQSA
6	Associate Degree	Undergraduate	TEQSA/ASQA
6	Advanced Diploma	Undergraduate	TEQSA/ASQA
5	Diploma	Undergraduate	TEQSA/ASQA

- * = Higher degrees, also known as postgraduate degrees/qualifications
- ^ = Higher degrees by research

Source: <https://www.teqsa.gov.au/australian-qualifications-framework>

We note the level of qualifications is somewhat arbitrary.

According to the AQF, at the diploma level: *Graduates will have specialised knowledge and skills for skilled/paraprofessional work and/or further learning* while at the advanced diploma level: *Graduates at this level will have broad knowledge and skills for paraprofessional/highly skilled work and/or further learning*. So those graduates with an advanced diploma have broad knowledge rather than specialised knowledge and should obtain paraprofessional/highly skilled work rather than skilled/paraprofessional work.

It is interesting to note that the AQF reserves professional occupations for those with degrees: *Graduates at this level will have broad and coherent knowledge and skills for professional work and/or further learning* and they have *broad and coherent knowledge* rather than *broad or specialised knowledge*.

In practice, the essential differences between diplomas and degrees are the length of study (one to two years for a diploma and at least three years for a degree) and that diplomas tend to be practical in orientation and are less theoretical compared to degrees.

Table 2 provides a simple count of students to give some context of the relative importance of these higher level qualifications in the VET sector. We use commencements as the metric, to indicate the size of the student cohort entering a program.¹

Table 2: VET program commencements by program level of education and funding source, average 2016-2020

	Government funding	No government funding	Total	Per cent of commencements
Graduate diploma	43	2377	2420	0.1
Professional specialist (Graduate diploma level)	0	0	0	0.0
Graduate certificate	46	2166	2211	0.1
Professional specialist (Graduate certificate level)	0	0	0	0.0
Bachelor degree (Honours)	0	0	0	0.0
Bachelor degree (Pass)	0	0	0	0.0
Advanced diploma	7381	33494	40875	2.1
Associate degree	0	0	0	0.0
Diploma	77252	158228	235481	12.0
<i>Total diploma and higher</i>	<i>84723</i>	<i>196265</i>	<i>280987</i>	<i>14</i>
Certificate IV	139600	179806	319407	16.3
Certificate III	370307	268886	639191	32.6
Certificate II	273658	140030	413687	21.1
Certificate I	92063	38145	130209	6.6
Non-AQF level	45957	130588	176544	9.0
Total	1006307	953720	1960027	100.0

Source: VOCSTATS total VET students and courses (TVA)

We see that diplomas make up some 12.0 per cent of enrolments and advanced diplomas 2.1 per cent. There are also a handful of graduate certificates (0.1%) and graduate diplomas (0.1%), virtually all of which are not government funded.

We also see that diplomas and advanced diplomas offered in VET are quite substantial but are dwarfed by the number of undergraduate positions offered by universities (Table 3). In terms of

¹ The TVA cube also contains 2015 data but they are unreliable because 2015 was the first year of the collection and so all enrolments are counted as commencing because there were no continuing students in the data base.

diplomas the dominant share is held by VET; universities had some 37,000 commencing students in diplomas or advanced diplomas in 2020 compared to around 200,000 (average 2016-2020) in VET.

Table 3: Commencing higher education students, 2020

	Commencing
Bachelor's Graduate Entry	1,765
Bachelor's Honours	37,857
Bachelor's Pass	297,259
Associate Degree	5,652
Advanced Diploma (AQF)	1,522
Diploma (AQF)	35,842
Undergraduate short courses	2,153
Other undergraduate award courses	1,080
Total Undergraduate	383,130

Source: Higher education statistics pivot table

To give some idea of the breadth of diplomas we look at individual qualifications in the TVA collection. There are over 1,100 different qualifications categorised as diploma level or higher. In Table 4 we show the qualifications that constitute two thirds of the commencements 2016-2020. There are 35 of them, although things are a bit messy as new qualifications supplant older qualifications.

Table 4: Commencements in the largest diploma and higher qualifications, 2016-2020

	Average commencements 2016-2020	Cumulative commencements
CHC50113 - Diploma of Early Childhood Education and Care	26030.8	9.3
BSB50215 - Diploma of Business	17621.4	15.5
BSB51915 - Diploma of Leadership and Management	16051.4	21.2
CHC52015 - Diploma of Community Services	11968.2	25.5
BSB51918 - Diploma of Leadership and Management	10352.6	29.2
HLT54115 - Diploma of Nursing	10333	32.9
BSB51415 - Diploma of Project Management	10303.8	36.5
BSB61015 - Advanced Diploma of Leadership and Management	8509.8	39.6
SIT50416 - Diploma of Hospitality Management	8065.2	42.4
CPC50210 - Diploma of Building and Construction (Building)	5532.6	44.4
SHB50115 - Diploma of Beauty Therapy	4564.4	46.0
FNS50215 - Diploma of Accounting	4035.6	47.5
BSB50415 - Diploma of Business Administration	3876.6	48.8
HLT52015 - Diploma of Remedial Massage	3745.2	50.2
CHC51015 - Diploma of Counselling	3733.2	51.5
BSB60215 - Advanced Diploma of Business	3617.2	52.8
SIT60316 - Advanced Diploma of Hospitality Management	3447.8	54.0
HLT51612 - Diploma of Nursing (Enrolled-Division 2 Nursing)	3306.4	55.2
CUA51015 - Diploma of Screen and Media	2897.8	56.2
FNS50615 - Diploma of Financial Planning	2763.8	57.2
BSB50615 - Diploma of Human Resources Management	2712.6	58.2
FNS50315 - Diploma of Finance and Mortgage Broking Management	2623.6	59.1
BSB52415 - Diploma of Marketing and Communication	2059	59.8
ICT50115 - Diploma of Information Technology	2049.6	60.6
PSP61012 - Advanced Diploma of Translating	1928.8	61.3
ICT50415 - Diploma of Information Technology Networking	1915.6	61.9
PSP60816 - Advanced Diploma of Translating	1867.8	62.6
SIT50313 - Diploma of Hospitality	1756	63.2
CHC50413 - Diploma of Youth Work	1515.2	63.8
CPP50911 - Diploma of Building Design	1470	64.3
PSP50916 - Diploma of Interpreting (LOTE-English)	1424.6	64.8
BSB50815 - Diploma of International Business	1417	65.3
BSB50618 - Diploma of Human Resources Management	1391.6	65.8
CHC53315 - Diploma of Mental Health	1391	66.3
MSF50213 - Diploma of Interior Design and Decoration	1367.6	66.8

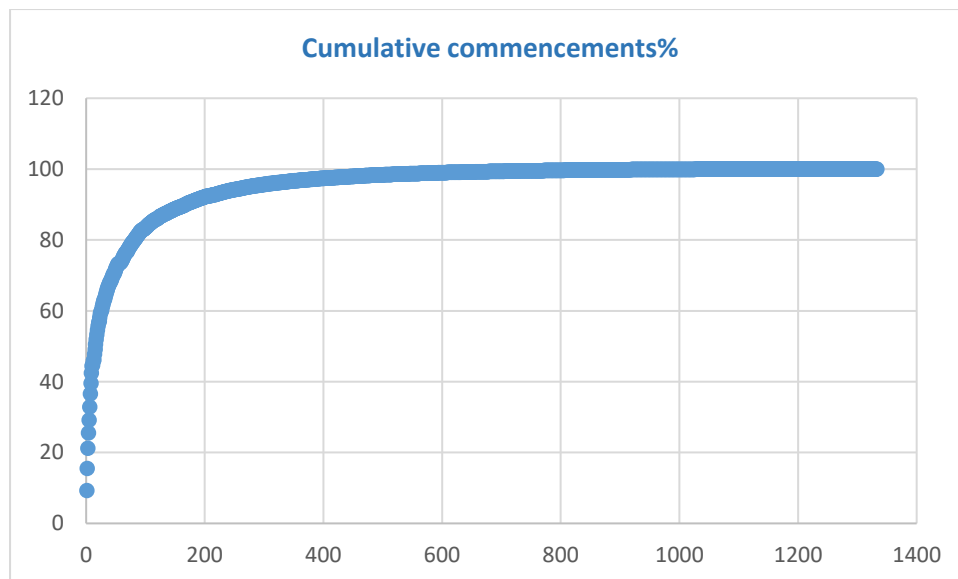
Source: VOCSTATS Total VET students and courses (TVA)

It is interesting to note that there is considerable variation in the numbers of commencements year by year. Clearly some qualifications are part of some sort of initiative that is relatively short lived, or a qualification becomes superseded (for example, the Diploma in Leadership and Management

BSB 51915 was replaced by BSB51818). We also note the breadth of qualifications although this table does not do justice to the full list. For example, the full list contains many qualifications covering religion (qualifications in ministry, for example) and relatively obscure health therapies such as kinesiology, myotherapy and western herbal medicine.

While the number of individual qualifications is very large the number of students in the majority of them is very small. In Figure 1 we plot the cumulative number of commencements, ranked by the number of commencements (average 2016-2020).

Figure 1: cumulative commencements in diploma and higher qualifications, 2016-2020



Source: VOCSTATS Total VET students and courses (TVA)

We see that while there are over 1,100 qualifications around 75 qualifications represent around 80% of commencements and 150 qualifications 90%. Over 470 qualifications averaged less than 10 students. There are indeed a lot of niche qualifications in the VET sector.

We now paint a picture of what constitutes the diploma qualifications². The lense we use is that of field of study. To give a flavour of what field of study represents we present the three largest qualifications (in terms of commencements) for each field (Table 5).

² For convenience, we use the term ‘diploma’ to cover ‘diploma and higher VET qualifications’ which is the category published in the NCVET data. In practice the diploma qualification dominates the ‘diploma and higher’ category.

Table 5: The three largest diploma qualifications within each field (average annual commencements 2016-2020)

01 - Natural and physical sciences	
MSL50116 - Diploma of Laboratory Technology	434
MSL50118 - Diploma of Laboratory Technology	203
MSL50109 - Diploma of Laboratory Technology	174
02 - Information technology	
ICT50115 - Diploma of Information Technology	2050
ICT50415 - Diploma of Information Technology Networking	1916
ICT50215 - Diploma of Digital and Interactive Games	1227
03 - Engineering and related technologies	
UET50212 - Diploma of ESI - Power Systems	951
AVI50215 - Diploma of Aviation (Commercial Pilot Licence - Aeroplane)	931
MEM50212 - Diploma of Engineering - Technical	790
04 - Architecture and building	
CPC50210 - Diploma of Building and Construction (Building)	5533
CPP50911 - Diploma of Building Design	1470
MSF50213 - Diploma of Interior Design and Decoration	1368
05 - Agriculture, environmental and related studies	
AHC51116 - Diploma of Conservation and Land Management	422
AHC50416 - Diploma of Horticulture	318
AHC50616 - Diploma of Landscape Design	293
06 - Health	
HLT54115 - Diploma of Nursing	10333
HLT52015 - Diploma of Remedial Massage	3745
HLT51612 - Diploma of Nursing (Enrolled-Division 2 nursing)	3306
07 - Education	
CHC50113 - Diploma of Early Childhood Education and Care	26031
BSB80615 - Graduate Diploma of Management (Learning)	902
TAE50216 - Diploma of Training Design and Development	793
08 - Management and commerce	
BSB50215 - Diploma of Business	17621
BSB51915 - Diploma of Leadership and Management	16051
BSB51918 - Diploma of Leadership and Management	10353
09 - Society and culture	
CHC52015 - Diploma of Community Services	11968
CHC51015 - Diploma of Counselling	3733
PSP61012 - Advanced Diploma of Translating	1929
10 - Creative arts	
CUA51015 - Diploma of Screen and Media	2898
CUA50715 - Diploma of Graphic Design	1318

10118NAT - Diploma of Social Media Marketing	1043
11 - Food, hospitality and personal services	
SHB50115 - Diploma of Beauty Therapy	4564
SIB50110 - Diploma of Beauty Therapy	1084
SIB70110 - Graduate Certificate in Intense Pulsed Light and Laser Hair Reduction	398

Source: VOCSTATS Total VET students and courses (TVA)

We now delve a little deeper. Initially we consider three sectors by classifying the data by whether the place is government funded and whether the student is international or domestic³. The other dimension we apply is field of study.

