

# **GRADUATE LONGITUDINAL STUDY NEW ZEALAND**

## **SELECTED FINDINGS FOR DOCTORAL STUDENTS**

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## INTRODUCTION

The Graduate Longitudinal Study New Zealand (hereafter GLSNZ) conducted baseline sampling across the eight New Zealand Universities between July and December, 2011. Cohort recruitment was bench-marked against the most recent (i.e., 2010) graduate data provided by the participating New Zealand Universities.

The GLSNZ was carried out by the University of Otago's National Centre for Lifecourse Research (NCLR). The relevant website is [www.glsnz.org.nz](http://www.glsnz.org.nz), and a copy of the Extended Baseline Report on the GLSNZ can be obtained from this site.

### **Sampling for the GLSNZ 2011**

With input from university partners the NCLR randomly selected a representative sub-sample of all potential 2011 graduates (approximately 30% of the expected total), and invited them to take part in an online survey about their university experiences and future plans.

### **Baseline recruitment**

Recruitment for the baseline cohort sample was successful. The NCLR targeted a 70% uptake by those invited to participate in the study, and achieved 72% participation in some form. The NCLR chose to apply conservative criteria for ultimate inclusion in the sample, requiring participants to have completed what was a comparatively lengthy survey (400+ questions taking an average of 36.2 minutes to completion; interquartile range = 28 to 43 minutes).

This resulted in a founding cohort of  $N = 8,719$  (or 65.2% of the total eligible graduates). This sample will now be re-assessed at 2, 5, and 10 years post-graduation; that is, during six-month periods spanning October 2013 to March 2014; October 2016 to March 2017; and October 2021 to March 2022.

### **Content**

The GLSNZ baseline survey captured a broad range of information including: Demographics; university expectations, experience and satisfaction; employment plans and career aspirations; fit with qualification/training; academic beliefs/attitudes, current financial circumstances; physical health, disability and functional impairment; health risk behaviours; emotional wellbeing; personality type; social support/social integration and community involvement.

## EXECUTIVE SUMMARY

What follows is a brief descriptive summary of data tabulated in the “Findings for doctoral (PhD) students” section.<sup>1</sup> It does not attempt to describe all data, preferring instead to highlight selected findings of general interest. Nor does not seek to ‘interpret’ or extract meaning at this stage; this next step will require further, in-depth analyses continuing throughout 2012.

### Connections to the world

Approximately one in nine respondents were international graduates ( $n = 1,004$ ), of whom  $n = 212$  (21.1%) were doctoral-level students. There were similar numbers ( $n = 223$ ) of domestic doctoral students in the study sample. In other words, approximately half of the 2011 doctoral-level students in the GLSNZ sample were international students. This is because the NCLR oversampled international PhD students; every international PhD student in the country was invited to participate in the GLSNZ Mapping the lifecourse trajectories of the international PhD graduates is of particular interest to the Ministry of Education.

### Demographic characteristics of PhD students

The male:female ratio of international PhD students was 55:45 compared to the 42:58 ratio for domestic PhD students. In terms of age, the cohort of international PhD students had a lower median age (30-34 years) than did domestic students (35-39 years). There was a higher proportion of international PhD students compared to domestic PhD students in the 30-34-year band (41% vs. 21%, respectively).

The ethnicity of international PhD students was largely reported as ‘Other’ (71.7%), followed by ‘Indian’ (13.2%), and Chinese (9.0%). Domestic PhD students were primarily of ‘New Zealand European’ ethnicity (56.1%), followed by ‘Other’ (26.0%). With respect to the broad region of origin of international PhD students, the largest single proportion of the cohort of international PhD students was from Asia (41.5%), followed by Europe (18.9%), and the Americas (17.0%).

### The next two years...

With regard to the near future (the next two years), approximately 80% of domestic PhD students indicated that they planned to work in New Zealand in the next two years, compared to approximately 50% of international PhD students. Similar percentages (approximately 44%) of international and domestic PhD students planned to work overseas. With respect to non-PhD students, just over 85% of domestic students indicated that they would work in New Zealand in the next two years, compared to approximately 63% of international students.

