

Student mobility and credit transfer

1. EXECUTIVE SUMMARY

There is a high degree of student mobility across the tertiary education sector. The motivations for moving are varied – some students move for academic reasons, others for geographic or personal reasons. Some students switch qualifications immediately without pausing, whereas others may leave tertiary study for some time before enrolling in another qualification.

There are different ways to estimate the volume of student mobility in the sector. Previous analysis showed that around 16% of students coming to university have some credits at a similar or lower level in their field of study.¹ For bachelor's degree students, approximately 10% of enrolments are by students that commenced bachelor-level study at a different tertiary provider within New Zealand but did not complete their original qualification.²

This report builds on this existing analysis and uses student enrolment and qualification completion data from Stats NZ's Integrated Data Infrastructure (IDI) to examine three questions:

- General trends: How many students move between providers and where do they go?
- **Student demographics:** What kind of students tend to move around the most?
- Credit transfers: How much are credit transfers happening across the sector?

The key findings of each of these three questions are set out below.

General trends

We find that bachelor's degree programmes have the highest proportion of students changing and moving to a different qualification at the same level. While 66% of bachelor's degree students will continue in their original programme without any change, 28.2% will change to a different qualification within the same university, 13.5% will change to a qualification at a different university, and between 2-4% of students will leave the university sector for another tertiary sub-sector or enter the university sector from another tertiary sub-sector (primarily Te Pūkenga). When moving between bachelor's degree qualifications, approximately a third of students that move stay within the same

¹ Universities New Zealand analysis, as quoted in the 2017 Productivity Commission Report "New Models of Tertiary Education" on page 85.

² Universities New Zealand analysis, as included in the paper for Brief 4: Credit Recognition and Transfers in June 2021.

broad field of study, whereas two-thirds will change their broad field of study (e.g., moving from Society and Culture to Management and Commerce).³

Postgraduate certificates and diplomas have the second highest proportion of students moving, with around 13% of students changing qualifications at that level. All other qualifications higher than a bachelor's degree have low rates of change, with more than 92% of students across these programmes staying with their originally enrolled qualification. Doctorate students have the lowest rates of change.

Student demographics

Domestic students change qualifications at twice the rate of international students and are more prone to changing universities. On ethnicity, we find that Māori and Pacific students tend to move more, particularly to other universities and providers. Māori students tend to move qualifications and providers the most, while Asian students tend to move qualifications and providers the least.

Age is a relevant factor. Students that start studying when they are under 20 have the highest rates of enrolling in a subsequent qualification, with more than a 30-percentage point difference compared with students that start studying when they are 21 or over. There is a small difference observed between genders, with female students tending to move around more, although the magnitude of this difference is very small (less than two-percentage points).

Credit transfers

This analysis estimates the occurrence of when credits gained from previous study could be used towards a subsequently pursued qualification. Credit transfers are most common for domestic bachelor's degree students. Around 35% of these students will complete their qualification with a credit deficit of around 120 credits, meaning they drew those credits from study outside the qualification they completed. 26% of completing students (approximately 3,700 students each year) draw on credits obtained from previous study at the same university, while 6% (800 students) draw on credits from study at a different university. A further 2% (280) draw on credits from other tertiary sub-sectors.

³ For more information about broad fields of study, see the New Zealand Classification of Education (NZSCED) described at: https://www.educationcounts.govt.nz/data-services/code-sets-and-classifications/new_zealand_standard_classification_of_education_nzsced

2. STUDENT MOBILITY PATTERNS

2.1 Scope of analysis

This section looks at student enrolment data to understand how many students move between qualifications and providers, the demographic profile of those students, and common movement patterns. The analysis looks at movement within the same level of study (e.g., a student who enrols in a bachelor's degree twice), as this best approximates the potential number of students that may be interested in a credit transfer. It does not capture student movement associated with progression (e.g., a student who starts a master's degree after completing a bachelor's degree).