Table 6: Average commencements, diploma and higher, average 2016-2020

	Domestic students, Government funding	Domestic students, No government funding	International students	Total
01 - Natural and physical sciences	560	329	201	1090
02 - Information technology	3153	3341	5709	12202
03 - Engineering and related technologies	3581	2881	4271	10733
04 - Architecture and building	5928	4495	1251	11674
05 - Agriculture, environmental and related studies	1552	783	225	2559
06 - Health	11550	10288	2484	24323
07 - Education	18254	8699	3319	30273
08 - Management and commerce	18862	53113	57392	129367
09 - Society and culture	13142	19886	5380	38408
10 - Creative arts	6097	6286	1583	13966
11 - Food, hospitality and personal services	1870	4161	197	6228
12 - Mixed field programmes	131	24	1	156
Total	84686	114284	82018	280988

Source: VOCSTATS Total VET students and courses (TVA)

To enable us to see the distribution of students across fields of study more clearly, we present the percentages of each group by field of study.

³ There are only a handful of international students receiving government funding (averaging 38 over 2016 to 2020), so we have combined both government and non-government international students into one category.

Table 7: Distribution of commencements, diploma level and higher, across field of study (average 2016-2020, per cent)

	Domestic students, Government funding	Domestic students, No government funding	International students	Total
01 - Natural and physical sciences	0.7	0.3	0.2	0.4
02 - Information technology	3.7	2.9	7.0	4.3
03 - Engineering and related technologies	4.2	2.5	5.2	3.8
04 - Architecture and building	7.0	3.9	1.5	4.2
05 - Agriculture, environmental and related studies	1.8	0.7	0.3	0.9
06 - Health	13.6	9.0	3.0	8.7
07 - Education	21.6	7.6	4.0	10.8
08 - Management and commerce	22.3	46.5	70.0	46.0
09 - Society and culture	15.5	17.4	6.6	13.7
10 - Creative arts	7.2	5.5	1.9	5.0
11 - Food, hospitality and personal services	2.2	3.6	0.2	2.2
12 - Mixed field programmes	0.2	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0

Source VOCSTATS Total VET students and courses (TVA)

We note immediately that the patterns across the three groups are quite different. We see government funded students are largely in management and commerce, education (the Diploma in Early Childhood Education and Care is the largest qualification –see earlier table), society and culture, and health, with smaller numbers in the creative arts and architecture and building. By contrast domestic students not receiving government funding are largely in management and commerce, society and culture with smaller numbers in health and education. International students are predominantly undertaking management and commerce qualifications, with smaller numbers in information technology and society and culture. Overall, we noted that there are few students undertaking qualifications in natural and physical sciences (essentially laboratory technology) and food, hospitality and personal services (essentially beauty).

We now provide a characterisation of diploma students, restricting ourselves to domestic students. The next three tables classify the data by gender, age and highest educational qualification. We also classify the data by field of study and whether the highest level of funding is government funding or no government funding.

Table 8: Percentage males, diploma or higher commencements, average 2016-2020, field of study by funding source

	Government funding	No government funding
01 - Natural and physical sciences	44.3	45.1
02 - Information technology	84.7	80.6
03 - Engineering and related technologies	89.5	90.3
04 - Architecture and building	74.2	63.6
05 - Agriculture, environmental and related studies	60.7	66.0
06 - Health	17.7	30.2
07 - Education	5.9	17.0
08 - Management and commerce	36.2	46.8
09 - Society and culture	27.3	31.0
10 - Creative arts	46.2	32.0
11 - Food, hospitality and personal services	0.6	1.6
12 - Mixed field programmes	28.3	40.8
Total	32.9	40.7

Source: VOCSTATS Total VET students and courses (TVA)

We see that overall, females make up the majority of those undertaking diplomas, particularly in programs that are government funded. The patterns by field of study tend to reflect the segmentation that occurs in the labour market. Females dominate personal services (beauty), education (childcare and early education), health (nursing) and society and culture.

Table 9: Age, diploma or higher commencements, average 2016-2020, field of study by funding source (percentage)

	Government funding			No government funding		
	24 years and under	25 years to 49 years	50 years and over	24 years and under	25 years to 49 years	50 years and over
01 - Natural and physical sciences	40.4	54.7	4.9	18.4	72.6	9.0
02 - Information technology	55.8	40.9	3.3	43.7	50.7	5.6
03 - Engineering and related technologies	44.2	50.2	5.6	26.0	63.5	10.4
04 - Architecture and building	34.8	58.3	6.9	20.5	70.4	9.1
05 - Agriculture, environmental and related studies	30.4	60.0	9.6	21.5	64.6	13.9
06 - Health	49.0	45.1	5.9	23.9	63.2	12.9
07 - Education	37.4	56.4	6.2	24.8	61.4	13.7
08 - Management and commerce	29.2	60.2	10.5	23.8	64.8	11.4
09 - Society and culture	29.1	58.5	12.4	26.7	59.5	13.8
10 - Creative arts	70.7	24.3	5.0	61.1	32.6	6.3
11 - Food, hospitality and personal services	65.9	31.8	2.3	51.8	45.0	3.2
12 - Mixed field programmes	12.1	78.4	9.4	23.8	49.2	26.9
Not known						
Total	39.5	52.6	7.9	27.9	60.8	11.3

Source: Derived from VOCSTATS Total VET students and courses (TVA)

The age distribution is quite diverse. While there are large numbers of young people undertaking diplomas (39.5% 24 years and under in government funded programs, 27.9% in programs which are not government funded), the majority of the students are between 25 and 49 years. The government funded programs with the highest proportion of young people are creative arts, information technology, personal services (beauty) and health. The patterns are similar for programs which are not government funded.

Table 10: Previous education, diploma or higher commencements, average 2016-2020, by field of study by funding source (percentage in each previous education category)

	Government funded				Not government funded			
	Diploma or higher	Cert III/IV	Year 12	Lower than year 12	Diploma or higher	Cert III/IV	Year 12	Lower than year 12
01 - Natural and physical sciences	24.9	35.2	30.6	9.3	45.0	22.1	25.6	7.4
02 - Information technology	23.7	33.0	31.0	12.2	19.2	22.1	33.1	25.7
03 - Engineering and related technologies	20.4	33.0	31.7	14.9	31.1	25.8	28.6	14.5
04 - Architecture and building	20.4	32.6	35.3	11.7	30.7	29.4	26.6	13.4
05 - Agriculture, environmental and related studies	23.2	38.7	27.0	11.1	32.8	30.2	19.6	17.4
06 - Health	13.7	38.2	33.4	14.7	38.7	20.8	24.4	16.0
07 - Education	13.6	46.8	26.2	13.3	30.2	24.4	23.6	21.8
08 - Management and commerce	31.4	30.4	26.3	11.9	32.9	17.9	23.9	25.3
09 - Society and culture	22.9	36.4	24.4	16.3	25.5	19.0	27.0	28.6
10 - Creative arts	24.9	25.6	33.4	16.1	24.4	18.5	36.9	20.2
11 - Food, hospitality and personal services	12.8	29.0	33.2	25.0	16.0	21.2	32.9	29.9
12 - Mixed field programmes	49.8	21.3	24.1	4.8	52.0	17.9	18.7	11.4
Total	21.3	36.1	28.7	13.9	30.4	19.9	26.0	23.8

Source: VOCSTATS Total VET students and courses (TVA)

We see that there is a wide distribution of educational backgrounds, from those who have not completed year 12 to those who already have a diploma or higher qualification. Among government funded students the largest group are those with a Certificate III or IV. This group is particularly large in education – presumably childcare workers upgrading their qualifications. Among the no government funding students the largest group is those who already have a diploma or higher qualification. These students are either broadening their qualifications, or undertaking a qualification which they hope is more relevant to the labour market.

Table 11: Study status, diploma or higher commencements, average 2016-2020, by field of study by funding source (percentage full-time)

	Government funding	No government funding
01 - Natural and physical sciences	59.1	31.5
02 - Information technology	57.2	46.3
03 - Engineering and related technologies	46.5	39.8
04 - Architecture and building	46.2	44.2
05 - Agriculture, environmental and related studies	41.5	27.9
06 - Health	40.8	31.2
07 - Education	31.9	31.5
08 - Management and commerce	27.6	24.5
09 - Society and culture	39.8	27.8
10 - Creative arts	72.2	48.6
11 - Food, hospitality and personal services	63.2	45.6
12 - Mixed field programmes	41.8	38.7
Not known		
Total	39.9	30.2

Source: Derived from VOCSTATS Total VET students and courses (TVA)

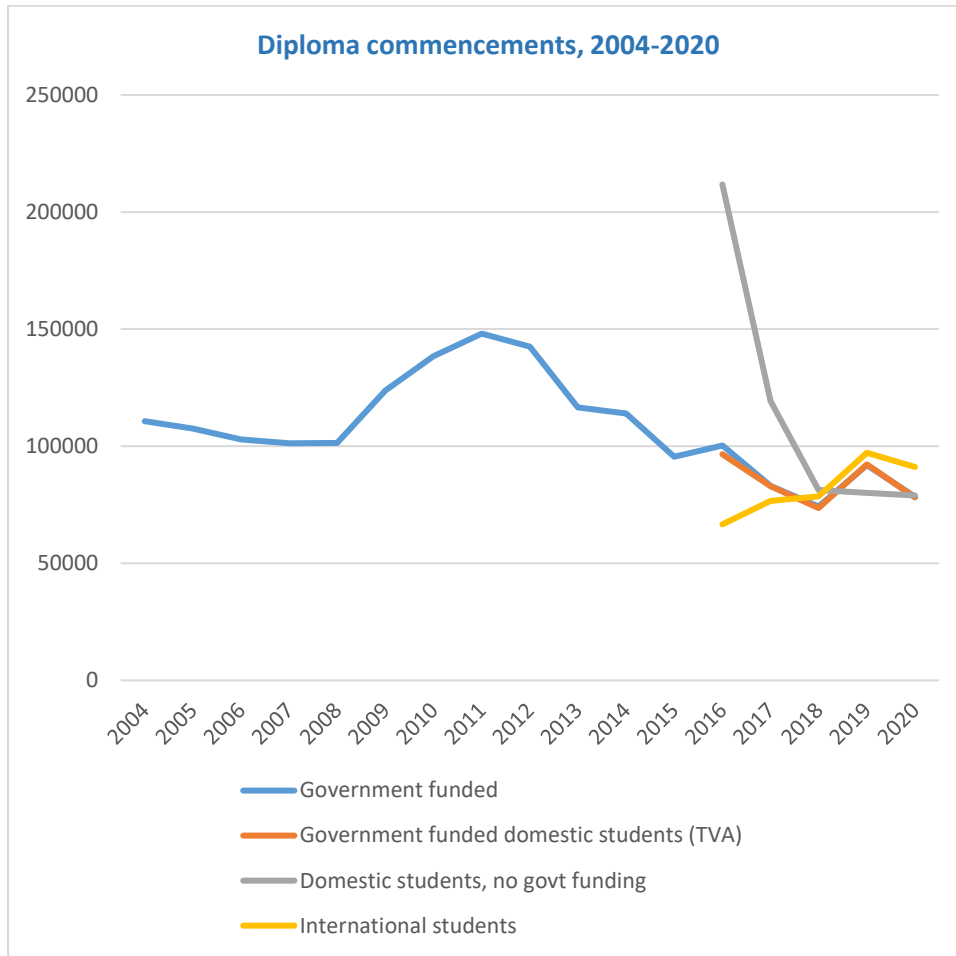
We see that the majority of diploma students study part-time, with those who receive no government funding even more heavily skewed to studying part-time. The only groups where the majority of students study full-time are those government funded students studying creative arts (72.2%), food, hospitality and personal services (63.2%), natural and physical sciences (59.1%) and information technology (57.2%). These tend to be the fields where there are younger students.