### Financial circumstances

With regard to their 2011 employment status, the cohort of international PhD students had somewhat lower levels of employment than did domestic PhD students; 38.2% of international PhD students were not employed at the time of the survey compared to 27.8%

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<sup>1</sup> See the GLSNZ website ([www.glsnz.org.nz](http://www.glsnz.org.nz)) for the full GLSNZ Extended Baseline Report on which these data are based.

of domestic PhD students. Among those students who were employed, slightly higher proportions of domestic PhD students than international PhD students reported that their work was related to their field of study, and that the skills they had gained from their studies could be applied to their job. In terms of how much the work was related to students' field of study, 88.8% of domestic PhDs and 83.2% of international PhDs gave ratings of "quite a bit" or "very much." In terms of how much students were able to apply their skills to their job, 86.3% of domestic PhDs and 79.4% of international PhDs gave ratings of "quite a bit" or "very much."

The median income received by international PhD students (NZ\$20,001 to NZ\$25,000) was approximately half that received by domestic PhD students (NZ\$40,001 to NZ\$50,000). In relation to student loan debt, international PhD students reported lower levels of debt compared to domestic PhD students (a median of zero, compared to NZ\$1 to NZ\$5,000).

With regard to the value of respondents' assets, international PhD students reported a lower value of assets compared to domestic PhD students. The respective median amounts were NZ\$10,001 to NZ\$15,000 for international PhD students and NZ\$90,001 to NZ\$100,000 for domestic PhD students. There was a cluster of relatively high levels of asset ownership by domestic PhD students.

## FINDINGS FOR DOCTORAL (PhD) STUDENTS

### Student status and citizenship

The universities provided information regarding whether or not each student was a domestic student or an international student.

**Table 1. Domestic vs. international student status**

	<i>n</i>	Percent
Domestic	7,715	88.5%
International	1,004	11.5%
<b>Total</b>	<b>8,719</b>	<b>100%</b>

### PhD student status

All NZQA level 10 students have been included in the PhD group – this includes PhD students and other doctoral students. A total of 223 domestic, and 212 international, final-year PhD students in 2011 participated in the GLSNZ.

**Table 2. PhD student status**

Degree type	Student status		Total
	Domestic PhD	International PhD	
PhD	205 (91.9%)	211 (99.5%)	416 (95.6%)
Doctorate – other	18 (8.1%)	1 (0.5%)	19 (4.4%)
<b>Total</b>	<b>223 (51.3%)</b>	<b>212 (48.7%)</b>	<b>435 (100%)</b>

Note:

- ‘Total’ percentages are expressed as proportions of the total sample ( $n = 8,719$ ). All other percentages are expressed as proportions of the column total.
- ‘Doctorate – other’ qualifications included: Doctor of Business and Administration ( $n = 1$ ), Doctor of Clinical Dentistry ( $n = 6$ ), Doctor of Clinical Psychology ( $n = 6$ ), Doctor of Education ( $n = 5$ ), Doctor of Musical Arts ( $n = 1$ ).

### Gender of participants

Table 3 shows the relative proportions of male and female PhD students for international and domestic PhD students.

**Table 3. Gender of participants by PhD student status**

PhD student status	Gender		Total
	Male	Female	
Domestic PhD	94 (42.2%)	129 (57.8%)	223 (51.3%)
International PhD	117 (55.2%)	95 (44.8%)	212 (48.7%)
<b>Total</b>	<b>211 (48.5%)</b>	<b>224 (51.5%)</b>	<b>435 (100%)</b>

