

Papua New Guinea economics graduate exit survey

Michael Cornish

Abstract

To date, little detailed research has been undertaken on the university experience of students in Papua New Guinea, or their career preferences and expectations; this type of research is ordinarily canvassed in graduate exit surveys. This study addresses this gap by analysing and discussing the results of a graduate exit survey of a small cohort of final year undergraduate economic students at the University of Papua New Guinea, whom the author was lecturing.

Most graduates sought to be employed within the public sector in Port Moresby, but a sizeable minority sought to run their own businesses. This highlights the need for the only economics degree in Papua New Guinea to expand its focus beyond economic theory to practical policy-making and entrepreneurial skills.

Despite the fragility of the current economic environment in Papua New Guinea, graduating economics students were optimistic about their likelihood of employment, if demonstrating quite mixed confidence about the level of knowledge and skills they acquired from their degrees. Particularly concerning were the open criticisms from respondents about the quality of the education they received.

Whilst this study was small in scope, it provides useful insights on enhancing the student educational experience at the University of Papua New Guinea and other Papua New Guinean universities.

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1. Introduction

There is little research available relating to university graduate expectations in Papua New Guinea, with no systematised university graduate exit surveys undertaken throughout the country. The quality of the education received by university students in Papua New Guinea is, on the available evidence², on average poor and in decline, with private universities faring slightly better than their public counterparts³. Employment outcomes are generally not known, although the widespread assumption is that the opportunities for graduates are significantly better than non-graduates.

As a lecturer in Economics at the School of Business and Public Policy at the University of Papua New Guinea from March 2015 until June 2016, the author chose his own final-year Economic Development class as a sample cohort for a graduate exit survey. The survey was undertaken in November 2015, this class was comprised of all final year economic students at the University of Papua New Guinea. The author was affiliated under the Australian National University-University of Papua New Guinea Partnership, funded by the Government of Australia.

Students were asked questions relating to their perceptions of career prospects, how likely and willing they were to undertake further study, their preferences of employer, their readiness for employment, and to evaluate their level of knowledge and skills development in a variety of areas.

The purpose of this study is similar to that of other graduate surveys held elsewhere in the world; namely, to provide valuable information to higher education policymakers, to university educators and administrators, and to current and future student career planning. Although the cohort investigated was small, the analysis and conclusions

² p14, Ross Garnaut and Rabbie Namaliu, *PNG Universities Review: Report to Prime Ministers Somare and Rudd*, May 2010

³ Ibid.

remain valuable, especially given the current dearth of existing knowledge about Papua New Guinean university graduate expectations.

2. Methodology

This graduate exit survey was conducted with Bachelor of Economics students from the University of Papua New Guinea. Students from the final, fourth year class of Economic Development, were asked to fill out a two-page, double-sided survey in November 2015, after the completion of their final course lecture for the year. Participation was voluntary. Students were asked to provide identifying contact details on their surveys in the hope of conducting a follow-up survey. Of the 35 enrolled students, all 25 students in attendance at class on the day of the survey completed the survey.

Beyond basic demographic details, the format of the questions across the survey was a combination of free-text response, yes/no questions, exhaustive ranking of employer preferences from a given list, and questions requiring a 1 to 7 Likert scale response. A few students either misunderstood the Likert scale, or missed questions on the reverse side of a page. A final question asking if there was any additional information the respondent would like to add to the survey allowed for an open response from students.