3. Trends over time

We begin by plotting the overall change in commencements in diploma and higher qualifications from 2004 (Figure 1). For the period 2004 to 2015 we only have data for government funded places while from 2016 we also have data on international students and domestic students not receiving government funding.⁴

⁴ We omit the commencements for 2003 because the commencement flag depends on having records from the year before. Similarly, we only use the commencements from the TVA data cube from 2016. We also note that we have two estimates of government funded places for the years from 2016 (one from the government funded cube and the other from the TVA cube). However, they are very similar. For those interested in the number of students we refer Cavallaro et al (2017).

Figure 2: Commencements in diploma and higher programs (2004-2020)



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA)

We see that the government funded commencements increased hugely between 2008 and 2011 before declining to historically low levels after 2016. It is important to provide some historical context here. Burke (2022) provides a detailed chronicling of changes to public funding policy. For our purposes we point to two specific developments.

The first is the rise and fall of demand led funding, which began with the introduction the Victorian Training guarantee in 2008 (Victorian Department of Innovation, Industry and Regional Development 2008, p.15). There was a rapid increase in government funded enrolments from 2009 to 2012 and a blow-out in government expenditure accompanied by widespread criticism of the demand led approach. Burke and Veenker 2011 commented that some private providers charged small or no fees and students with little ‘skin in the game’ were open to exploitation. Mackenzie was very critical of what had happened and wrote ‘College collapses, student exploitation, sham qualifications, ineffective regulatory intervention – these insidious realities have compromised Australia’s VET sector for a decade (Mackenzie 2016).

Despite the experience in Victoria, in 2012 all states signed a second National Agreement on Skills and Workforce Development (COAG 2012a) and a second National Partnership Agreement reform (COAG 2012b) which committed states to some sort of entitlement ..introducing and strengthening a national entitlement to a government subsidised place to a minimum of the first Certificate III qualification.. which meets state based criteria for access to the national training entitlement.

Burke notes that the States differed in their implementation and that subsequently States moved away from a demand led system to one where the governments limited the number of government funded places – Burke (2022, Table 4) presents data showing a 2.1% decline in government funded places, over the period 2010-2015, followed by a further decline of 1.0% over 2015-2020.

The second policy development which undoubtedly had a dramatic effect on diploma numbers was the introduction of income contingent loans for VET qualifications. Bruce Chapman had been suggesting reforms in this area as early as 2005 (Chapman, Rodrigues and Ryan 2008) following on from the HECS system for higher education where income contingent loans were introduced in 1989. The first ‘toe in the water’ for VET occurred in 2009 when the Commonwealth introduced VET FEE-HELP for full-fee diploma and higher level VET students but initially only for courses linked to entry to university. However, the scheme was opened up to all diploma and higher courses following the National Partnership Agreement on Skills Reform in 2012 (COAG2012b).

As Burke points out, the VET FEE-HELP scheme soon spiralled out of control, from 5,000 students in 2009 to 270,000 students in 2015 (Australian Government 2016). The scheme was quickly replaced by VET Student Loans which is a much more restricted scheme than the earlier one. The impact of the new scheme was dramatic and the outlay on VET student loans was less than \$0.3 billion in 2019 compared with the peak of nearly \$3 billion outlaid on VET FEE-HELP in 2015 (Australian Government 2016, 2020).

Thus it appears that the dramatic changes apparent in Figure 2 are associated with the turbulent policy framework over this period, specifically:

- The rise of demand led government funding in 2008 and its subsequent decline, explaining the bulge in government funded diplomas places between 2008 and 2014;
- The demise of VET FEE-HELP in 2017 and its replacement by VET Student Loans in 2017. While the impact of VET FEE-HELP’s introduction cannot be seen in Figure 2 (the number of non-government funded places has only been collected since 2015) the replacement with VET Student Loans explains the precipitous decline in non government funded commencements from 2016 to 2018.

While VET FEE HELP might be seen as an unmitigated disaster, we note that the impact of its demise across fields of study is quite varied. Between 2016 and 2018 we saw the non-government funded enrolments decline by almost 120,000 commencements per year. As can be seen from Table 12 the bulk of this decline was in management and commerce and society and culture, with less substantial falls in a number of other fields.

Table 12: decomposing the change in domestic diploma commencements with no government funding (2016-2018)

	Change 2016-2018	Percentage of change
01 - Natural and physical sciences	236	0.2
02 - Information technology	7066	6.0
03 - Engineering and related technologies	-77	-0.1
04 - Architecture and building	2651	2.2
05 - Agriculture, environmental and related studies	869	0.7
06 - Health	8331	7.0
07 - Education	5039	4.3
08 - Management and commerce	57739	48.7
09 - Society and culture	24381	20.6
10 - Creative arts	4870	4.1
11 - Food, hospitality and personal services	7379	6.2
	118476	100.0

Source: VOCSTATATA Total VET students and courses (TVA)

This suggests that the abuses in the system were quite restricted.

We also see from Figure 2 that commencements by international students have increased substantially over the period for which we have data. PRISMS international student data indicates that the increase in VET diploma enrolments by international students we observed from 2016 is in fact underpinned by a rapid increase from 2013. Burke (2022) suggests that this increase is very closely related to changes in the immigration regime. He notes (page 29) that the rapid growth in international VET students to 2010 was driven by new rules in 2001 allowing easy access to those who held a qualification on the migrant occupations in demand list. Commentators, for example, Baird 2010 p7 argued that many international students were ‘buying a migration outcome’. The occupations lists were amended in 2010, with the ready access to permanent residence removed, resulting, as can be seen from the figure, in a rapid decline in the number of students, especially in VET. Since then visa conditions have been eased and the number of international students has grown substantially.⁵

In the next section, we explore the trends by focussing on fields of study. We combine three sets of domestic student data – government funded VET, non-government funded VET and higher education undergraduate commencements- with (from 2016⁶) international VET students in order to get a more nuanced understanding of the trends. This allows us to see more clearly the impact of the two shocks to VET policy (the rise and fall of demand led government funded students and the replacement of VET FEE HELP with the VET student loans scheme). By bringing together the VET and

⁵ The upward trend has not continued, according to the latest VET international student enrolment numbers available from the PRISMS data base which showed 281,305 students in 2019, 304,441 in 2020 and 284,994 in 2021.

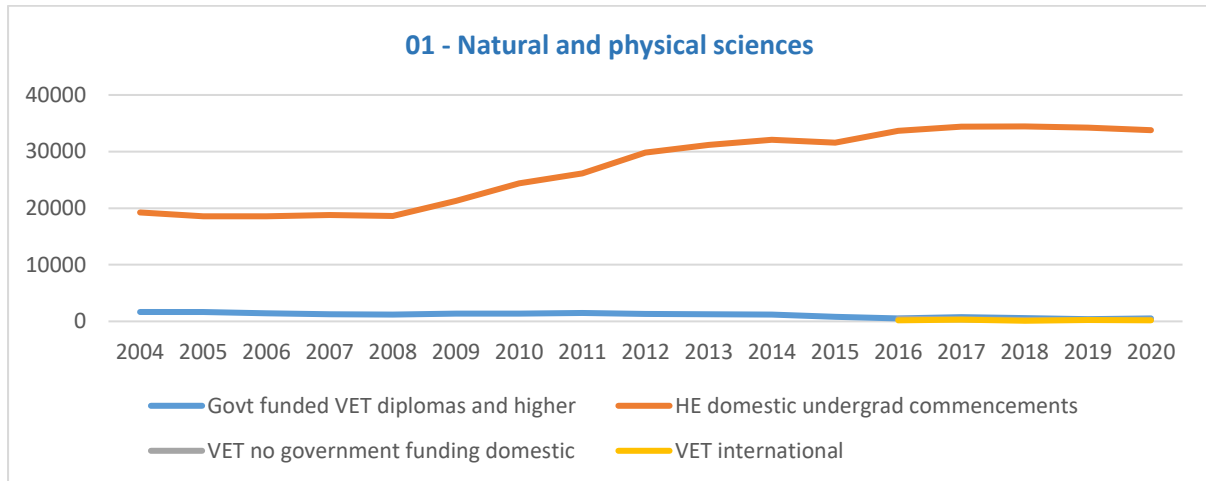
⁶ We do not include the 2015 commencement data for non-government funded VET because 2015 was the first year of the collection and therefore continuing students are counted as commencements.

higher education data we hope to see the impact of the expanding higher education sector on VET diplomas.

4. Comparison with higher education numbers

We begin with the natural and physical sciences.

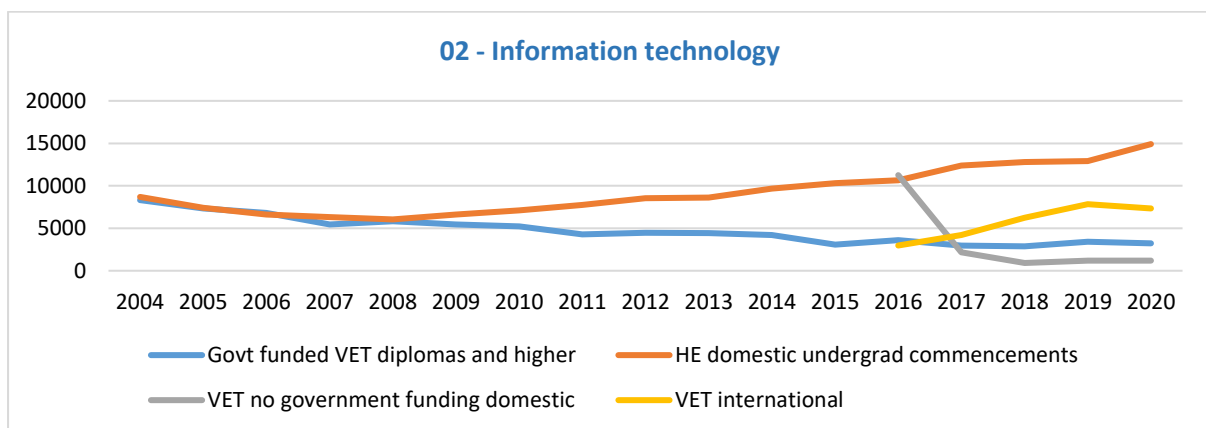
Figure 3.1: Commencements in VET diploma qualifications and higher education undergraduate qualifications, natural and physical sciences, 2004-2020



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table.

The numbers of diploma level commencing enrolments are dominated by undergraduate commencements in higher education, and increasingly so. The conclusion is that VET plays a very limited role in the sciences (by training laboratory technicians) and this role is declining.

Figure 3.2: Commencements in VET diploma qualifications and higher education undergraduate qualifications, information technology, 2004-2020

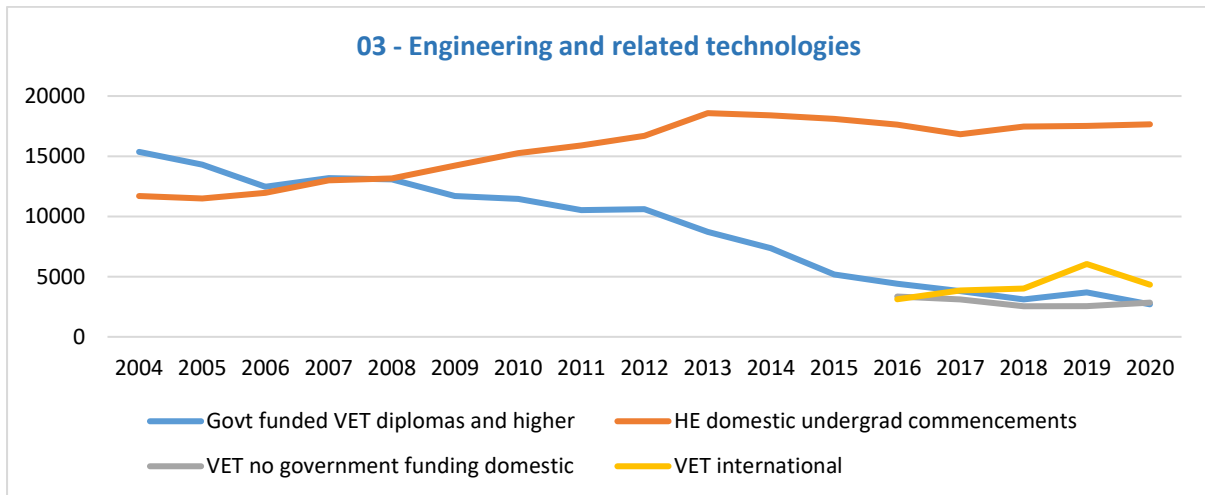


Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

For the period 2004 to 2008 the number of commencing enrolments in VET (government funded) and higher education were pretty much on par (and declining over the 2004 to 2008 period). However since then, the numbers in higher education have steadily grown while the number of

government funded VET places has steadily declined such that in 2020 the VET places represented about 20 per cent of the higher education numbers. Government funded VET is becoming a very minor player in the information technology space. In the domestic market non-government funded VET is quite small, after the big drop in 2017, no doubt associated with the changes to the income contingent loans regime. However, the international market is quite large with provision approaching double the domestic level (combining both government and non-government funded VET).