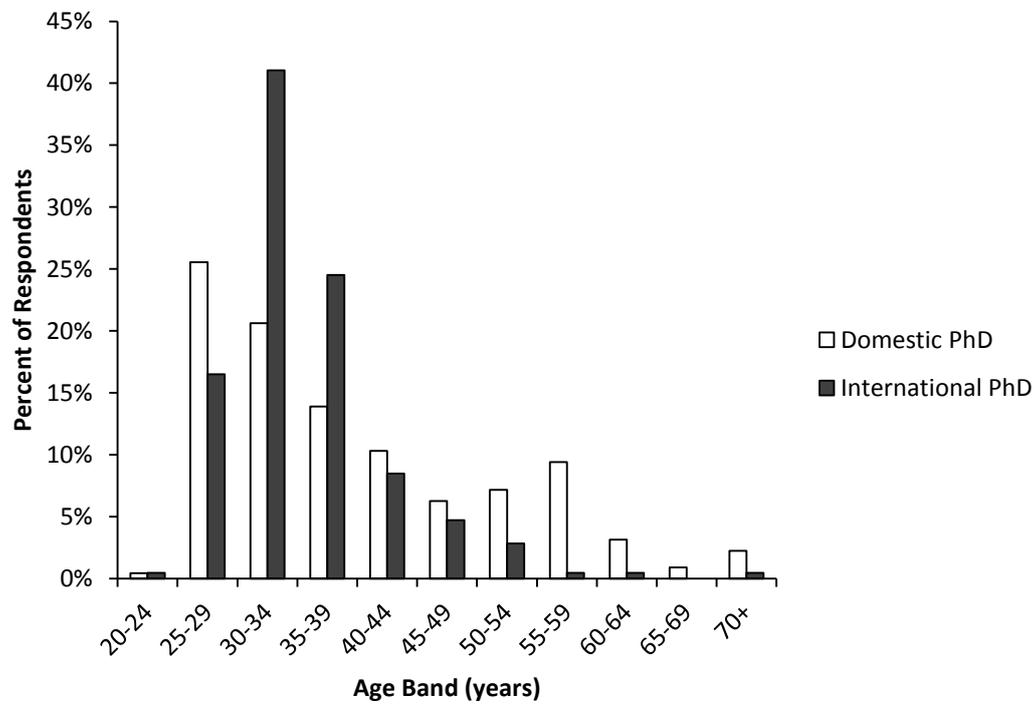
Note:

- ‘Total’ percentages are expressed as proportions of the total sample of PhD students ( $n = 435$ ). All other percentages are expressed as proportions of the row total.

## Age of participants

Chart 1 shows the age distribution of international and domestic PhD students.

**Chart 1. Age of participants by PhD student status**



## Ethnicity of participants

Table 4 shows the ethnic groups endorsed by international and domestic PhD students.

**Table 4. Ethnicity of participants by PhD student status**

Ethnicity	Student status		Total
	Domestic PhD	International PhD	
NZ European	125 (56.1%)	9 (4.2%)	134 (30.8%)
Māori	16 (7.2%)		16 (3.7%)
Samoan			
Cook Islands Māori			
Tongan	2 (0.9%)	1 (0.5%)	3 (0.7%)
Niuean			
Chinese	8 (3.6%)	19 (9.0%)	27 (6.2%)
Indian	9 (4.0%)	28 (13.2%)	37 (8.5%)
Other	58 (26.0%)	152 (71.7%)	210 (48.3%)
Multiple	5 (2.2%)	3 (1.4%)	8 (1.8%)
<b>Total</b>	<b>223 (51.3%)</b>	<b>212 (48.7%)</b>	<b>435 (100%)</b>

Note:

- 'Total' percentages are expressed as proportions of the total sample of PhD students ( $n = 435$ ). All other percentages are expressed as proportions of the column total.

### Continent of origin of international PhD students

Table 5 shows the continent of origin of international PhD students.

**Table 5. Continent of origin of international PhD students**

<b>Continent</b>	<b><i>n</i></b>	<b>Percent</b>
Africa	11	5.2%
Americas	36	17.0%
Asia	88	41.5%
Europe	40	18.9%
Oceania	27	12.7%
Americas/Asia	1	0.5%
Americas/Europe	1	0.5%
Asia/Europe	1	0.5%
Unclear	7	3.3%
<b>Total</b>	<b>212</b>	<b>100%</b>

## Relocation plans for the next two years

Table 6 displays the proportion of international and domestic students (PhD and non-PhD) who planned to stay in New Zealand to work or to work overseas (either in their country of origin or another country).