In this section, a student "moves" when they enrol in a second or subsequent qualification within the same level of study. The analysis focuses on university students, as well as students who join a university after having initially started in another tertiary sub-sector (e.g., Te Pūkenga or Wānanga). Because the analysis is based on enrolment data, it does not consider whether a student completes their qualification(s) or the timeframe between enrolments. Therefore, a student may "move" after completing their initial programme or having left their previous qualification incomplete.

Where results are presented as percentages, the percentages reflect total enrolments relative to the number of initial enrolments at university. Total percentages that exceed 100% reflect students enrolling multiple times at the same level of study.

The findings presented in this section are based on data from 18 consecutive cohorts (i.e., students whose first enrolment began between 2001 and 2018) and reflect representative trends. Please refer to **Section 4: Methodology** for detailed information about data, methodology and terminology used.

2.2 General trends

Student flow between universities

Bachelor's degree qualifications have the highest proportion of students moving between qualifications. While 66% of students will continue in their original qualification without any change, 34% will subsequently enrol in a different qualification. For higher level degrees, the proportion of students that enrol in another qualification is relatively low and generally less than 8% except for Postgraduate certificates and diplomas with 13%. This is illustrated in **Figure 1**.

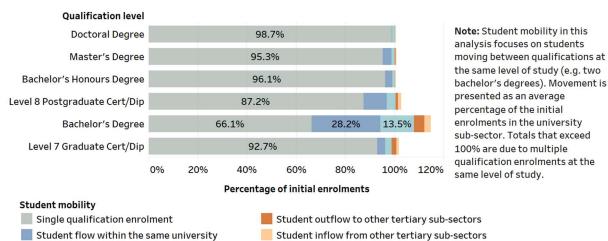


Figure 1: Student mobility in the university sub-sector by qualification level

Figure 2 shows a detailed breakdown for bachelor's degrees. For students initially enrolled in a bachelor's degree at university, 28.2% will change to a different bachelor's degree within the same

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university, and 13.5% will change to a qualification at a different university. Movements into and out of university-level study are smaller but still significant, with 4.2% of students enrolling in a qualification in another tertiary sub-sectors (mainly Te Pūkenga) and 2.7% coming into university study from another tertiary sub-sectors.

In a typical year, roughly 30,000 students start their journey towards a bachelor's degree qualification at a New Zealand university. This means approximately 4,000 students will move to a different university at some stage, 1,200 will move to other tertiary providers, and about 800 students will come into university study from other tertiary providers.

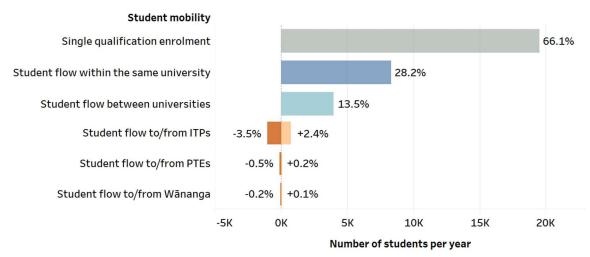


Figure 2: Student mobility at bachelor's degree level in the university sub-sector

Note: Student mobility in this analysis focuses on students moving between qualifications at the same level of study (e.g. two bachelor's degrees). Movement is presented as an average percentage of the initial enrolments in the university sub-sector. Positive sign represents the gain of students from other tertiary sub-sectors. Negative sign represents the loss of students to other tertiary sub-sectors.

2.3 Deep dive: Bachelor's degree programmes and student demographics

We examined multiple sub-groups within the student population to see how mobility trends differ among them (see **Figures 3 and 4**).

Key patterns observed include:

- Ethnicity⁴: Māori and Pacific students tend to move more, particularly to other universities and providers. Māori students tend to move qualifications and providers the most, while Asian students tend to move programmes and providers the least.
- **Age⁵:** Students that start studying when they are under the age of 20 have the highest rates of enrolling in a subsequent programme, with more than a 30-percentage point difference compared with students that start studying while aged 21 or over. There are no significant differences between age brackets for those aged 21 or over.
- **Gender:** Female students tend to have slightly more subsequent enrolments, but by a small margin of less than 2 percentage points.