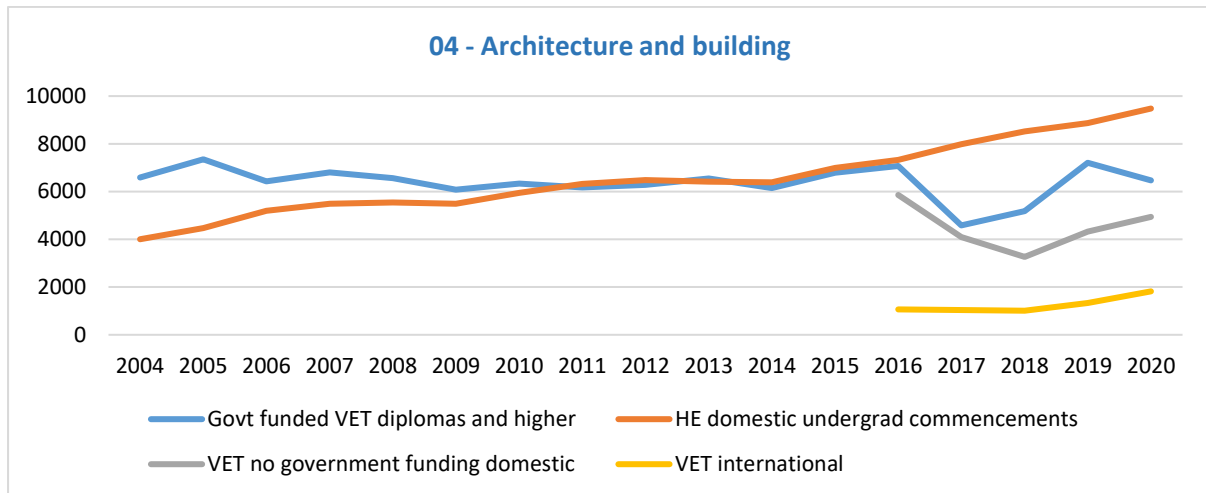
Figure 3.3: Commencements in VET diploma qualifications and higher education undergraduate qualifications, engineering and related technologies, 2004-2020



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

Between 2006 and 2008 the number of engineering and related technologies VET diplomas were around the same number as higher education undergraduate qualifications. However, since then the higher education commencement increased quite quickly up to 2013, and then have been pretty flat. By contrast, the number of government funded VET diplomas has decreased quite dramatically, from around 13,000 in 2008 to less than 3,000 in 2020. The non-government funded domestic provision is around the same level as the government funded VET. By contrast provision to international students has grown and is now larger than both government funded and non-government funded domestic provision.

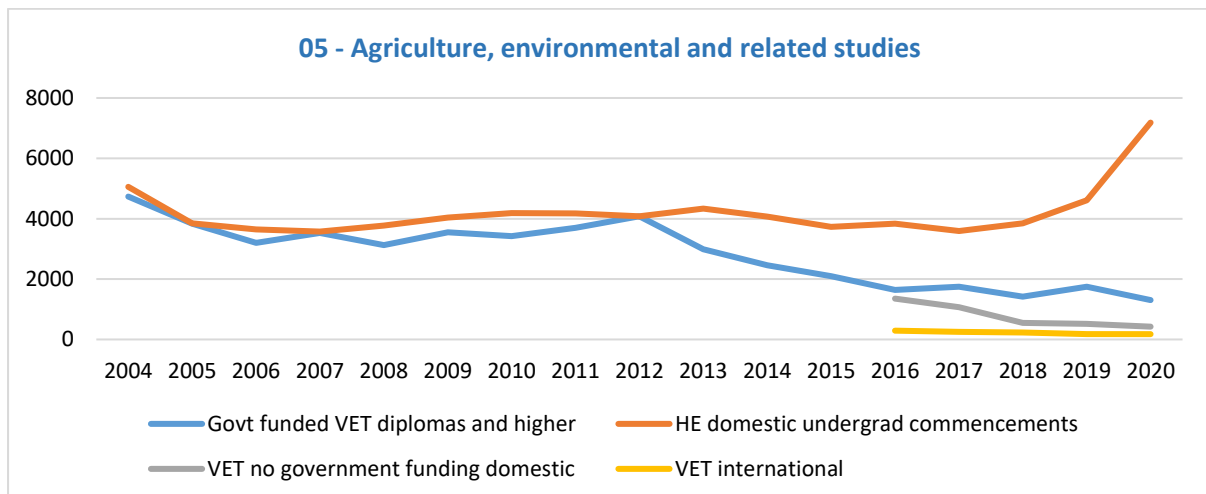
Figure 3.4: Commencements in VET diploma qualifications and higher education undergraduate qualifications, architecture and building, 2004-2020



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

Undergraduate higher education commencements in architecture and building have grown steadily since 2004, from around 4,000 in 2004 to over 9,000 in 2020. By contrast, the VET diploma commencements have been flat at around 7,000, apart from 2017 and 2018 when the number dropped to around 5,000. Non-government funded diplomas have been at similar levels to government funded diplomas for the period for which we have data (from 2016), with about a third of that provision being to international students.

Figure 3.5: Commencements in VET diploma qualifications and higher education undergraduate qualifications, agriculture, environmental and related studies, 2004-2020

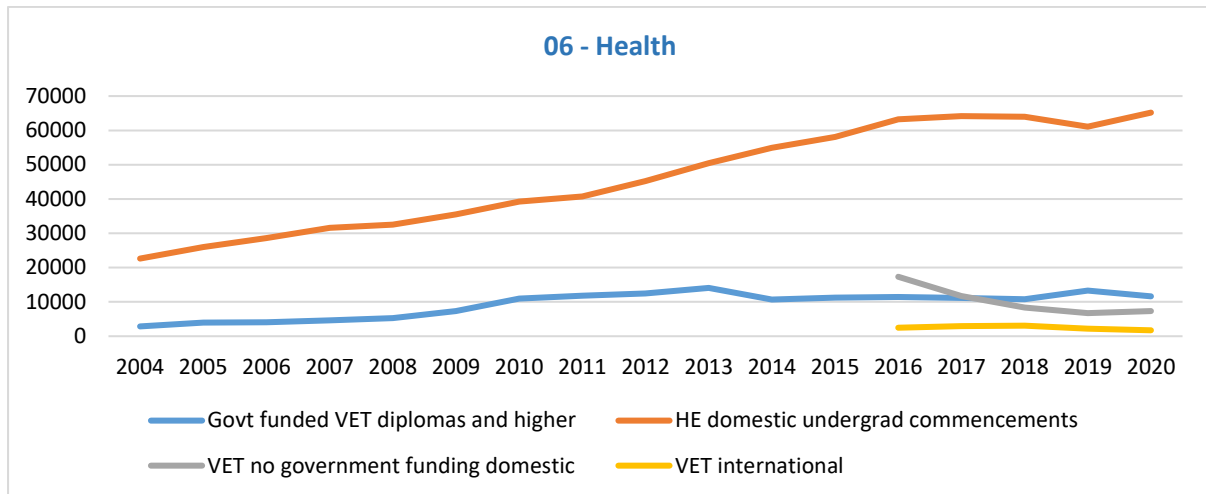


Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

Agriculture, environmental and related studies undergraduate commencements have been relatively flat although the number increased from around 4,600 to over 7,000 in 2020. Again the VET diploma commencements have seen long-term decline - in 2012 government funded higher education commencements were almost identical with government funded diploma commencements but

outnumbered them by more than 5 to 1 in 2020. The number of non-government funded diplomas has been less than the government funded diplomas and in 2020 were less than 50% of the number of government funded diploma commencements. It seems that private VET, both domestic and international is not very active in this market.

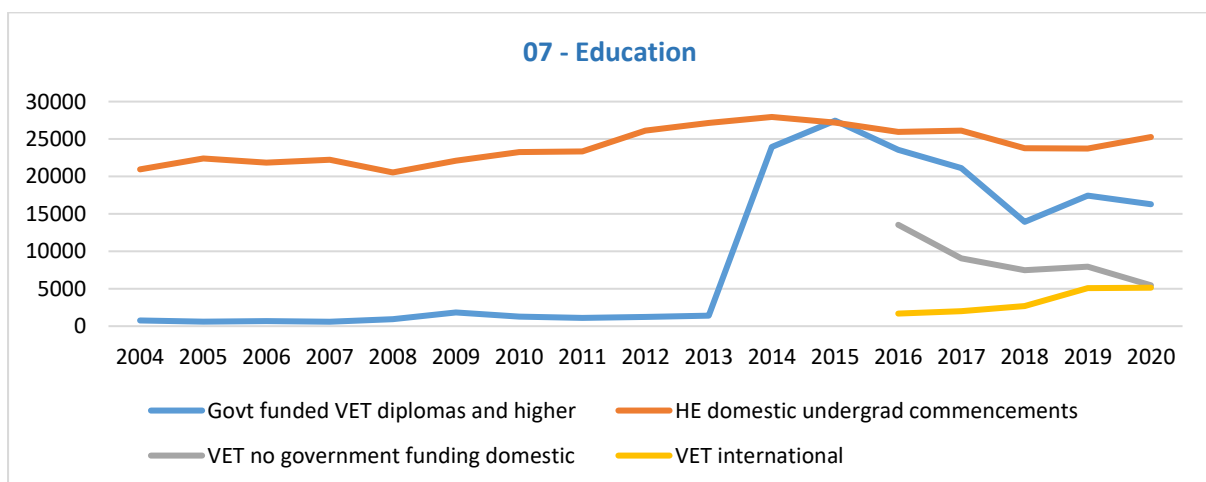
Figure 3.6: Commencements in VET diploma (and higher) qualifications and higher education undergraduate qualifications, health, 2004-2020



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

It is clear the VET diplomas have always (at least in this century) had a small market share in health. This reflects that diplomas are only offered for enrolled nursing and some non-mainstream health therapies, including massage. While the government funded VET diplomas have been around 10,000 and a little higher since 2010, the number of higher education undergraduate commencements has increased from 40,000 to around 65,000 in the same period. The number of non-government funded VET diplomas has declined from around 20,000 in 2016 to just less than 10,000 in 2019 and 2020. International students are at low numbers.

Figure 3.7: Commencements in VET diploma (and higher) qualifications and higher education undergraduate qualifications, education, 2004-2020

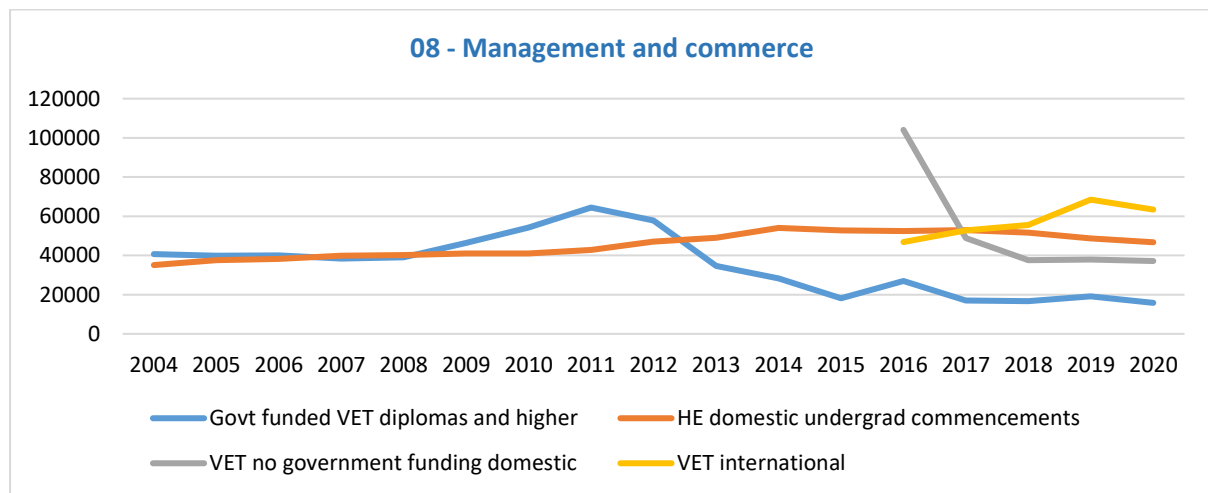


Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

The story for education is one of market structure and regulation. Prior to 2014, there were very small numbers of persons undertaking VET diplomas in education (typically individuals who wanted a higher qualification than the Certificate IV mandated to deliver vocational education). The number took off in 2014, and it is safe to say that this increase was in childcare and early education diplomas associated with changes in the regulation of childcare. In terms of government funded VET the peak number was in 2015 and has declined a little since then but still remains at a high level (16,000 in 2020). There are also substantial numbers undertaking diplomas (presumably in childcare and early education) which are not government funded, with the pattern mirroring the government funded numbers in the domestic market. By contrast, the number of international students has grown such that in 2020 their number was at the same level as non-government funded domestic provision.