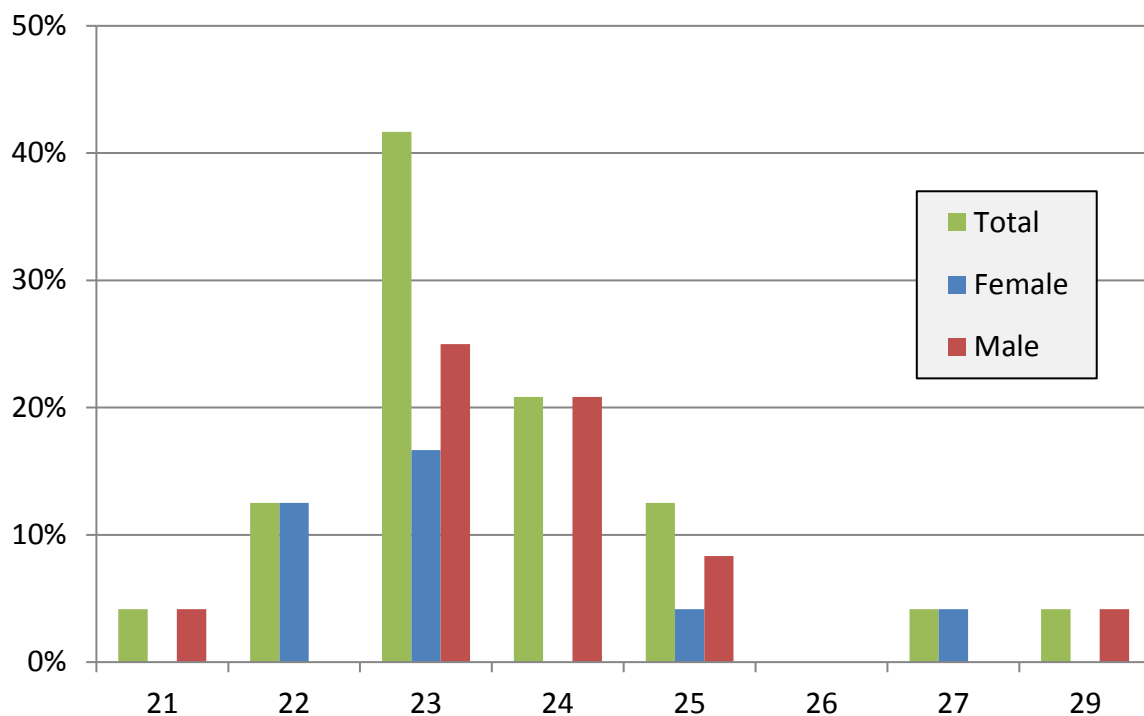
The original intention of the study was to conduct a follow-up graduate outcomes survey to test graduate expectations, and to track the relative success of graduates in securing formal employment. However, graduation day (7 April 2016) proved too hectic an occasion to conduct a follow-up survey with students in person, and contacting students via email and telephone has met with little success; most students had changed their numbers since the original survey, or simply failed to respond to online communication. However, the author has retained contact with a limited number of the originally surveyed cohort, and some preliminary conclusions are made about graduate outcomes in the analysis and discussion below.

3. Analysis

Cohort demographics

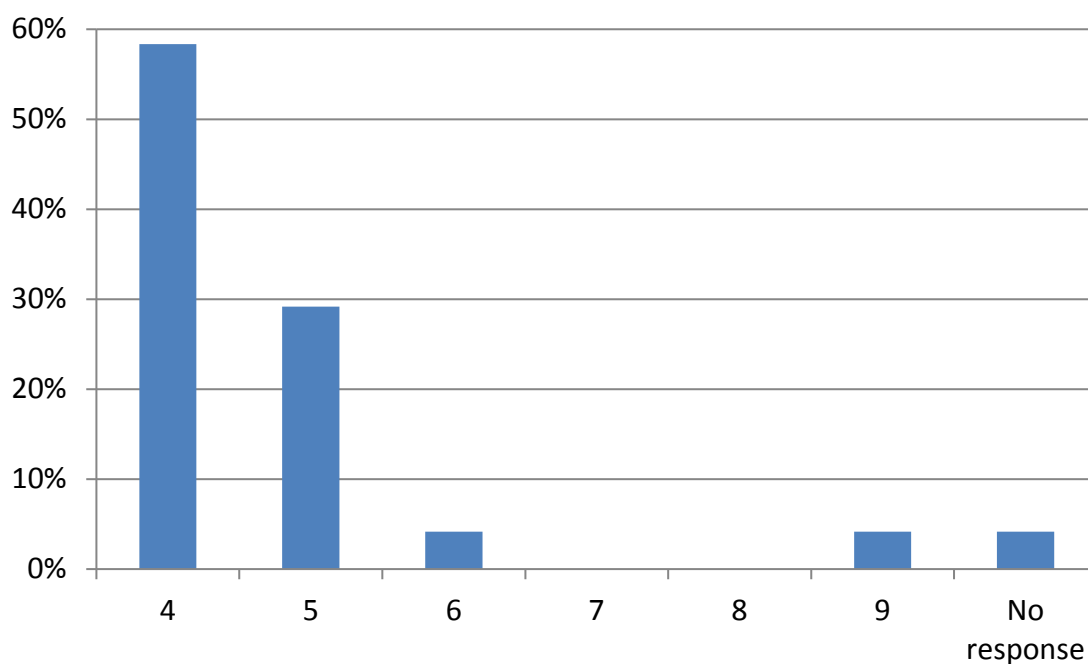
The student respondents were clustered around an median age of 23, with 9 of 24 (37.5%) valid responses identifying as female and 15 of 24 (62.5%) identifying as male (Figure 1).