⁴ In this analysis we used prioritised ethnicity. The highest priority is given to Māori, followed by Pacific Peoples, Asian, European, and other ethnic groups. We did not separate international students when reporting on ethnicity.

⁵ In this report we are using the student's age as at their first enrolment at each level.

• **Domestic vs international students:** Domestic students have twice as many subsequent enrolments as international students.

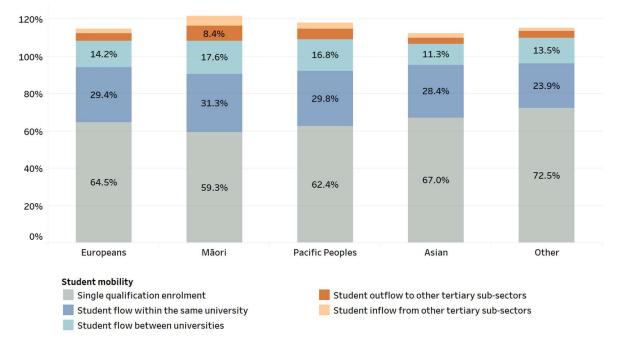


Figure 3: Student mobility at bachelor's degree level in the university sub-sector by prioritised ethnicity

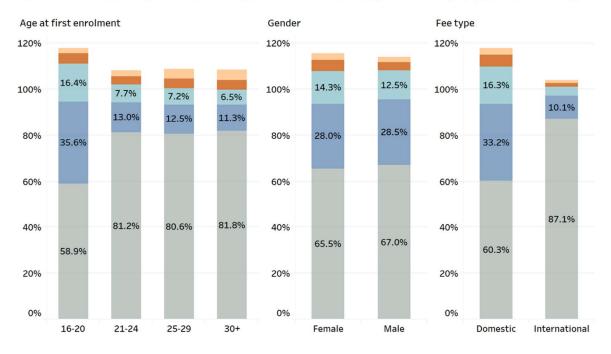


Figure 4: Student mobility at bachelor's degree level in the university sub-sector by age, gender, and fee type

Figure 5 looks at students that start a university qualification but later enrol in a non-university tertiary provider (at the bachelor's degree level). The graphs show that student ethnicity does vary across the different sub-sectors, with Māori students comprising close to 90% of students who join Wānanga compared with around 13-15% for Te Pūkenga (ITP) or private training establishments (PTEs). Students that subsequently enrol at Wānanga from universities also tend to be older.

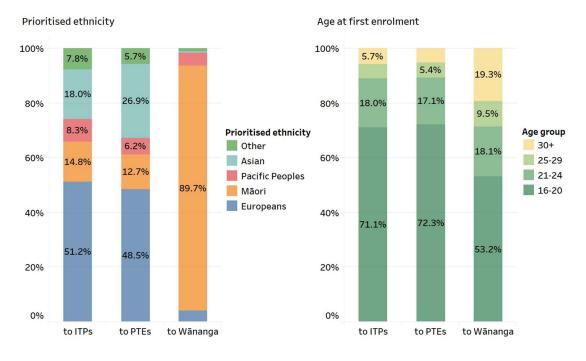


Figure 5: Student outflow from the university sub-sector at bachelor's degree level by ethnicity and age

2.4 Deep dive: Bachelor's degree programmes and fields of study

We looked at whether students tend to change their field of study when moving between bachelor's degree qualifications. We find that in general approximately a third of students that move stay within the same broad field of study, whereas two-thirds will change their broad field of study.

The analysis presented in this sub-section shows the 20 most common changes between broad fields of study. **Figures 6 and 7** shows that some fields of studies shrink, and some expand because of student mobility within the university sector.

In **Figure 6**, which shows internal movement within the same provider, Society & Culture and Natural & Physical Sciences fields shrink, whereas Management & Commerce and Health fields gain more students. Some of these internal movements are due to how progression between qualifications is structured. For example, movements from Natural & Physical Sciences to Health are driven by students being accepted into a Bachelor of Health Science programme after being enrolled in the Bachelor of Science at Auckland and Otago universities. We did not separate conjoint bachelor's degree qualifications; therefore, some movements reflect switching in and out from conjoint programmes.