In this field of study, the higher education numbers are largely irrelevant because a degree is a requirement to become a teacher at both primary and secondary schools. Thus, at the moment we have very little overlap between the sector, with childcare dominated by VET and primary and secondary teaching by higher education. One would also surmise that the future of VET diplomas in education is tied to regulatory requirements.

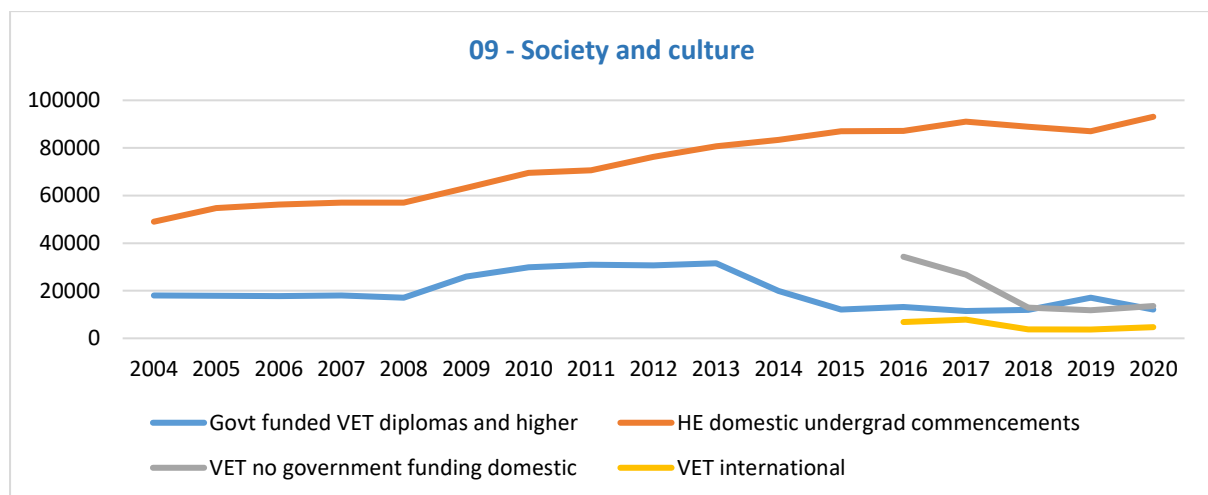
Figure 3.8: Commencements in VET diploma qualifications and higher education undergraduate qualifications, management and commerce, 2004-2020



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

For the period up to 2008 the numbers of higher education undergraduate commencements and government funded VET diplomas commencements were virtually identical. After 2008 the government funded VET diplomas grew very significantly (over 60,000 in 2011 from 40,000 in 2008), presumably reflecting the impact of demand led funding in VET. This growth in government funded VET diploma places was then unwound to such an extent that by 2015 commencement numbers were about one half of the level prior to the introduction of demand led funding. We also note that changes in government support for existing worker traineeships impacted on the number of management and commerce diploma students. In 2010 there were some 121 existing worker trainee commencements undertaking diplomas and their number increased to 19,718 in 2011 and 24,463 in 2012 before dropping to 803 in 2013 (NCVER VOCSTATS Apprentices and trainees).⁷ Finally, it is interesting to note that management and commerce is the one field where non-government funded VET diploma places dominate government funded places in the domestic market.

Figure 3.9: Commencements in VET diploma qualifications and higher education undergraduate qualifications, society and culture, 2004-2020

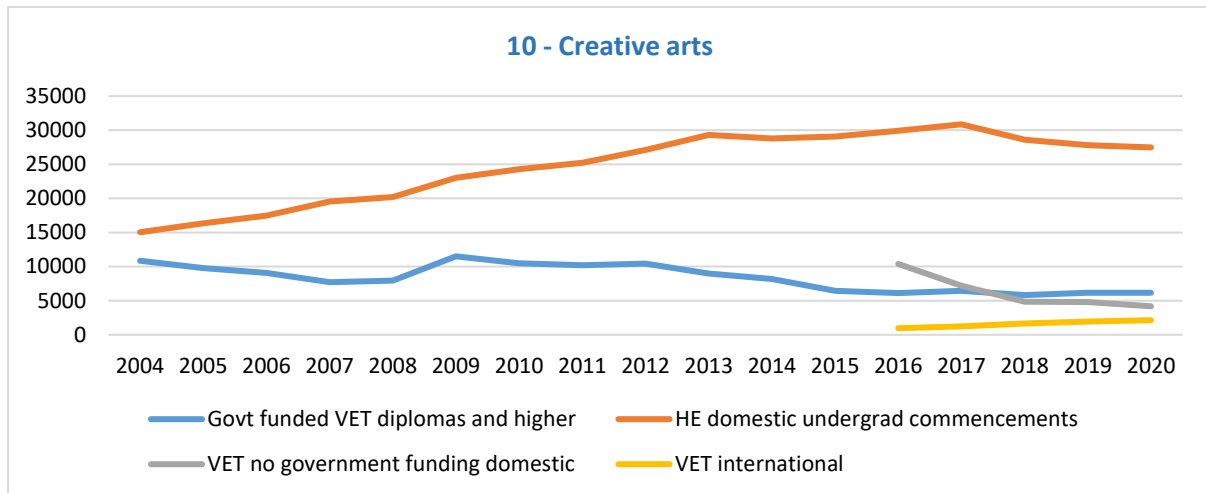


Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

Society and culture is a very large field which has steady growth in higher education commencements, from 50,000 in 2004 to over 90,000 in 2020. VET is essentially restricted to counselling and community service while higher education covers a much wider range of areas. However, while higher education numbers have increased steadily, the government funded VET numbers have declined to around 12,000 since 2015 (the numbers went up in 2019 before dropping again in 2020), although there was a period of higher numbers between 2008 and 2014 (presumably a consequence of the demand led funding). We note that the number of domestic non-government funded VET diplomas commencements has been similar to the number of government funded VET diploma commencements since 2018. This is not a field popular with international students.

⁷ Following the report of an expert panel on apprenticeships (McDowell et al, 2011) incentives were removed for most existing worker traineeships. They were retained for new workers; for both new and existing workers on the National Skills List; and for priority courses in nursing and care areas.

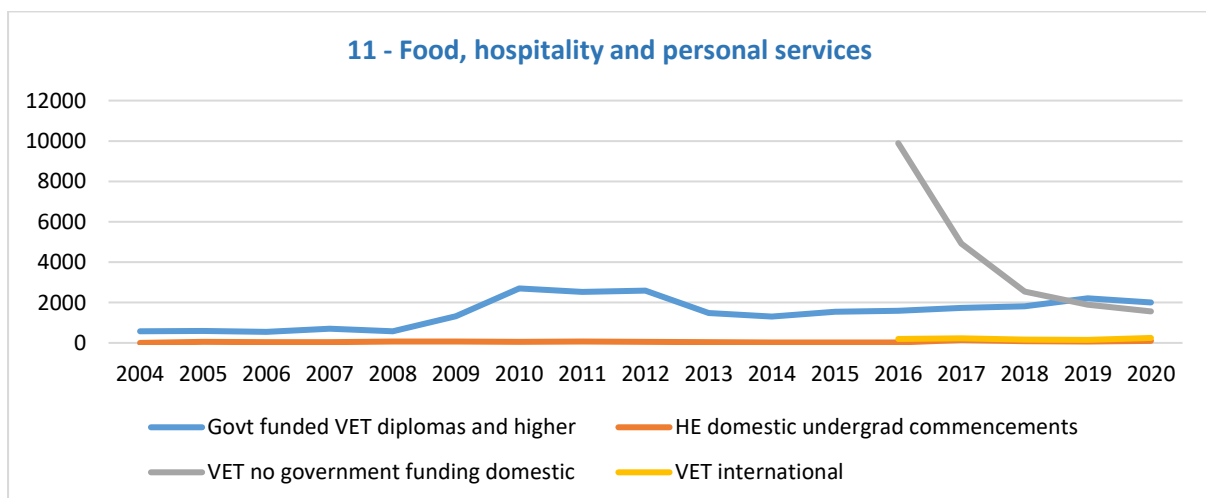
Figure 3.10: Commencements in VET diploma (and higher) qualifications and higher education undergraduate qualifications, creative arts, 2004-2020



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table

Since 2004, at least, higher education undergraduate commencements have been larger than the government funded VET diploma commencements. However, the divergence was quite small in 2005 (15,000 compared to 11,000 in VET) but has subsequently become much wider. Over the last five years of the graph higher education commencements have been between 27,000 and 31,000 while the government funded diploma commencements have been of the order of 6,000. Non-government funded diplomas commencements have been a little lower than government funded commencements since 2017. We also note that the rise and fall of demand led VET funding has had some impact on the creative arts, with VET diploma commencements reaching a peak in 2009 before declining to levels considerably lower than the pre-demand led funding era. International student numbers are small although they have grown steadily over the period for which we have data.

Figure 3.11: Commencements in VET diploma (and higher) qualifications and higher education undergraduate qualifications, food, hospitality and personal services, 2004-2020



Source: VOCSTATS Government-funded students and courses, VOCSTATS Total VET students and courses (TVA), Higher Education student data pivot table.

Food, hospitality and personal services is the one field where the higher education sector has very little presence. Within VET, this field is one of the few to show long-term growth. It is the field where the rise and fall of demand led funding appears to not have affected the long-term trend, with steady growth in government funded diploma commencements since around 2014. The end of VET fee help led to a rapid decline in non-government funded VET diploma place, but non-government funded places have been at a similar level as government funded places since 2019. International VET students are relatively few in number.