Figure 1: Age and gender



A majority of students (58.3%) had taken the standard four years to complete their Bachelor of Economics degree, having started their university studies in 2012; a significant proportion had taken one additional year to complete their studies (26%); and a small proportion had taken longer than one additional year to complete their studies (8.7% of the cohort) (Figure 2). All students surveyed expected to complete their studies in 2015. However, subsequent to the survey, the author became aware that at least one student had not in fact graduated.

Figure 2: Years taken to complete degree



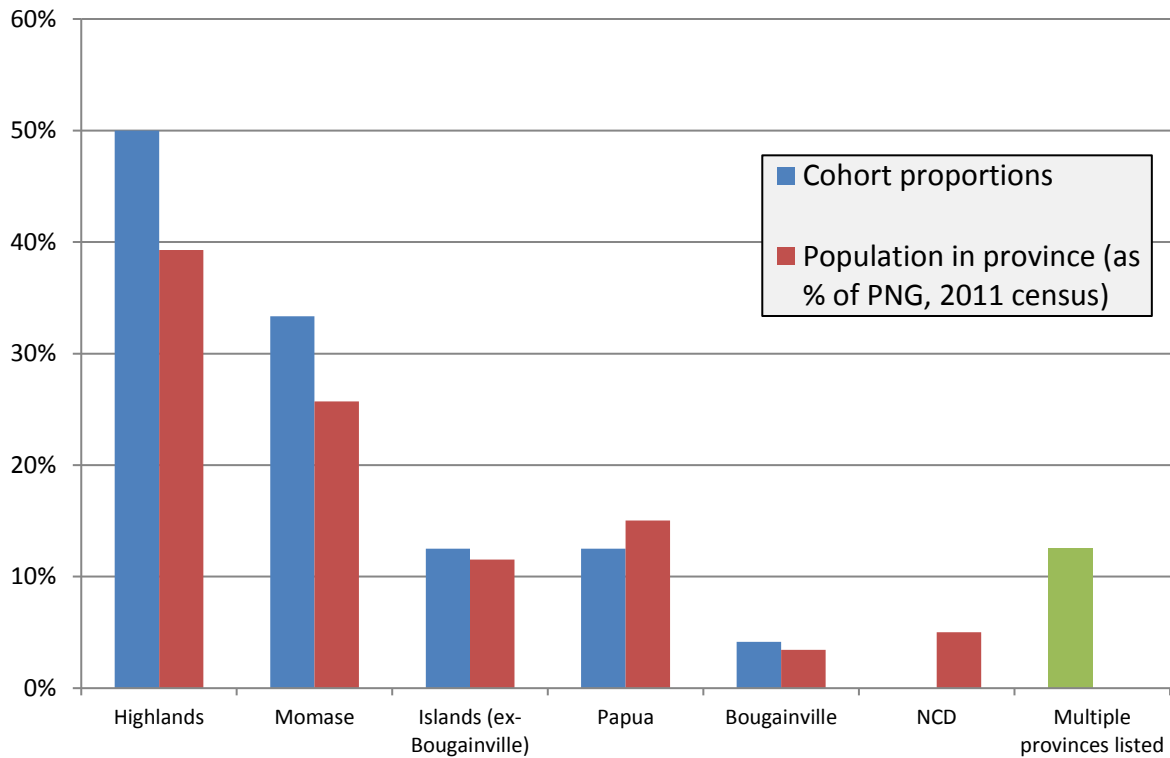
Respondents identified from across Papua New Guinea, although the Highlands region⁴ was represented the highest at exactly half (50%) of the respondents, compared to approximately 39% of the country's population⁵, as was the Momase region⁶ at just under a third (31.25%) of respondents; compared to approximately 26% of the country's population (Figure 3). Three students (12.5%) identified themselves with two rather than one home province.