Figure 6: Common changes to field of study within the same university

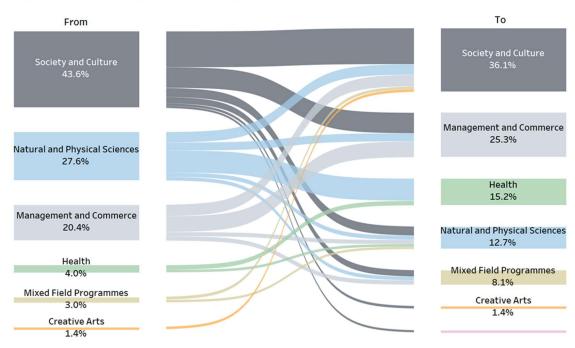
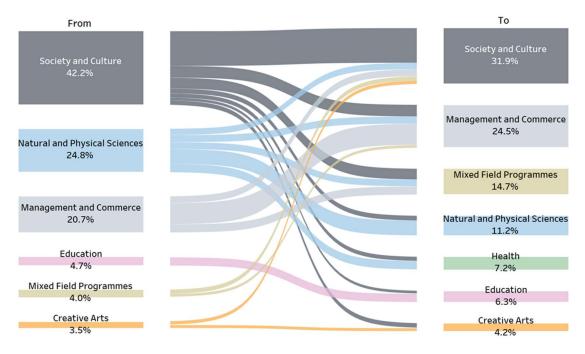


Figure 7: Common changes to field of study between universities



Society and Culture is the most common field to be moving within. Most of the movement from and into Society and Culture is primarily driven by students moving out of law programmes and into other non-law programmes (and vice versa). When it comes to movement *across* fields of study, the most common changes are from Sciences into Health (e.g., medical students); from Management and Commerce, into Society and Culture; and from Society and Culture into Management and Commerce.

Figures 8 and 9 illustrates changes for students that come into or leave the university sector. In Figure 8, students that exit out of university predominantly enrol in Health and Management and Commerce

programmes offered by other tertiary providers. In **Figure 9**, new entrants into university are predominantly attracted to Society and Culture and Management and Commerce qualifications.

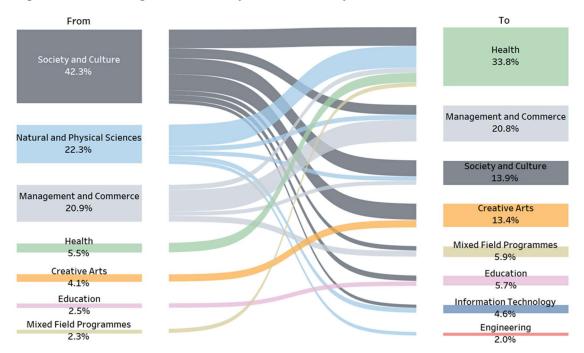
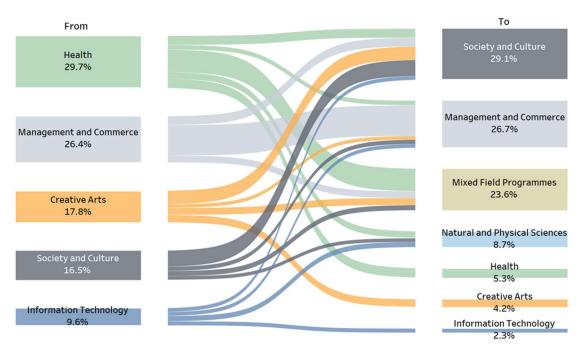


Figure 8: Common changes to field of study from the university sub-sector to other sub-sectors

Figure 9: Common changes to field of study from other sub-sectors to the university sub-sector



3. CREDIT TRANSFERS

3.1 Scope of analysis

This section estimates the number of credit transfers across the university sector by looking at student completion data. This analysis gives a sense of how common credit transfers are and how many credits are usually awarded.