Discussion

Overall since 2004 we have seen a period where the university sector has expanded at the undergraduate level while the VET sector diploma and higher qualifications has contracted. A broad brush conclusion is that the university sector has become the dominant player while the VET sector is becoming more of a niche player. However, the devil is in the detail, and patterns differ across the various fields of study. We briefly discuss each field of study:

- Natural and Physical Sciences – VET has virtually abandoned this field although it delivers a small number of diploma courses relating to laboratory technology;
- Information Technology – government funded VET has become a small part of information technology. Domestic non-government funded provision is small but there are large numbers of international students;
- Engineering and Related Technologies - as for information technology, government funded VET is now a very small provider. The non-government domestic provision is of a similar order to government funded provision. By contrast there are considerably more international students;
- Architecture and Building – not so long ago government funded provision of diplomas was on a par with higher education undergraduate places. This is no longer the case, with university provision now dominating the government funded sector. The non-government sector provision of diplomas is very similar in size to the government funded sector. International student numbers are small;
- Agriculture, Environmental and Related Studies - a similar story in that the provision of government funded diplomas was similar to the provision of undergraduate higher education qualifications up to 2013. Since then government funded diplomas have fallen away. There are relatively low levels of non-government funded provision of diplomas and few international students;
- Health - the VET sector is a niche player in this field, diplomas associated with enrolled nursing and some fringe medical specialties, including massage. One would think that the long-term future for VET in this area is limited, particularly if the long-term trend to longer training and degree level qualifications continues. International student numbers are small;
- Education – as for health, the VET sector is a niche player. Over recent years numbers of VET diplomas have increased greatly, in childcare and early education. The future of VET in this area will depend on the regulation of childcare – so it could continue to be important for the

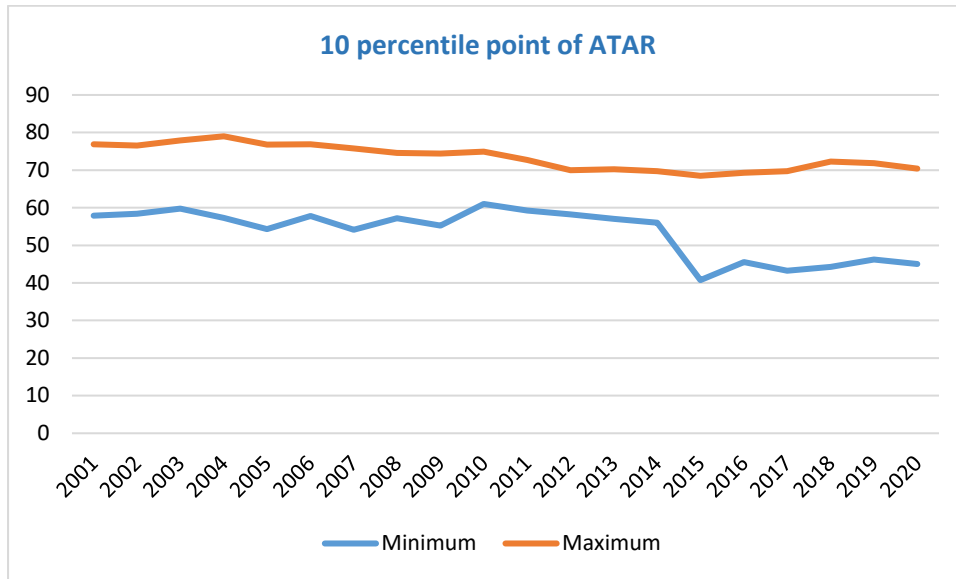
VET sector if diploma level qualifications are mandated. On the other hand, a possibility is that early education becomes a degree level course, in which case growth would not be as strong. International numbers have grown from a low base, and in 2020 the number of domestic non-government funded students was similar to the number of international students;

- Management and Commerce - up to 2012 VET government funded diploma commencements outnumbered the comparable number of higher education enrolments. After 2012, the higher education sector became more important such that in 2020 the higher education sector was twice the size of the government funded sector. Interestingly, domestic non-government funded diplomas outnumber the government funded VET diplomas (more than double). However, it is international students who dominate with their number being larger than the domestic provision. This is a rare field where it appears that the VET sector may be more than competitive, despite government funding dropping;
- Society and Culture – this is an area where higher education provision has dominated for the whole period we are looking at. This dominance is increasing. VET here is a niche player delivering counselling and community support diplomas;
- Creative Arts – in 2004 higher education provision of undergraduate qualifications exceeded VET provision of diplomas by a small margin. This margin has increased so that in 2020 higher education is clearly the dominant provider. It is interesting to note that government funded and non-government funded diplomas are of a similar magnitude. International numbers are relatively low;
- Food, Hospitality and Personal Services - this is the one field which is dominated by VET with higher education having very little presence. It is an area which has been growing steadily and one where government funded and not government funded provision is of a similar level. It is not an important area for international students.

We finish this section by looking at how entry level standards in higher education have dropped. We have obtained data on ATAR scores for commencing undergraduate students in higher education by broad field of study. These data provide the tenth percentile of scores by field of study. The following graph displays the maximum and minimum of these ten percentile scores across the 10 broad fields of study which we looked at above⁸. The maximum therefore is illustrative of the entry standard for the field, which is hardest to get into at the margin, while the minimum relates to the field which is the easiest to get into.

⁸ We have not included food, hospitality and personal services because the higher education sector has little presence in this area.

Figure 4: Tenth percentile point for ATAR entry scores in higher education undergraduate commencements.



Source: Higher Education Statistics customised data

The clear picture is that entry standards for undergraduate qualifications in higher education have dropped significantly over the last twenty years as the numbers of commencements have increased. This provides more support for the idea that higher education is usurping VET in the diploma/undergraduate space where there is an element of competition and choice.

Overall, we have a picture of the VET sector becoming a bit player in the provision of diploma or bachelor level qualifications, with the possible exception of management and commerce where non-government provision of diplomas is very significant. This is a dramatic change over the 15 years of our analysis. The only area where there has been real growth in VET provision is education where regulatory changes in childcare have driven large scale provision of childcare and early education diplomas. Another point to emerge is that the distinction between vocational education and higher education is false. Much of higher education is very vocational, and higher education dominates many vocational areas. One irony is that higher education now dominates the creative arts and one would have thought that the practical orientation of VET would give it a great advantage in this area. Apparently, not so.

5. Impact of government VET policy on demographic groups

We now dig a little deeper into the government funded VET diploma students in order to see how government policy has played out in terms of the characteristics of the students. We put aside the period 2008 to 2014 which saw the rise and fall of demand driven funding and focus on how the changes from 2004 to 2020 have played out in terms of age and previous education qualifications. We continue to classify the data by field of study.

Table 13 presents the number of commencements in government funded VET diplomas by field of study. These display the long-term trend, abstracting from the shocks of demand driven funding over the period 2008-2014.

Table 13: Commencements in government funded diplomas by field of study, 2004 and 2020.

	2004	2020	Percentage change
01 - Natural and physical sciences	1679	548	-67.4
02 - Information technology	8329	3205	-61.5
03 - Engineering and related technologies	15400	2707	-82.4
04 - Architecture and building	6610	6456	-2.3
05 - Agriculture, environmental and related studies	4722	1285	-72.8
06 - Health	2864	11652	306.8
07 - Education	786	16305	1974.4
08 - Management and commerce	40679	15802	-61.2
09 - Society and culture	18072	12143	-32.8
10 - Creative arts	10833	6188	-42.9
11 - Food, hospitality and personal services	595	2024	240.2
12 - Mixed field programmes	223	104	-53.4
Total	110675	78416	-29.1

Source: VOCSTATS Government-funded students and courses

In the majority of fields there have been very substantial declines, with the fields with the greatest declines being engineering and related technologies (82.4% decline,) Agriculture, environmental and related studies (72.8% decline), Natural and physical sciences (67.4% decline), Information technology (61.5% decline) and Management and commerce (61.2%) decline. There are three fields which have bucked the trend: Education, Health and Food, hospitality and personal services. Increases in these fields have been driven by the demand for enrolled nurses, childcare qualifications and beauty diplomas.

The magnitude of the decline is amplified if we exclude health and education from the calculations. Excluding these fields gives around 107,000 commencements in 2004 and around 50,000 in 2020, a decline of over 50% rather than around 30% if we include all fields.

To understand better the social impact of these changes, we split the population into three groups:

- Young persons (we define this group as being 24 years and younger)
- Older persons (25 years and older) who are deepening their skills (prior education is a Certificate III/IV, year 12 or lower)
- Older persons (25 years and older) who are broadening their skills (prior education is a diploma or higher)

Table 14 presents the percentage change in the number of government funded diploma commencements for each of these groups by field of study.

Table 14: Change in government funded diploma commencements by demographic group and field of study 2004 to 2020

	Up to 25 years	25 years and older, skills upgrading	25 years and over, skills broadening	Total
01 - Natural and physical sciences	-87.5	-38.5	-24.5	-67.4
02 - Information technology	-69.3	-54.5	-33.5	-61.5
03 - Engineering and related technologies	-84.9	-82.3	-71.7	-82.4
04 - Architecture and building	-35.6	35.9	19.8	-2.3
05 - Agriculture, environmental and related studies	-68.4	-75.0	-73.8	-72.8
06 - Health	461.9	230.9	175.3	306.8
07 - Education	10531.1	1459.7	862.2	1974.4
08 - Management and commerce	-78.4	-52.4	-13.4	-61.2
09 - Society and culture	-59.6	-22.5	47.1	-32.8
10 - Creative arts	-25.6	-67.1	-56.9	-42.9
11 - Food, hospitality and personal services	226.6	249.3	346.2	240.2
12 - Mixed field programmes	-87.5	-61.9	-40.2	-53.4
Total	-43.6	-19.6	0.1	-29.1

Source: VOCSTATS Government-funded students and courses

We see that the group most affected is that of young persons (most of whom have year 12 as their previous highest qualification). It appears that governments have abandoned this group or, alternatively, young persons see a higher education undergraduate degree rather than a VET diploma as a destination for further study. There are, though, three exceptions to this pattern: health (enrolled nursing), education (childcare) and food, hospitality and personal services (beauty). The older persons who are upgrading their qualifications (skills deepening) have also seen a widespread decline in the number of government funded diploma commencements, with declines in all fields apart from health, education and food, hospitality and personal services (that is, beauty diplomas). The group that has been least affected is those 25 years and over who already have a qualification at a diploma or higher level. While the overall impact is near zero, there have been declines in most fields of study, with the exceptions of architecture and building, health, education, society and culture, and food, hospitality and personal services.

6. Supply or demand?

We have seen that there have been very significant changes in the provision of government funded diplomas since 2004, with declines in most fields of study, with the exception of health (enrolled nursing), education (childcare and early education) and food, hospitality and personal services (beauty). However, a key question is whether this is demand or supply driven. That is, has the number of government funded diplomas changed because of government supply decisions or is it because demand has changed. We know already that in many fields declines in VET diplomas have been associated with increases in higher education undergraduate provision, suggesting that higher education is crowding out VET diplomas, and that increases in VET education diplomas has been driven by changes in childcare regulation. Enrolled nursing diplomas have also grown and we note that demand is strong for nurses. The other increase in diplomas has been in beauty diplomas and one would hazard that this is driven by student demand rather than explicit government policies. We

are not really in a position to clearly distinguish between demand and supply but we can test whether outcomes have changed. Our starting position would be that declines in certain fields would be not surprising if outcomes have declined for graduates in those fields.

We look at a number of indicators, based on publicly available data from NCVET (which goes back to 2012):

- The percentage of those who are employed of those not employed before training. This indicator relates to how easy it is to get a job given a diploma.
- The percentage obtaining a job which relates to the area of training.
- The percentage obtaining a job in the management or professional occupations (the presumption is that diploma graduates are competing with degree graduates, and that individuals with degrees or diplomas are aspiring to a professional or management occupation).
- The percentage reporting that their training was relevant to their current job
- The percentage going on to further study.

We first look at the percentage of those who are employed, of those not employed before training. This is a good indicator of how useful the qualification is in getting a job.

Table 15: Per cent employed after training of those not employed before training

	Average 2012-2014	Average 2019-2021
Natural and Physical Sciences	43.0	34.1
Information Technology	33.1	25.1
Engineering and Related Technologies	50.9	45.9
Architecture and Building	39.9	41.8
Agriculture, Environmental and Related Studies	36.5	46.6
Health	66.2	62.2
Education	26.2	62.8
Management and Commerce	38.4	39.2
Society and Culture	49.7	44.8
Creative Arts	39.3	26.8
Food, Hospitality and Personal Services	28.6	45.2
Total	43.5	44.3

Source: VOCSTATS Student outcomes

These figures indicate that there is variation across fields of study, but there also can be a lot of variation from year to year, noting that sample sizes can be quite small. Nevertheless it is clear that health and education have high employment outcomes (for those not in employment before training), while information technology and the creative arts have the poorest outcomes. Over time there has been little change in the indicator at the aggregate level. However, we have seen declines in the natural and physical sciences, information technology, engineering and related technologies and the creative arts.

Employment after training is a broad indicator. We now present data on a narrower indicator that relates occupation to the field of training. In Table 16 we present the proportion of persons where the occupation relates clearly to the field of study (as a proportion reporting occupation in their job after training).