⁴ The Highlands region is comprised of the provinces of Chimbu (or Simbu), Eastern Highlands, Enga, Hela, Jiwaka, Southern Highlands, and Western Highlands.

⁵ Papua New Guinean population census, 2011; see: <http://www.nso.gov.pg/index.php/population-and-social/other-indicators>

⁶ The Momase region is comprised of the provinces of East Sepik, Madang, Morobe and West Sepik.

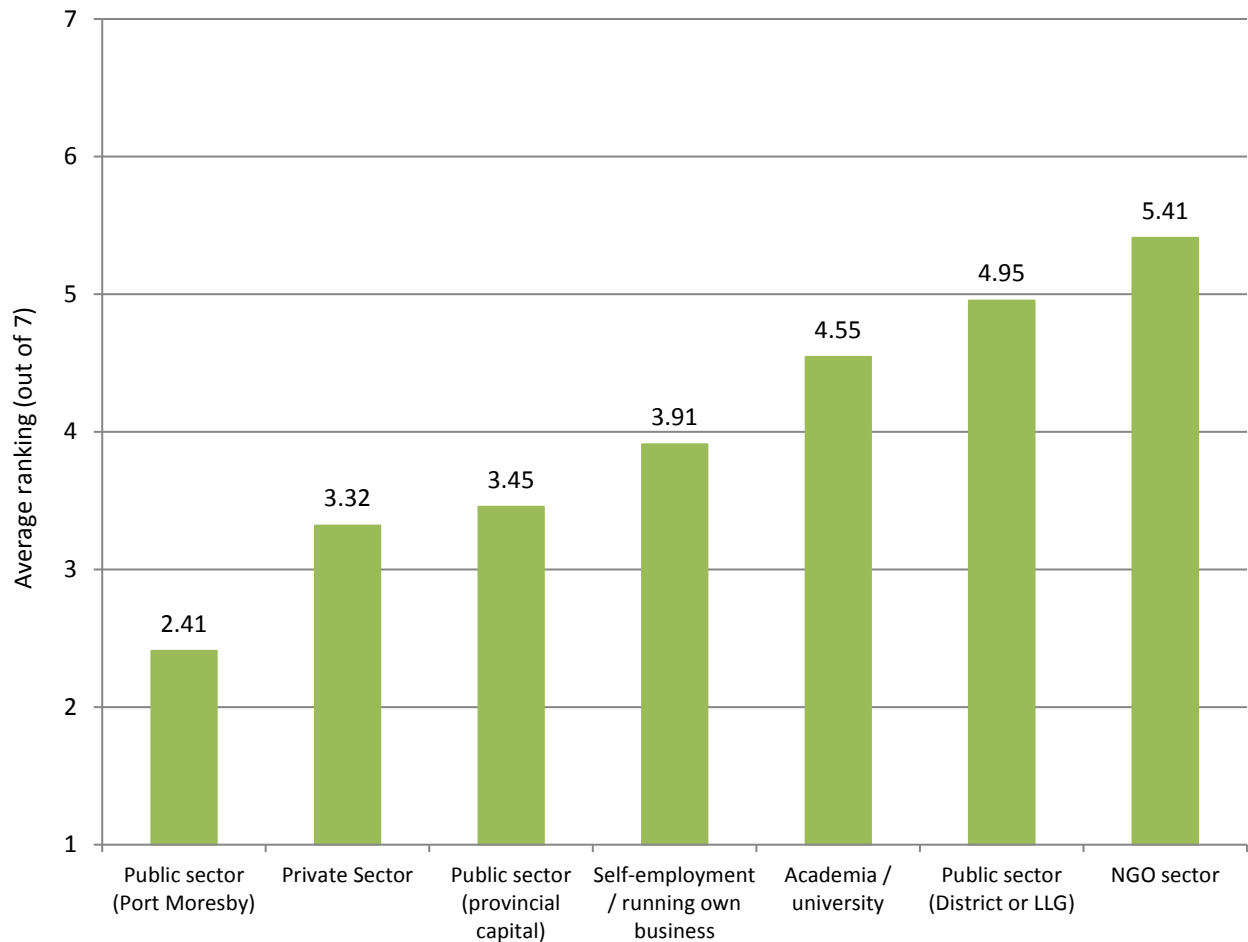
Figure 3: Regional representation



Employment preferences

Respondents were given seven categories of sectors of employment and then asked to rank them in order of preference, from 1 (highest preference) to 7 (lowest preference). The categories were given to the respondents and are listed across the horizontal axis in Figure 4. 