There are three notable limitations to this analysis. The first is it *approximates* credit transfer volumes using course completion data, rather than data held by institutions on credit transfer applications. Because universities do not systematically collect credit transfer data, a more realistic estimate of credit transfer applications and awards across the sector is not possible – hence the need to approximate the volume. The second limitation is the estimates are likely to *understate* the total population of students eligible for a credit transfer, such as students that could have gained credits from previous study but did not apply. Finally, analysis is restricted to students who completed a qualification, and sources of credit transfer is estimated from the perspective of the provider awarding the qualification.

Please refer to **Section 4: Methodology** for more information about methodology and rules applied.

3.2 Bachelor's degree programmes

To identify possible credit transfer scenarios, we looked at students that completed a bachelor's degree qualification but did not gain the full amount of credits needed for the qualification from the programme (i.e., there was a credit deficit). A bachelor's degree requires a minimum of 360 credits, with some degrees such as engineering, health sciences and law requiring 480 or more credits.

For students with a deficit, we looked at four possible ways that deficit could have been filled using credits gained from previous study. The options explored are, in order of priority:

- **Credit transfer (same level)** using credits from previous study at the same level. For example, credits gained from enrolment in a previous bachelor's degree qualification.
- **Credit transfer (lower level)** using credits from previous study at a lower level. For example, credits gained from previous study at a sub-degree level (level 5 and 6 certificates and diplomas only).
- Credit transfer (Certificate of Proficiency) using credits gained from an NZ Certificate of Proficiency.
- **Unexplained deficit** where the deficit cannot be explained or accounted for, based on the business rules used for this analysis.

Table 1 shows the results for domestic bachelor's degree students. N represents an average annual cohort of students that complete a bachelor's degree. Around 35% of students complete their qualification with a credit deficit of around 120 credits, meaning they drew credits from study outside the qualification they completed. Unsurprisingly, the most common case is of students that draw on credits obtained from previous study at the same university, accounting for around 26% of completing students (approximately 3,700 students each year). We estimate that approximately 6% of students (800) will draw on credits from study at a different university. A further 2% (280) draw on credits from other tertiary sub-sectors.

Table 1: Estimated credit transfer by source for domestic bachelor's degree graduates

				FROM THE SAME UNIVERSITY	FROM ANOTHER UNIVERSITY	FROM OTHER SUB-SECTORS	
QUALIFICATION COMPLETED N=14778 100% Ave. CR=390	CREDIT DEFICIT N=5241 35.5% Ave.CR=129	CREDITS FROM SAME LEVEL N=4610 31.2% Ave.CR=118	SAME FIELD N=2163 14.6% Ave.CR=129	N=1555 10.5% Ave.CR=137	N=558 3.8% Ave.CR=108	N=51 0.3% Ave.CR=94	
			DIFFERENT FIELD N=2447 16.6% Ave.CR=109	N=2158 14.6% Ave.CR=114	N=259 1.8% Ave.CR=75	Less than 0.2%	
		CREDITS FROM LOWER LEVEL N=450 3.0% Ave.CR=120	SAME FIELD N=328 2.2% Ave.CR=133	N=170 1.2% Ave.CR=125	Less than 0.2%	Less than 0.2%	
			DIFFERENT FIELD N=121 0.8% Ave.CR=85	N=38 <mark>0.3%</mark> Ave.CR=59	Less than 0.2%	N=74 0.5% Ave.CR=103	
		CREDITS FROM CERTIFICATE OF PROFICIENCY N=86 0.6% <i>Ave.CR=37</i>					
		UNEXPLAINED DEFICIT	QUALIFYING CREDITS FOUND, BUT NOT SUFFICIENT N=359 2.4% Ave.CR=50				
		N=881 6.0% Ave.CR=84	QUALIFYING CREDITS N=522 3.5% Ave.CR=107	S NOT FOUND			
	NO CREDIT DEFICIT N=9537 64.5% Ave.CR=0	1					

Table 2 shows the results for international students. Note that the analysis for international students excludes credit transfers from previous *overseas* study, and only takes into consideration previous study completed in New Zealand. As we would expect, international students have a higher percentage of an 'unexplained deficit' (24% compared with 6% for domestic students) which is likely to be due to credits awarded from previous overseas study which is not captured in IDI data. This 'unexplained deficit' counts for more than half of the credit deficit observed.