Table 16: Of those employed, in same occupation as training course, by field of study

	Average 2012-2013	Average 2019-2021
Natural and Physical Sciences	59.5	55.6
Information Technology	26.5	21.8
Engineering and Related Technologies	23.1	22.6
Architecture and Building	16.6	16.9
Agriculture, Environmental and Related Studies	41.4	32.7
Health	55.1	56.8
Education	52.2	66.2
Management and Commerce	17.2	12.9
Society and Culture	20.3	31.4
Creative Arts	8.9	7.8
Food, Hospitality and Personal Services	2.8	1.4
Total	23.6	35.5

Note: in some cases there are large numbers of 'not stated'. Only those who report occupation data are included in the calculation.

Source: VOCSTATS Student outcomes

There are large differences across the fields of study. Fields with the highest proportion reporting that their occupation is in the area of their training include education and health. Natural and physical sciences also had a relatively high match although there was considerable volatility across years. Fields with a particularly low match are food, hospitality and personal services, and the creative arts. There have been a number of trends over time, with the match overall being higher in the period after 2016. By contrast, the match in the management and commerce field was significantly lower post 2018.

While the degree of matching is relatively low in some areas, the student outcome survey also reports data on the broad relevance of the training (Table 17). As can be seen from the table there are large numbers of graduates reporting that their course was relevant to their employment, even if the occupation did not directly align with it.

Table17: Percentage of graduates reporting that their training was highly or somewhat relevant to the job after training

	Average 2012-2014	Average 2019-2021
Natural and Physical Sciences	78.9	72.7
Information Technology	74.0	56.4
Engineering and Related Technologies	83.7	74.8
Architecture and Building	71.0	71.4
Agriculture, Environmental and Related Studies	86.4	78.1
Health	83.3	79.5
Education	95.5	85.5
Management and Commerce	83.0	78.6
Society and Culture	83.8	73.7
Creative Arts	44.7	36.6
Food, Hospitality and Personal Services	59.2	61.7
Total	80.2	75.2

Source: VOCSTATS Student outcomes

As with the earlier indicators there are significant differences by field of study. Graduates from the creative arts report the lowest levels of relevance. Information technology graduates also report relatively low levels of relevance in the second period. Graduates from food, hospitality and personal services also report relatively low levels for some years. High levels are reported for health and education, and reasonably high levels in a number of fields including natural and physical sciences, engineering and related technologies, architecture and building, agriculture, environmental and related studies, management and commerce and society and culture. The findings for management and commerce are interesting in that they contrast with the poor match between occupation and training, suggesting that diplomas in this area have a large generic component that is useful in many occupations.

We also note that there has been a decline in this indicator between the two time periods. Only in one field (food, hospitality and personal services) has there been an increase.

We now look at skills levels of graduates, beginning with the percentage of employed graduates in the two highest broad occupations according to ANZSCO.

Table 18: Percentage of employed graduates in managerial or professional occupations

	Average 2012-2014	Average 2019-2021
Natural and Physical Sciences	19.3	13.5
Information Technology	35.7	36.1
Engineering and Related Technologies	29.0	29.7
Architecture and Building	25.9	27.9
Agriculture, Environmental and Related Studies	59.5	31.1
Health	13.7	8.9
Education	94.2	27.1
Management and Commerce	41.9	39.2
Society and Culture	21.8	27.8
Creative Arts	30.7	22.4
Food, Hospitality and Personal Services	13.8	5.1
Total	32.8	26.8

Source: VOCSTATS Student outcomes

What is interesting about this indicator is that the ranking of fields is somewhat different from the ranking of the earlier employment indicators. In particular, health is low on this indicator although health ranks highly in terms of the other indicators. By contrast, creative arts has reasonable numbers of graduates in managerial or professional occupations despite having low levels of relevance – clearly there is a demand for the creative arts independent of employment outcomes, and some of this demand comes from individuals already in good jobs. Food, hospitality and personal services has very low numbers of graduates in managerial or professional jobs. At the other end of the scale, management and commerce graduates have the highest proportion of graduates in managerial and professional occupations. We note that overall there has been a decline in this indicator.

Clearly, some diplomas are not aimed at individuals wishing to get jobs in professional and managerial jobs. In Table 19 we show the most common occupation (modal) for the first and last years for the period for which we have data.

Table 19: Most common (modal) occupation, by field of study

	2012		2021	
	Modal occupation	% in modal occupation	Modal occupation	% in modal occupation
Natural and Physical Sciences	Technicians and trades workers	54.5	Technicians and trades workers	71.9
Information Technology	Technicians and trades workers	42.7	Professionals	28.0
Engineering and Related Technologies	Technicians and trades workers	49.6	Technicians and trades workers	36.4
Architecture and Building	Technicians and trades workers	35.9	Technicians and trades workers	44.6
Agriculture, Environmental and Related Studies	Professionals	18.2	Labourers	26.8
Health	Community and personal service workers	69.1	Community and personal service workers	77.6
Education	Professionals	80.3	Community and personal service workers	65.6
Management and Commerce	Clerical and administrative workers	28.8	Managers	21.9
Society and Culture	Community and personal service workers	56.1	Community and personal service workers	42.8
Creative Arts	Professionals	26.5	Sales workers	23.8
Food, Hospitality and Personal Services	Community and personal service workers	44.4	Community and personal service workers	67.4
Total	Community and personal service workers	25.9	Community and personal service workers	40.3

Source: VOCSTATS Student outcomes

We see that VET diplomas are in reality not aimed at the professional end of the labour market. In the more technical areas, the commonest occupation is in the technicians and trade occupation, while community and personal service jobs are the predominant occupation in health, education, society and culture, food, hospitality and personal services. There is some variation across time, so we observe that the modal occupation in the creative arts was professionals in 2012 but sales worker in 2021. Similarly, the modal occupation in agriculture, environment and related studies was professional in 2012 but labourer in 2021. The change in the modal occupation for education graduates, from professional in 2012 to community and personal services worker in 2021, reflects that most courses in the early period were aimed at educators in the VET sector while the majority of courses in the later period were in childcare.

One of the characteristics of VET is that many students are in employment before study, so employment after training is not a particularly good indicator of improvement in job prospects. One indicator that is useful in this regard is the proportion of those who move to a higher skill level job (which is defined in terms of ANZSCO skill levels)⁹

Table 20: Of those employed before training percentage moving to a higher skill level job, by field of study

	Average 2012-2014	Average 2019-2021
Natural and Physical Sciences	12.0	17.6
Information Technology	16.4	17.5
Engineering and Related Technologies	20.7	19.6
Architecture and Building	25.0	17.6
Agriculture, Environmental and Related Studies	8.9	13.2
Health	31.2	43.9
Education	0.5	13.6
Management and Commerce	8.6	11.5
Society and Culture	14.3	20.5
Creative Arts	20.5	12.9
Food, Hospitality and Personal Services	19.7	25.3
Total	14.5	19.6

Source: VOCSTATS Student outcomes

⁹ The five skill levels in ANZSCO are defined in terms of formal education and training, previous experience and on-the-job training. Occupations at Skill Level 1 have a level of skill commensurate with a bachelor degree or higher qualification. At least five years of relevant experience may substitute for the formal qualification; Occupations at Skill Level 2 have a level of skill commensurate with an AQF Associate Degree, Advanced Diploma or Diploma. At least three years of relevant experience may substitute for the formal qualifications; Occupations at Skill Level 3 have a level of skill commensurate with AQF Certificate IV or AQF Certificate III including at least two years of on-the-job training. At least three years of relevant experience may substitute for the formal qualifications listed above. Occupations at Skill Level 4 have a level of skill commensurate with AQF Certificate II or III. At least one year of relevant experience may substitute for the formal qualifications listed above; Occupations at Skill Level 5 have a level of skill commensurate with AQF Certificate I or compulsory secondary schooling. For some occupations a short period of on-the-job training may be required in addition to or instead of the formal qualification. In some instances, no formal qualification or on-the-job training may be required.

As with the other indicators there is considerable variation across fields and over time. Health graduates stand out as having the largest improvement in skill levels. Overall it seems that this indicator has been higher in recent years than in the period 2012 to 2015. Perhaps this corresponds to the decline in commencements with the more recent training undertaken by students who have a more focused perspective. That said, there are a number of fields where relatively few graduates move to a more highly skilled job, notably, agriculture, environmental and related studies, education, management and commerce and the creative arts.

To date we have focused on employment outcomes. Another important dimension of training is the extent to which it leads to further training, and in particular training at a higher level (which essentially means bachelor level education in the case of diplomas). In Table 21, we show the proportion of graduates in further study

Table 21: Percentage of graduates in further study, by field of education

	Average 2012-2014	Average 2019-2021
Natural and Physical Sciences	29.8	31.6
Information Technology	43.0	41.7
Engineering and Related Technologies	34.0	42.6
Architecture and Building	32.6	29.6
Agriculture, Environmental and Related Studies	30.2	29.9
Health	36.4	38.0
Education	38.8	22.0
Management and Commerce	33.7	33.6
Society and Culture	32.5	35.4
Creative Arts	39.1	48.8
Food, Hospitality and Personal Services	19.5	30.9
Total	34.4	33.9

Source: VOCSTATS Student outcomes

For many graduates the diploma is a pathway rather than a destination. Overall, a third or so of graduates continue with some sort of training. Further study is particularly prevalent for those with creative arts diplomas, which we have seen do not have very good employment outcomes. The levels are also quite high for information technology, engineering and related technologies. What is of particular interest, however, is the extent to which diplomas are seen as a stepping stone to a degree. Unfortunately, we have data on the level of the further study for 2021 but not for earlier years. In Table 22 we present, of those in further study, the percentage studying at a higher level.

Table 22: Of those in further study, percentage at a higher level, by field of study, 2021

	Of those in further study, percentage at a higher level	Percentage of graduates in further study at a higher level
Natural and Physical Sciences	75.8	18.2
Information Technology	71.2	31.0
Engineering and Related Technologies	76.4	32.6
Architecture and Building	55.2	17.8
Agriculture, Environmental and Related Studies	39.6	15.0
Health	78.5	29.5
Education	57.2	14.4
Management and Commerce	52.2	19.3
Society and Culture	59.5	22.3
Creative Arts	77.9	41.3
Food, Hospitality and Personal Services	30.7	10.6
Total	63.6	23.3

Source: VOCSTATS Student outcomes

Almost two thirds of those undertaking further study are doing so at a higher level. Overall, in 2021 almost a quarter of diploma graduates were undertaking study at a higher level. This indicates that diplomas are indeed an important stepping stone to a degree. Fields where this is particularly important include creative arts, information technology, engineering and related technologies, and health.

Discussion

We have presented a lot of information from a number of indicators, and what is clear is that there is a lot of variation across fields and over time. However, recall that we are trying to distinguish between supply and demand. If outcomes for diplomas are declining then the obvious inference is that the demand for diploma level study is likely to have declined. Alternatively, if outcomes have not declined then the observed drop in commencements is more likely to have been supply induced – that is governments are restricting the number of VET diploma places.

In Table 23 we summarise the changes in outcomes by field of study. We look at the change in outcomes between two periods. To try to overcome volatility we choose 2012-2014 as the first point and 2019-21 as the second point.

Table 23: Change in indicator scores from 2012-14 to 2019-20 (per cent), by field of study

	Proportion employed after training of those not employed before training	Proportion of those employed, in same occupation as training course	Proportion of graduates reporting that their training was highly or somewhat relevant to the job after training	Proportion of employed graduates in managerial or professional occupations	Of those employed before training proportion moving to a higher skill level job	Proportion of graduates in further study
Natural and Physical Sciences	-21	-7	-8	-30	47	6
Information Technology	-24	-18	-24	1	7	-3
Engineering and Related Technologies	-10	-2	-11	2	-5	25
Architecture and Building	5	2	1	8	-30	-9
Agriculture, Environmental and Related Studies	28	-21	-10	-48	48	-1
Health	-6	3	-5	-35	41	4
Education	140	27	-10	-71	na	-43
Management and Commerce	2	-25	-5	-6	34	0
Society and Culture	-10	55	-12	28	43	9
Creative Arts	-32	-12	-18	-27	-37	25
Food, Hospitality and Personal Services	58	-50	4	-63	28	58
Total	2	50	-6	-18	35	-1

Source: VOCSTATS Student outcomes

Overall some indicators have gone up and some down. The indicator that has improved the most is the proportion of training which matches the subsequent occupation. This may well be because of compositional changes with large increases in numbers undertaking two fields which typically have a tight match with an occupation, that is health and education. This compositional factor may also explain the large increase in the proportion of graduates moving to a higher skilled occupation. In terms of the individual fields, we see that outcomes have declined in natural and physical sciences, information technology and engineering and related technologies and creative arts. So according to our argument demand by students may well have driven the decline in diploma enrolments (and much of this decline is most likely associated with an increase in the relative attractiveness of higher education). As for the other fields, education and health have some indicators up and some down, but demand for enrolled nursing is most likely driving the increase in health diplomas and we have already argued that regulatory changes have driven increased demand for childcare diplomas. At the same time governments clearly have been willing to fund expansion in these areas. The other area where there has been a substantial increase in provision of government funded diplomas are food, hospitality and personal services which we have noted is largely made up of diplomas in beauty. We saw that the number of young people undertaking these diplomas has increased very significantly and one would assume that this is largely driven by student demand, noting that the majority of the indicators have increased in this field. The one field we have not yet discussed is architecture and building where the indicators have largely increased a little. This is also one of the small number of fields where government provision has not declined over the longer term (although it has gone up and down). Our conclusion is that student demand has not declined over the long-term in this field.