22 of 25 respondents followed this process correctly. The rankings for these 22 respondents were then averaged (Figure 4). Again, note that the lower the number, the better the average ranking.

Figure 4: Employment preferences by sector



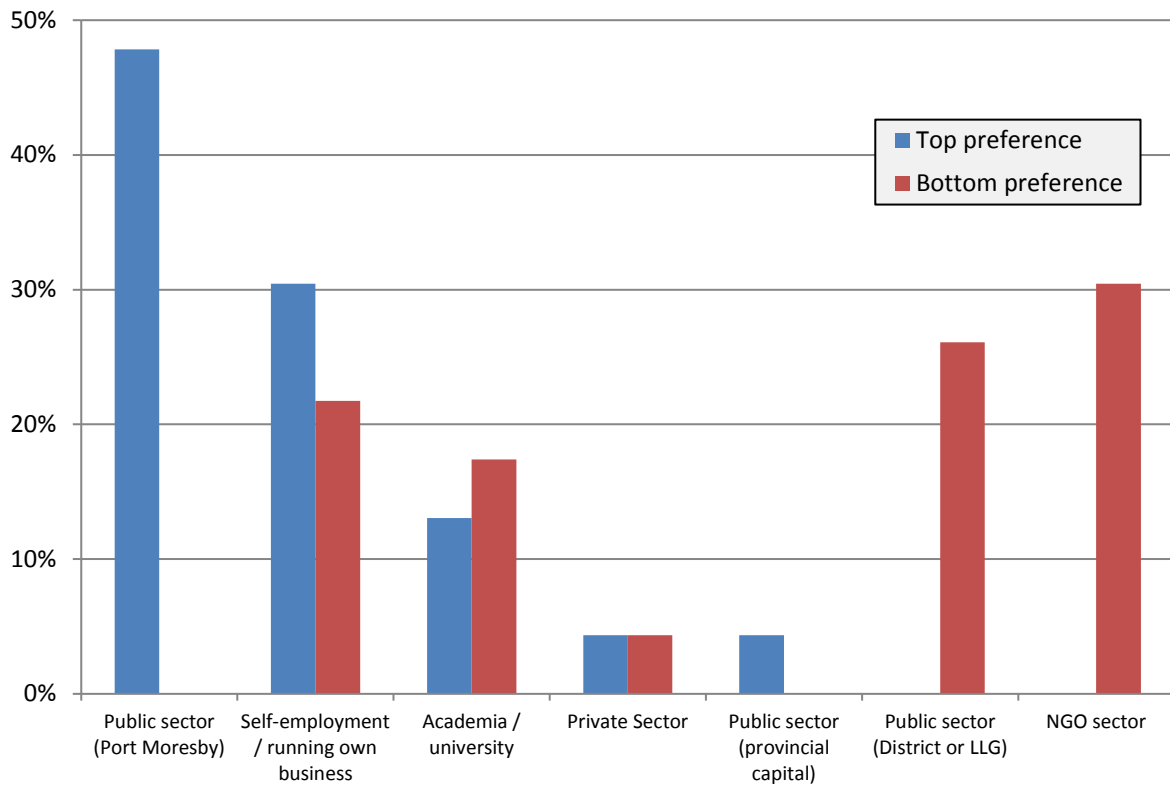
In order to gain a more nuanced understanding of preferences for employment by sector, the first and last preferences provided by respondents were summed, and calculated as a proportion of the total number of respondents.

The public sector in Port Moresby (principally the national government) received the most first preferences, with 11 of 23 valid respondents (50%) selecting it as their top ranking employment choice, followed by 7 of 23 respondents (31.8%) choosing self-employment as their top preference (Figure 5).