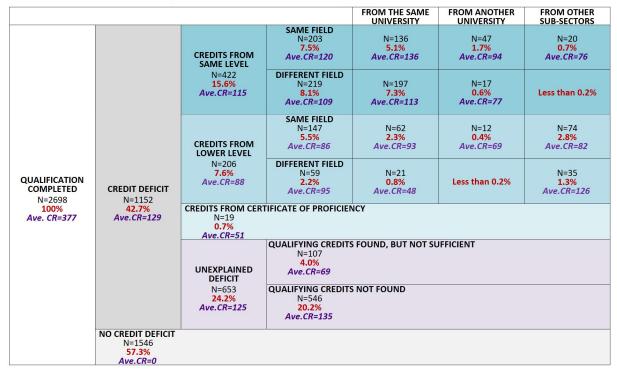


Table 2: Estimated credit transfer by source for international bachelor's degree graduates

Tables 3 and 4 show results for domestic and international bachelor's honours degree. When compared to bachelor's degrees (without honours), we observe a lower level of credit deficit overall and significantly lower credits from the same level (i.e., from another bachelor's honours qualification).

				FROM THE SAME UNIVERSITY	FROM ANOTHER UNIVERSITY	FROM OTHER SUB-SECTORS	
QUALIFICATION COMPLETED N=2362 N=513		CREDITS FROM SAME LEVEL N=56 2.3% Ave.CR=176	SAME FIELD N=40 1.7% Ave.CR=178	N=31 1.3% Ave.CR=195	N=9 0.4% Ave.CR=125	Less than 0.2%	
			DIFFERENT FIELD N=15 0.7% Ave.CR=170	N=15 0.6% Ave.CR=180	Less than 0.2%	Less than 0.2%	
		CREDITS FROM LOWER LEVEL N=443 18.7% Ave.CR=246	SAME FIELD N=356 15.1% Ave.CR=281	N=334 14.1% Ave.CR=293	N=18 <mark>0.8%</mark> Ave.CR=113	Less than 0.2%	
	CREDIT DEFICIT N=513		DIFFERENT FIELD N=86 3.7% Ave.CR=99	N=64 2.7% Ave.CR=105	N=23 1.0% <i>Ave.CR=80</i>	Less than 0.2%	
100% Ave. CR=501	21.7% Ave.CR=249	CREDITS FROM CERTIFICATE OF PROFICIENCY N=17 0.7% Ave. CR=30					
		UNEXPLAINED	QUALIFYING CREDITS N=72 3.0% Ave.CR=43	S FOUND, BUT NOT SL	JFFICIENT		
		N=142 6.0% Ave.CR=58	QUALIFYING CREDITS N=70 2.9% Ave.CR=73	S NOT FOUND			
	NO CREDIT DEFICIT N=1849 78.3% Ave.CR=0	•					

Table 3. Estimated credit transfer b	y source for domestic bachelor's honours de	gree (480 credits) graduates
Table 5. Estimated credit transfer b	y source for domestic bachelor s nonours de	Sice (400 creatis) graduates

Table 4: Estimated credit transfer by source for international bachelor's honours degree (480 credits) graduates