**Table 6. Relocation plans for the next two years of domestic vs. international students**

Plans	PhD student status				Student status				Total	
	Domestic PhD		International PhD		Domestic		International			
Work in New Zealand	183	(82.1%)	104	(49.1%)	6,422	(85.7%)	497	(62.8%)	7,206	(82.6%)
Work overseas	96	(43.0%)	94	(44.3%)	2,858	(38.1%)	198	(25.0%)	3,246	(37.2%)
Work in your country of origin	18	(8.1%)	109	(51.4%)	272	(3.6%)	329	(41.5%)	728	(8.3%)
None of the above	3	(1.3%)	2	(0.9%)	258	(3.4%)	41	(5.2%)	304	(3.5%)
Skipped question					7	(0.1%)	6	(0.8%)	13	(0.1%)
<b>Total*</b>	<b>223</b>	<b>(2.6%)</b>	<b>212</b>	<b>(2.4%)</b>	<b>7,492</b>	<b>(85.9%)</b>	<b>792</b>	<b>(9.1%)</b>	<b>8,719</b>	

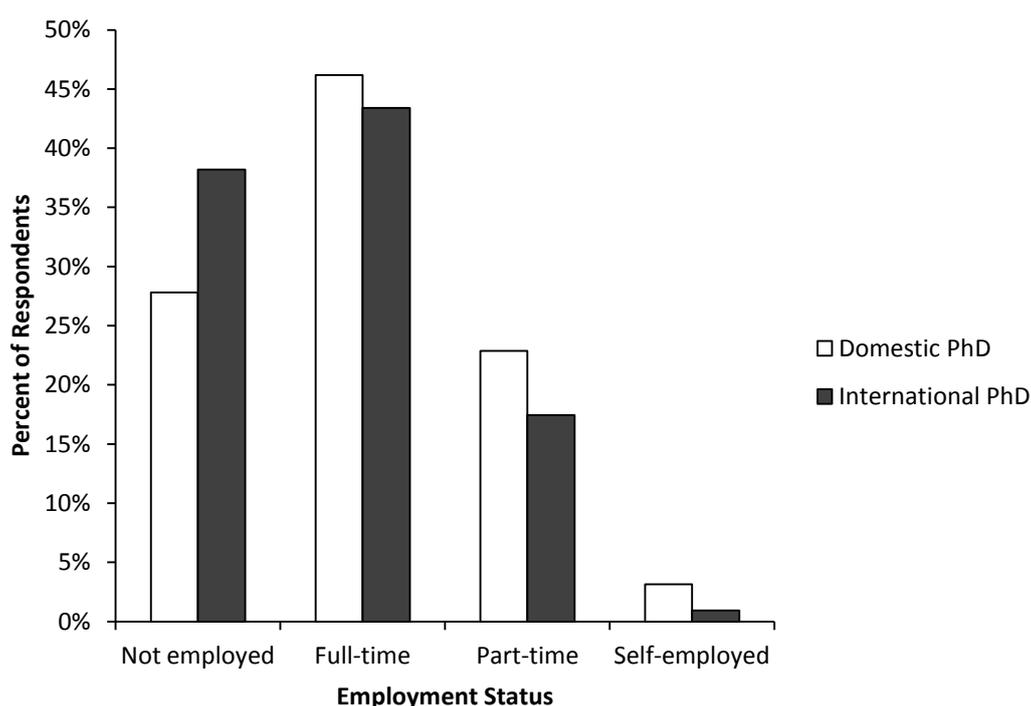
\* The column totals refer to the total numbers and proportions of domestic and international students, not the total number of participants endorsing each item. Participants were able to endorse as many items as applied, hence percentages do not sum to 100%. Percentages are expressed as proportions of the column total (i.e., total number of domestic and international students).

Unless otherwise specified, in the tables that follow, the column totals refer to the total numbers and proportions of domestic and international PhD students who responded to each item. Percentages are expressed as proportions of the column total (i.e., the total numbers of domestic and international PhD students who responded to each item).

### Current employment status

Chart 2 shows the employment status of international and domestic PhD students at the time of the survey.

**Chart 2. Employment status of PhD students**



### Relevance and application of skills gained during study to work

Table 7 shows the degree to which students' work (for those who were employed) was related to their field of study.

**Table 7. Responses to the question, "How much is this work related to your field of study?"**

Response	PhD student status		Total
	Domestic PhD	International PhD	
1 = Not at all	2 (1.2%)	5 (3.8%)	7 (2.4%)
2 = Very little	3 (1.9%)	4 (3.1%)	7 (2.4%)
3 = Some	13 (8.1%)	13 (9.9%)	26 (8.9%)
4 = Quite a bit	33 (20.5%)	19 (14.5%)	52 (17.8%)
5 = Very much	110 (68.3%)	90 (68.7%)	200 (68.5%)
<b>Total</b>	<b>161 (55.1%)</b>	<b>131 (44.9%)</b>	<b>292 (100%)</b>
Mean (SD)	4.53 (0.82)	4.41 (1.04)	4.48 (0.93)

Note:

- Based on  $n = 292$  respondents (67.1%) who had indicated they were employed.