The NGO sector was the least preferred sector, with 7 of 23 (31.8%) selected as their lowest ranking choice; closely followed by 6 of 23 (26.1%) choosing the public sector at the district or local-level government ('LLG') level as their least preferred sector.

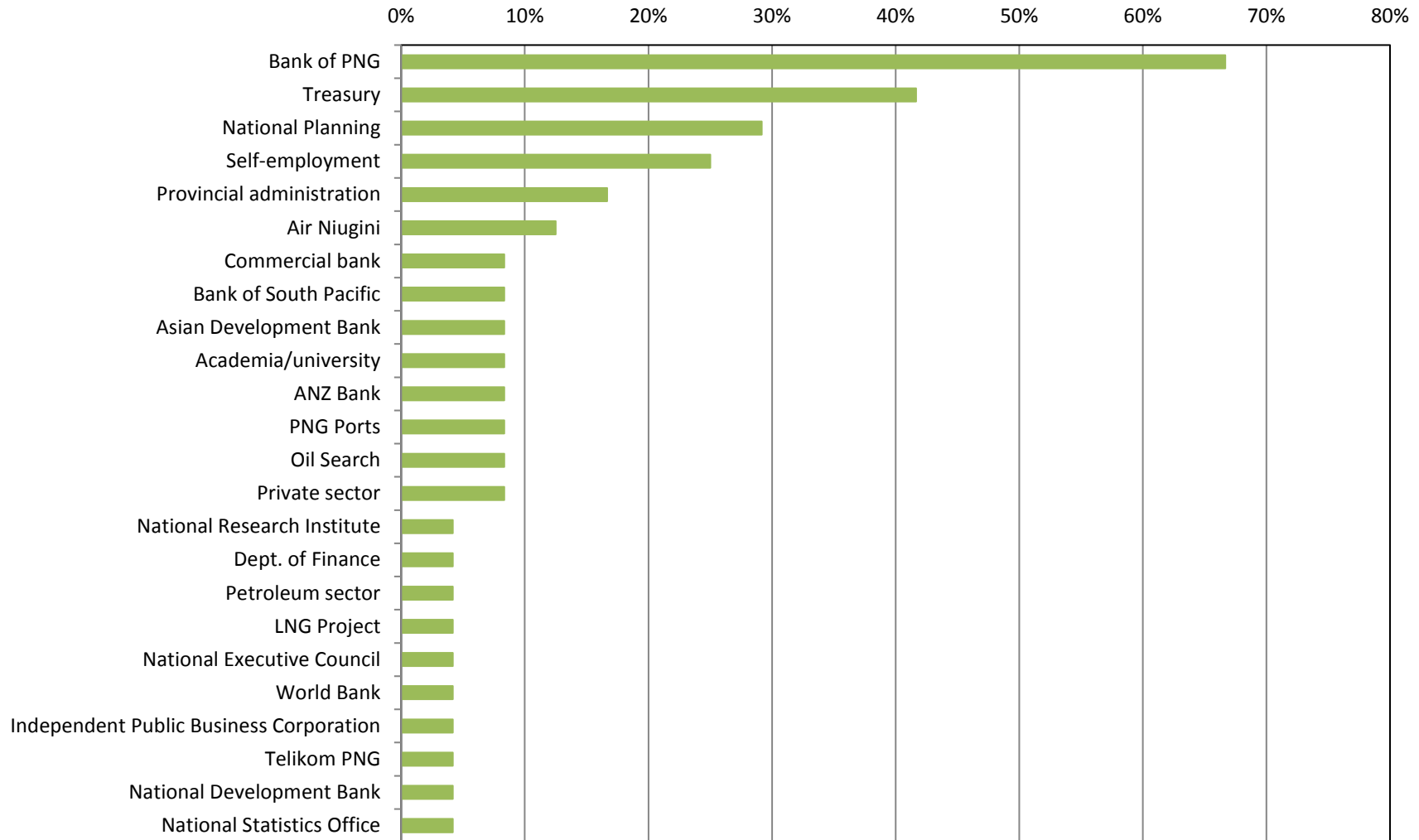
The categories of ‘academia’ and ‘self-employment / running own business’ received moderately polarised responses. The private sector was not a strongly preferred or strongly non-preferred employer, with only 1 respondent apiece selecting it as most and least preferred (4.3% each).