So our broad conclusion, although somewhat tentative, is that changes in student demand have largely driven the changes in the provision of diploma places, negative in most fields, positive in health, education and food, hospitality and personal services (i.e. beauty).

7. Final Comments

We have looked at diplomas in a fair bit of detail, beginning in the middle 2000s. In VET, diplomas have an important role as the highest level of qualification offered. They are a very diverse group of qualifications, numbering over 1,000, with the majority having a handful of students. The student body is also diverse, covering all age groups and all educational backgrounds – from not having completed year 12 to already having a diploma or higher qualification.

We have seen large scale changes in their provision including two shocks which had a large but short lived impact. The first of these shocks was the rise and fall of demand led funding which led to very large increases in government provision (particularly in management and commerce) which were wound back over a number of years. The second was the introduction of VET FEE-HELP which led to an explosion in provision of non-government funded diplomas (mostly in management and commerce) which was short-lived when VET FEE-HELP was replaced by VET Student Loans. A more minor shock which impacted on commerce and management diplomas (and society and culture diplomas to a much lesser degree) was the introduction and the abolition of government incentives for existing worker trainees.

Putting aside these shocks we have seen long-term declines in government funded diploma places. These declines have been in most fields, notably, natural and physical sciences, information technology, engineering and related technologies, agriculture, environmental and related studies, management and commerce, society and culture and the creative arts. There have been three areas which have seen growth in VET diplomas. These are health (essentially enrolled nursing), education

(childcare and early education diplomas) and food, hospitality and personal services (essentially beauty diplomas).

Overall, we have seen the extent of provision of government funded diplomas decline very significantly. If we exclude health and education, the number of commencements has declined by around 50% between 2004 and 2020. We have seen declines from numbers which saw similar levels of VET diploma provision and higher education undergraduate provision to a position where VET is now only a bit player in many areas.

To understand what has occurred we need to go to individual fields of study. The ASCED classification has 11 categories which we split into three categories, based on the extent of domestic provision:

- **Category 1:** These are fields which the VET sector now, in relative terms, has only a small presence, and include natural and physical sciences, information technology, engineering and related technologies, agriculture, environmental and related studies, health, society and culture and the creative arts. These are fields where the higher education sector over a period of time has expanded at the same time as VET has contracted, and fields where governments have contracted VET diploma provision.
- **Category 2:** These are fields where both higher education and VET have a substantial presence and comprise architecture and building, education and management and commerce. In each of these fields non-government funded provision is important (and dominant in the field of management and commerce). In the case of education, VET and higher education are not competitors with the VET provision almost totally relating to child care.
- **Category 3:** Fields where VET is dominant. There is only one field in this category (food, hospitality and personal services) and the VET provision here is quite narrow, being essentially diplomas of beauty.

It is also interesting to note that international students are playing a larger and larger role in the provision of diplomas. Overall, international students make up around 30% of diploma commencements, and are dominant in management and commerce, information technology and engineering and related technologies. If international students were to dry up then overall provision at the diploma level would be severely affected in these areas. In this context we note the comment by Baird (2010) that the number of international students is reliant on immigration rules with many students primarily interested in 'a migration outcome'. This line of argument suggests that the provision of diplomas in the VET sector is vulnerable to changes in visa rules.

We have attempted to provide an explanation of these very significant changes. The most obvious one is that higher education has expanded at VET's expense, and in many fields the higher education expansion is mirrored by VET contraction. This hypothesis is supported by changes in ATAR entry scores – it is clear that entry level standards for university entry have declined. One would speculate that for many individuals the choice between a diploma at VET and a degree at university has disappeared. We also looked at changes in outcomes for VET diplomas. While there is considerable variability in the indicators there is evidence to support the view that student demand has driven the changes in VET enrolments.

In the majority of fields it appears that VET is no longer a competitor with higher education, but there are a number of areas where VET provision at the diploma level has flourished. The first one is education, where the numbers of childcare and early education diplomas has reached high levels. This no doubt is driven by regulatory changes in the childcare industry. The second one is nursing, where the health sector has decided that enrolled nurses with a VET diploma are an important part of the health workforce. The third - hospitality and personal services - is quite different, being driven by market demand. These are essentially diplomas in beauty, and there are numerous young women undertaking such diplomas.

We also observe that a number of fields have become very dependent on international students, namely management and commerce, information technology and engineering and related technologies.

Overall, it is a pretty bleak picture for VET if we are of the view that VET should be providing a genuine alternative to higher education. What makes it even bleaker is that government funding of diplomas has contracted in most fields. One would conclude that governments are happy to vacate the higher VET qualifications space to universities offering degrees. VET's future, especially in the government funded part then is one of provision of lower level skills with diplomas coming into their own only when regulation prescribes it (as has happened in childcare), or VET is an easier way (than going through more onerous higher education processes) of accrediting a qualification which is pitched above the certificate level. Even here, VET may be vulnerable. For example, if regulation of childcare promoted more degree level jobs (as has happened in many paraprofessional occupations) then the number of VET childcare diplomas could fall away very quickly.

It also suggests that the idea that a high level vocational approach can be a genuine alternative to a more academic approach (with its emphasis on research) provided by higher education is gravely ill. VET is likely to be left as a provider of lower level training to meet short term industry needs. For VET to become a genuine alternative to university it would need to begin offering substantial numbers of degree level qualifications in addition to diplomas.

However, current funding models are very unhelpful and we see little integration of the vocational education and higher education in the dual sector universities.¹⁰

The fact that there are dual sector institutions indicates that there are no fundamental structural barriers for VET based institutions to offer higher education awards. The threshold standards within the higher education standards framework (Australian Government 2021) include two categories under which non-university providers can operate: Institutes of Higher Education (some with limited self-accrediting powers) and the University College with self-accrediting powers. University Colleges have to have demonstrated a successful track record in higher education provision.¹¹

In this context a number of TAFEs do deliver degrees, and some of these places are funded by the Commonwealth. For example, Holmesglen offers bachelor degrees in business (accounting), early

¹⁰ Dual sector institutions include Federation University, RMIT University, Swinburne University of Technology, Victoria University, Central Queensland University, Batchelor Institute of Indigenous Tertiary Education and Charles Darwin University.

¹¹ Currently, there are four institutions registered by TEQSA as University Colleges: the National Institute of Dramatic Arts (NIDA), Moore Theological College, the Australian Film, Television and Radio School (AFTRS), and Alphacrucis College.

childhood teaching, fashion design, hospitality management, information systems, nursing, sport business and sports media. Similarly, TAFE NSW offers bachelor degrees in applied commerce, business, community services, early childhood education and care, 3D art and animation, creative practice, interior design, information technology and property valuation.

That said, it is not clear how many students undertake these courses. The higher education statistics show that in 2020 the non-university providers accounted for some 19,000 domestic commencements or around 6.6% of all domestic undergraduate commencements. So it is clear that in principle there is no reason why VET providers cannot extend their offerings into higher education. However, they do face a significant barrier in terms of fee structures. Unless a student can obtain a Commonwealth Supported Place (CSP) undertaking a degree is an expensive proposition. Nursing at Holmesglen is a prime example. It is one of the rare examples of a TAFE institution being funded through CSPs. If an individual obtains one of these places the fee (which can be financed through the Higher Education Loans Program - HELP) is \$3,985 per annum. The same program not funded through a CSP has a fee of \$16,396 (which also can be funded through HELP).

As noted above, a number of VET institutions do offer degrees which are supported by the Commonwealth. The list of non-university providers (34 in number) with funding agreements with the Commonwealth for 2021-22 includes a number of TAFEs – Box Hill Institute, Chisolm Institute, TAFE NSW, TAFE Queensland and TAFE SA. Further, in the list of higher education providers with 2021-2023 agreements for Commonwealth funding, there are an additional two TAFEs - Holmesglen Institute of TAFE and Melbourne Polytechnic (formerly the Northern Melbourne Institute of TAFE).¹² So, in principle, there is nothing stopping VET offering degrees and competing with the universities.

However, I have formed the view that VET will continue its decline unless there are some significant structural changes so that degrees become an integral part of VET. My suggested reforms are:

- Changes to the AQF so that it is agnostic in respect to whether a bachelors degree is VET or higher education.
- An amalgamation of TEQSA and ASQA so that accreditation and regulatory oversight of a tertiary provider is the responsibility of one body.
- A rebalancing of government funding such that the Commonwealth is responsible for supporting tertiary education at levels five and above (that is, diplomas and above) with States being responsible for Certificates I-IV. A balance would need to be achieved in the distribution of Commonwealth funding at the AQF 5-7 level across universities and other providers. In this context, the continued decrease in VET diplomas and increase in higher education bachelor degrees has an element of cost shifting from the States to the Commonwealth.
- A consolidation of statistical data such that we would have a complete picture of the activity of each provider.

¹² <https://www.dese.gov.au/collections/non-university-higher-education-providers-2021-2022-commonwealth-grant-scheme-funding-agreements>, <https://www.dese.gov.au/collections/higher-education-providers-2021-2023-funding-agreements>.

Even these reforms may not be sufficient. A continuing issue is the schism between higher education which is largely self-accrediting, and VET with its foundation of training packages. This split has educational dimensions with general education in VET subservient to industry specified competencies. VET has downplayed the role of educators since the development of training packages. For VET to have a better prospect of competing with the universities there would need to be more emphasis on general education so that students had multiple options to both acquire technical skills and also leave open the possibility of higher level study.

A further issue is that there needs to be a reinvention of institutional identity in the VET sector. In higher education we automatically think of universities as the fundamental entity, despite the fact that many universities are registered training organisations delivering VET qualifications. However, in VET there are thousands of small providers as well as a number of institutions of considerable size, namely the TAFEs. It is difficult to see VET competing with higher education unless it is delivered by strong institutions. Without a strong institutional entity it is unlikely that 'VET' can compete with the universities.

Thus it would need a fundamental shift in philosophy and serious institutional reform for the VET sector to embrace bachelor degrees as a key element of vocational education. There are a number of reasons why this is worth arguing for.

The first is an educational one; there are numerous fields where a practice based training philosophy (as distinct from a theory based approach) is a good one and, arguably, will meet the needs of the labour market more effectively. This is the notion, put forward by Mackenzie (2019), of a professional university with strong links to industry and putting its emphasis on teaching over research.

The second is a diversity argument. The so-called unified system in which colleges of advanced education morphed into universities, has led to a system where all universities aspire to become comprehensive research universities. Surely, some diversity, with strong institutions with a different focus, would be of benefit to the nation – and it would bring Australia in line with the practice in many countries. That diversity can come from specialisation and a focus on teaching rather than research.

The third is an efficiency argument. Teaching only institutions do not have the option of cross subsidising research with funds notionally allocated to teaching.

The fourth is an equity argument. While there is much rhetoric from the universities concerning equity, it is unarguable that VET has a broader reach than universities in terms of students' age, educational background, social and cultural backgrounds.

Thus there are very good reasons for VET to embrace bachelor degrees as a key element of vocational education, so that VET can become a genuine alternative to university. However, considerable institutional reform is necessary before this can occur.

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