Table 8 shows the degree to which students were able to apply the skills they were gaining from their studies to their job (for those who were employed).

**Table 8. Responses to the question, “How much are you able to apply the skills you are gaining from your studies to your primary job (e.g., communication, analytical, teamwork, leadership, etc.)?”**

Response	PhD student status		Total
	Domestic PhD	International PhD	
1 = Not at all	1 (0.6%)	3 (2.3%)	4 (1.4%)
2 = Very little	4 (2.5%)	4 (3.1%)	8 (2.7%)
3 = Some	17 (10.6%)	20 (15.3%)	37 (12.7%)
4 = Quite a bit	44 (27.3%)	22 (16.8%)	66 (22.6%)
5 = Very much	95 (59.0%)	82 (62.6%)	177 (60.6%)
<b>Total</b>	<b>161 (55.1%)</b>	<b>131 (44.9%)</b>	<b>292 (100%)</b>
Mean (SD)	4.42 (0.83)	4.34 (1.00)	4.38 (0.91)

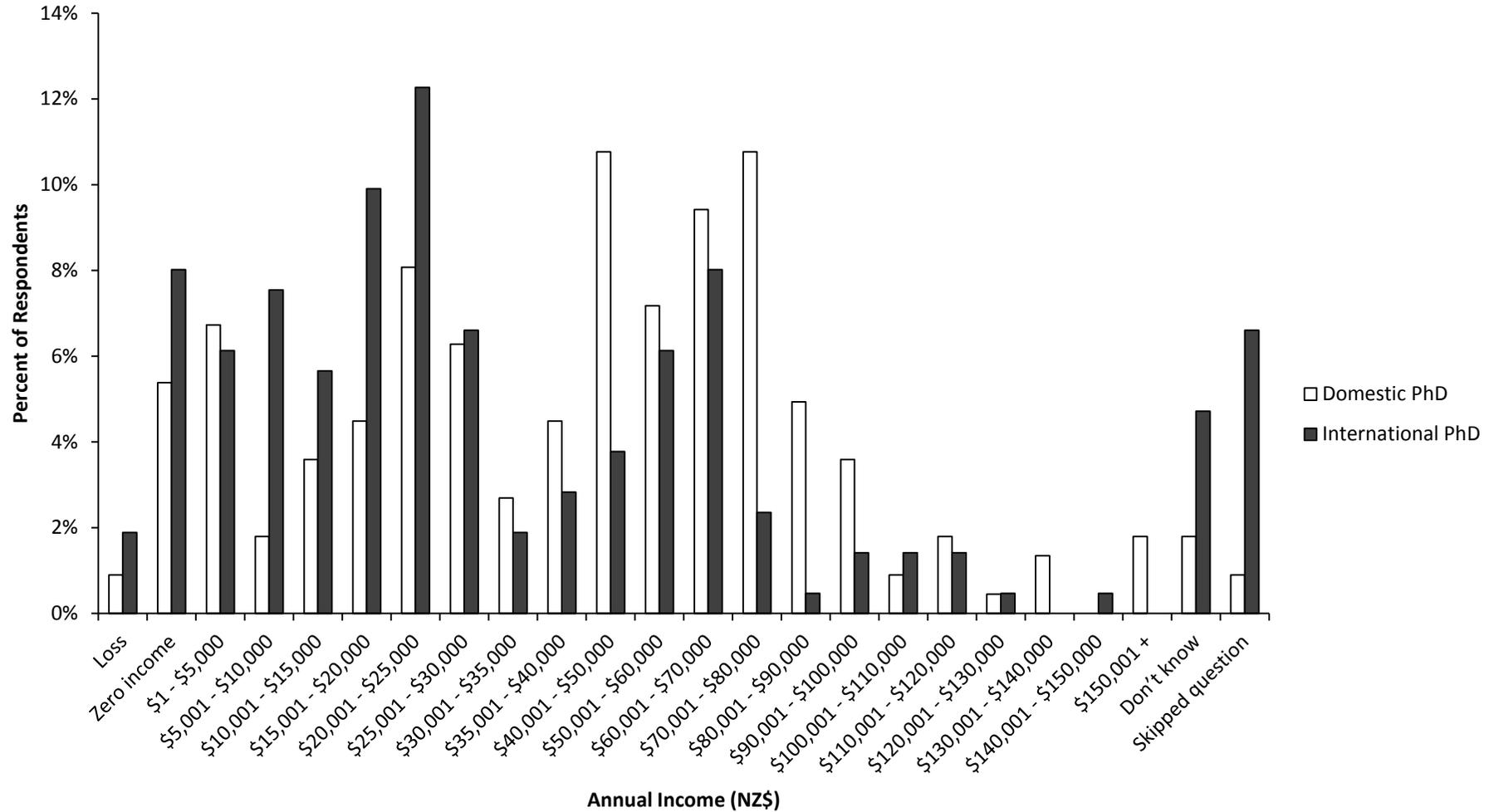
Note:

- Based on  $n = 292$  respondents (67.1%) who had indicated they were employed.

### **Current total income per annum**

Chart 3 shows the total income per annum that international and domestic PhD students received at the time of the survey.

**Chart 3. Income (per annum) of PhD students**



## Student loan debt

Table 9 shows the level of student loan debt reported by international and domestic PhD students.

**Table 9. Responses to the question, “Approximately how much student loan debt do you have?”**

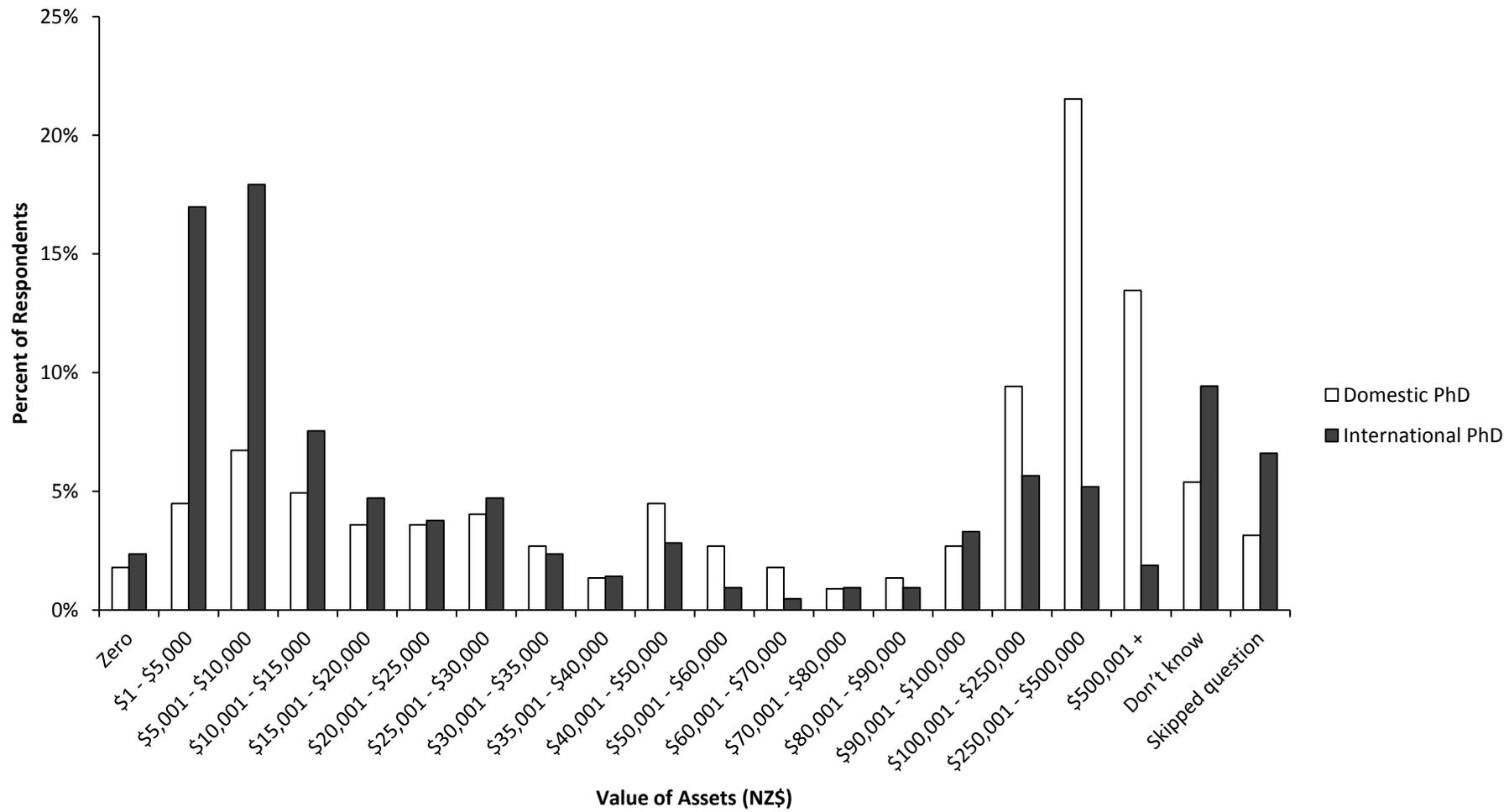
Response	PhD student status				Total	
	Domestic PhD		International PhD			
Didn't take out a student loan	61	(27.4%)	119	(56.1%)	180	(41.4%)
Zero	32	(14.3%)	39	(18.4%)	71	(16.3%)
NZ\$1 - NZ\$5,000	18	(8.1%)	6	(2.8%)	24	(5.5%)
NZ\$5,001 - NZ\$10,000	12	(5.4%)	3	(1.4%)	15	(3.4%)
NZ\$10,001 - NZ\$15,000	8	(3.6%)	1	(0.5%)	9	(2.1%)
NZ\$15,001 - NZ\$20,000	6	(2.7%)	3	(1.4%)	9	(2.1%)
NZ\$20,001 - NZ\$25,000	3	(1.3%)	5	(2.4%)	8	(1.8%)
NZ\$25,001 - NZ\$30,000	15	(6.7%)	2	(0.9%)	17	(3.9%)
NZ\$30,001 - NZ\$35,000	15	(6.7%)	3	(1.4%)	18	(4.1%)
NZ\$35,001 - NZ\$40,000	8	(3.6%)	2	(0.9%)	10	(2.3%)
NZ\$40,001 - NZ\$50,000	16	(7.2%)	1	(0.5%)	17	(3.9%)