Figure 5: First and last employment preferences



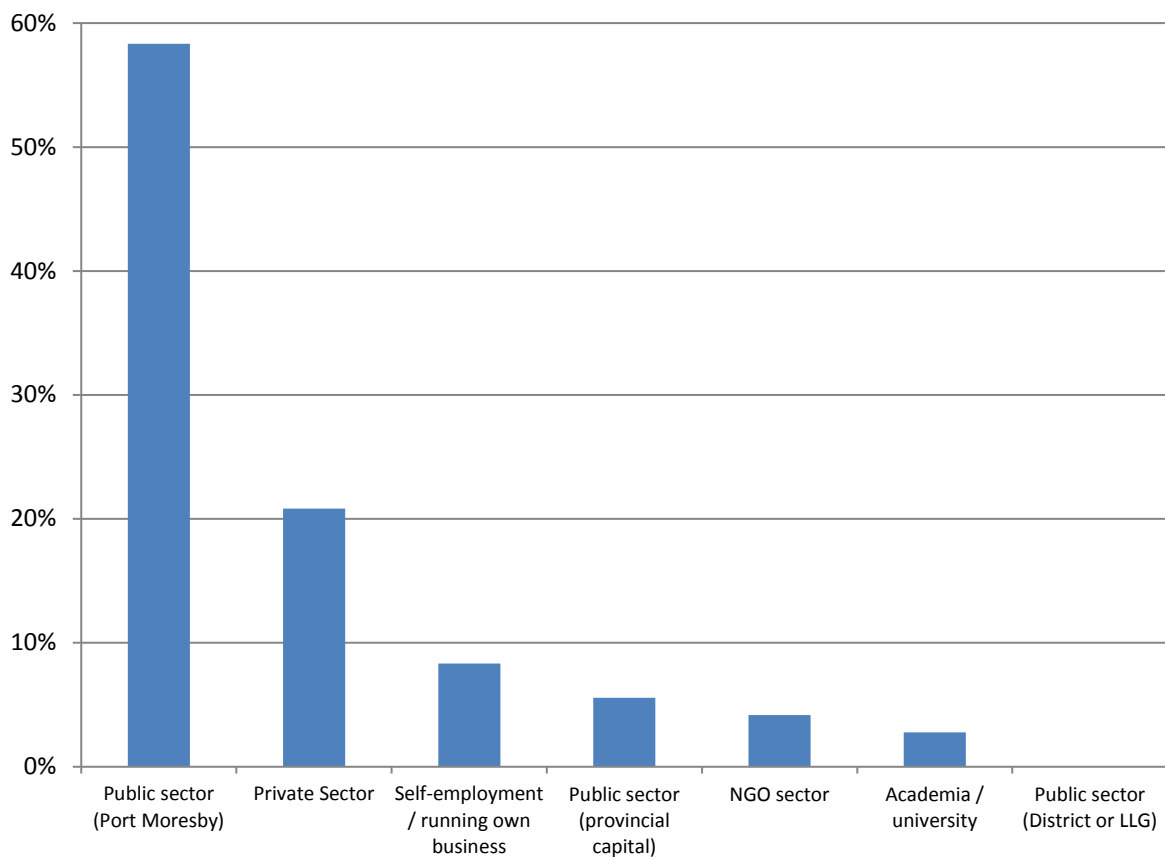
Student respondents were further asked to list their top three most-preferred employers by organisation (Figure 6). The central bank, the Bank of Papua New Guinea, was the stand-out preferred employer, with two-thirds (66.7%) of respondents listing it within their top-three; this was followed by the Department of Treasury (41.7%), the Department of National Planning (29.2%), self-employment (25%) and employment with a provincial administration (16.7%).

Figure 6: Top three employer preferences by organisation



Aggregating the top three employer preferences by organisation into sectors, the preference for employment with the public sector in Port Moresby becomes even more pronounced, being selected by three-fifths (58.3%) of respondents (Figure 7). The private sector was a distant second, selected by only one-fifth (20.8%) of respondents. No respondents chose, for their top three preferences, to work for the public sector at the district or LLG levels.