				FROM THE SAME UNIVERSITY	FROM ANOTHER UNIVERSITY	FROM OTHER SUB-SECTORS
		CREDITS FROM SAME LEVEL N=3 1.4% Ave.CR=195	SAME FIELD N=3 1.4% Ave.CR=195	N=2 <mark>0.8%</mark> Ave.CR=267	N=2 <mark>0.6%</mark> Ave.CR=103	Less than 0.2%
N=252 100%			DIFFERENT FIELD Less than 0.2%	Less than 0.2%	Less than 0.2%	Less than 0.2%
		CREDITS FROM LOWER LEVEL N=21 8.3% Ave.CR=202	SAME FIELD N=17 6.6% Ave.CR=232	N=17 6.6% Ave.CR=232	Less than 0.2%	Less than 0.2%
	CREDIT DEFICIT		DIFFERENT FIELD N=4 1.7% Ave.CR=84	N=4 1.7% Ave.CR=84	Less than 0.2%	Less than 0.2%
	23.3% Ave.CR=186	CREDITS FROM CERT	FIFICATE OF PROFICIEN	ŃCY		
		UNEXPLAINED DEFICIT	QUALIFYING CREDITS N=6 2.2% Ave.CR=106	S FOUND, BUT NOT SU	JFFICIENT	
		N=38 15.2% Ave.CR=143	QUALIFYING CREDITS N=33 12.9% Ave.CR=149	S NOT FOUND		
	NO CREDIT DEFICIT N=193 76.7% Ave.CR=0	·	·			

Tables 5 and 6 show the results for master's degree graduates. The occurrence of a credit deficit is generally higher, particularly for domestic students, when compared with bachelor's and bachelor's

honours degrees. Most of these students appear to draw on credits obtained from previous study at a lower level at the same university. The unexplained deficit for domestic students is higher than for bachelor's and bachelor's honours degrees.

				FROM THE SAME UNIVERSITY	FROM ANOTHER UNIVERSITY	FROM OTHER SUB-SECTORS
		CREDITS FROM SAME LEVEL	SAME FIELD Less than 0.2%	Less than 0.2%	Less than 0.2%	Less than 0.2%
QUALIFICATION COMPLETED N=1364 N=579	Less than 0.2%	DIFFERENT FIELD Less than 0.2%	Less than 0.2%	Less than 0.2%	Less than 0.2%	
		CREDITS FROM LOWER LEVEL	SAME FIELD N=401 29.4% Ave.CR=89	N=367 26.9% Ave.CR=90	N=28 2.1% Ave.CR=75	N=5 0.4% Ave.CR=58
	N=455 33.4% Ave.CR=87	DIFFERENT FIELD N=54 4.0% Ave.CR=78	N=46 3.3% Ave.CR=80	N=9 0.6% Ave.CR=70	Less than 0.2%	
100% Ave. CR=203	42.4% Ave.CR=90	CREDITS FROM CERT N=25 1.9% Ave.CR=29	TIFICATE OF PROFICIEN	2007 A L		
		UNEXPLAINED DEFICIT	QUALIFYING CREDITS N=53 3.9% Ave.CR=43	S FOUND, BUT NOT SU	JFFICIEN I	
		N=166 12.2% Ave.CR=68	QUALIFYING CREDITS N=113 8.3% Ave.CR=80	S NOT FOUND		
	NO CREDIT DEFICIT N=785 57.6% Ave.CR=0					



Table 6: Estimated credit transfer by source for international master's degree graduates

				FROM THE SAME UNIVERSITY	FROM ANOTHER UNIVERSITY	FROM OTHER SUB-SECTORS	
N=1178 N=500 100% 42.4%		CREDITS FROM SAME LEVEL	SAME FIELD Less than 0.2%	Less than 0.2%	Less than 0.2%	Less than 0.2%	
		Less than 0.2%	DIFFERENT FIELD Less than 0.2%	Less than 0.2%	Less than 0.2%	SUB-SECTORS	
		CREDITS FROM LOWER LEVEL N=243 20.6% Ave.CR=92	SAME FIELD N=204 17.4% Ave.CR=95	N=195 16.5% Ave.CR=97	N=8 0.7% Ave.CR=71	Less than 0.2%	
	CREDIT DEFICIT		DIFFERENT FIELD N=39 3.3% Ave.CR=72	N=35 3.0% Ave.CR=72	N=4 0.3% Ave.CR=71	Less than 0.2%	
		CREDITS FROM CERTIFICATE OF PROFICIENCY N=11 0.9% Ave. CR=35					
		UNEXPLAINED DEFICIT	QUALIFYING CREDITS N=35 2.9% Ave.CR=47	S FOUND, BUT NOT SU	IFFICIENT		
		N=281 23.9% Ave.CR=68	QUALIFYING CREDITS N=246 20.9% Ave.CR=70	S NOT FOUND			
	NO CREDIT DEFICIT N=678 57.6% Ave.CR=0	1					