NZ\$50,001 - NZ\$60,000	15	(6.7%)	7	(3.3%)	22	(5.1%)
NZ\$60,001 - NZ\$70,000	3	(1.3%)	1	(0.5%)	4	(0.9%)
NZ\$70,001 - NZ\$80,000	2	(0.9%)	1	(0.5%)	3	(0.7%)
NZ\$80,001 - NZ\$90,000	2	(0.9%)	1	(0.5%)	3	(0.7%)
NZ\$90,001 - NZ\$100,000	2	(0.9%)	1	(0.5%)	3	(0.7%)
NZ\$100,001+	3	(1.3%)	6	(2.8%)	9	(2.1%)
Don't know	1	(0.4%)	3	(1.4%)	4	(0.9%)
Skipped question	1	(0.4%)	8	(3.8%)	9	(2.1%)
<b>Total</b>	<b>223</b>	<b>(51.3%)</b>	<b>212</b>	<b>(48.7%)</b>	<b>435</b>	<b>(100%)</b>
Median loan*	\$1 - \$5k		No loan taken		Zero	

\* Excludes respondents who indicated that they did not know their student loan debt or respondents who skipped the question.

## Total value of assets

Chart 4 shows the total value of assets of international and domestic PhD students.

**Chart 4: Value of assets of PhD students**



## **FURTHER READING**

For a commentary of research conducted in the United States regarding the relocation plans of international doctoral graduates from American universities, please see:

“The complexities of 21st century brain ‘exchange’” by Philip G Altbach. University World News, 26 February 2012, Issue No: 210.

Retrieved from:

<http://www.universityworldnews.com/article.php?story=20120223155324935&query=altbach>