4. METHODOLOGY

This paper uses Ministry of Education's tertiary course enrolment dataset held within Stats NZ's IDI database from 2001 to 2019. This section describes the methodology of student mobility pattens and credit transfer separately.

The results presented in this report summarise the general trend; therefore, the findings need to be viewed with appropriate caution.

4.1 Student mobility

For this section, a student "moves" when they make a change to their first known qualification enrolled within the same level of study (this is a reference qualification, and the move or transition is measured against it). We are measuring whether students change qualifications within the chosen provider, move to another university, or join a university after having initially started in another tertiary sub-sector (e.g., Te Pūkenga or Wānanga) at the same level. For students who changed more than one qualification within the same provider, we look at characteristics of the programme that the student progressed the furthest with (i.e., highest number of credits attempted).

Because the analysis is based on course enrolment data, it does not consider whether a student completes their programme(s) or the timeframe between programmes. Therefore, a student may "move" or "transition" after completing their initial programme or having left their previous qualification incomplete if they are initiating another qualification within the same level (e.g., attempting a second bachelor's degree). Sub-degree programmes are excluded from the scope of this analysis as by nature and design of these programmes a student can aim to get more than one sub-degree qualification in their lifetime.

4.2 Credit transfers

For this section, we limited the population to students who completed degree level qualifications at universities between 2006 and 2019. The completed qualification is a reference qualification because it allows us to measure the possible credit transfer when credits gained are compared against credits required.

We track the history of credits gained elsewhere at the same level (horizontal credit transfer) and lower levels (vertical credit transfer) before completion of the reference qualification. The purpose is to estimate whether the credits from previous studies were potentially accepted towards a completed qualification. By not counting a credit shortage where the deficit is fewer than 15 credits, we allow a small room for error in the data to count for discretion given in special circumstances.

In tracking credits, we consider the timing of previous studies. Any credits from previous studies should come from studies that happened within 10 years and regardless of whether the qualification was completed or not. Credits from previous studies at other sub-sectors can contribute to credit deficit.

We have applied the following business rules for credit transfers within the same level (horizontal credit transfer):

• Credits from a bachelor's degree or previous bachelor's honours degree are eligible for a 480-credit bachelor's honours degree.

We have applied the following business rules for credit transfers from lower-level studies (vertical credit transfer):

- Credits from a level 5-7 diploma/certificate can contribute to the requirements of a bachelor's degree.
- Credits from a bachelor's honours degree or a Level 8 postgraduate diploma/certificate can contribute to the requirements for a master's degree.
- Credits from an NZ Certificate of Proficiency can contribute towards requirements of any qualification.

Students might have completed several previous studies and have a complex tertiary enrolment history; therefore, we applied rules to prioritise which credits count to cover a deficit in credits. First, credits from studies at the same level are given priority over credits from lower-level studies. Secondly, credits from previous studies in the same field of study are given priority over credits from another field of study. Third, credits from previous studies from the reference university are given priority over credits from other universities, which has priority over credits from studies in other subsectors. Credits from an NZ Certificate of Proficiency are given the lowest priority.

APPENDIX: IDI DISCLAIMER

These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) which is carefully managed by Statistics New Zealand. For more information about the IDI please visit <u>https://www.stats.govt.nz/integrated-data/</u>.

Access to the data used in this study was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. The results presented in this study are the work of the author (Universities New Zealand), not Stats NZ or individual data suppliers.