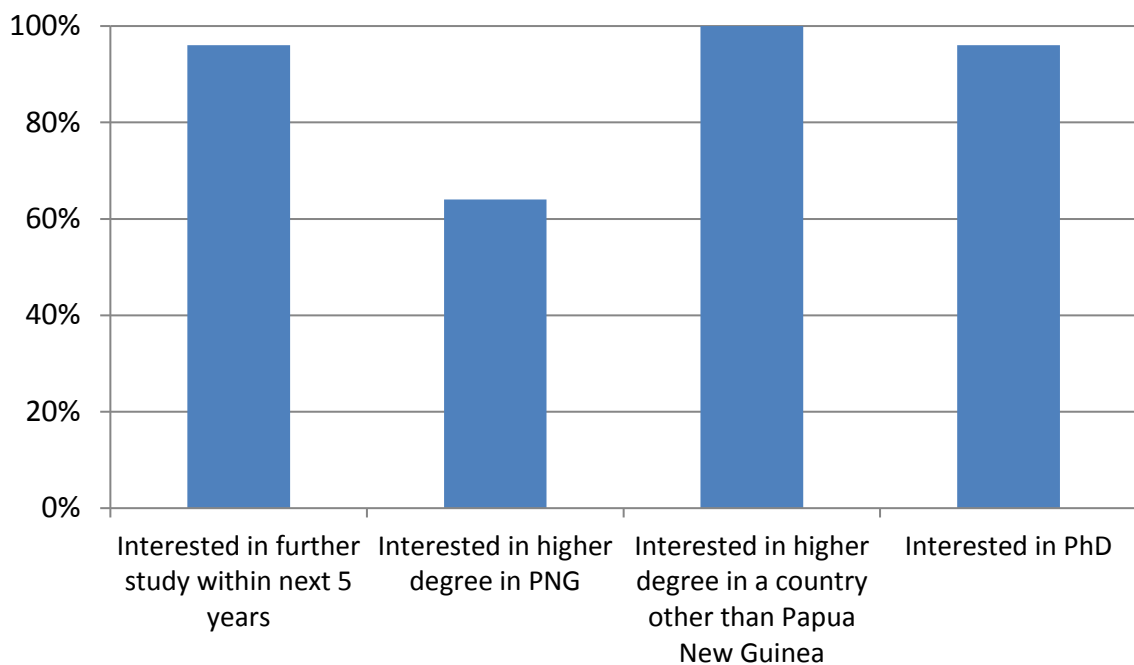
Figure 7: Top three employment preferences by organisation, aggregated into sectors



Study preferences

Students displayed a very strong preference to undertake further study, with all but 1 student of the 25 valid responses (96%) interested in further study within the next 5 years (Figure 8). All 25 (100%) were interested in starting a higher degree (masters or PhD) at an overseas university, but only 16 of 25 (64%) would be interested in starting a higher degree at a Papua New Guinean university. All but 1 of the students (96%) were interested in doing a PhD.

Figure 8: Study preferences



Employment and study expectations

A broad range of Likert scale questions were asked about employment expectations, study expectations, and level of skills development and general employability (Figure 9). Respondents were asked to rate their level of agreement with the statement, from strongly disagree (1) to strongly agree (7).

All but one student strongly agreed that they wanted to have a job after finishing their university studies; my suspicion is that this outlier answered the question believing a job was mutually exclusive to pursuing further study.

At least some respondents appear to have assumed the questions about likely employment timeframes were mutually exclusive when they are not, as reflected in the median responses for likely to be employed within 3 months (4.5), 6 months (5), and 12 months (4.5). Although not conclusive, this would seem to indicate that most respondents believed they would be employed within 6 months.

Respondents were less likely to agree that they would be able to start a higher degree in Papua New Guinea within the next 5 years (median of 4) than overseas (median of 5). It is likely - although unprovable - that there was a misunderstanding about the question, and that students were considering not their ability to undertake a higher degree but their preference instead.

The majority of respondents strongly agreed that they would end up with a job in economics or a closely related field (median of 6.5); that they would be satisfied with the income it paid them (median of 6) and the work that they would be doing (median of 6).

Respondents agreed, but slightly less so, that the education at the University of Papua New Guinea had prepared them well for a job (median of 5.5; middle 50% of respondents between 4 and 6). Respondents were less certain again of the sorts of task that an economist does in their job (median of 5; middle 50% of respondents between 4 and 5.5).

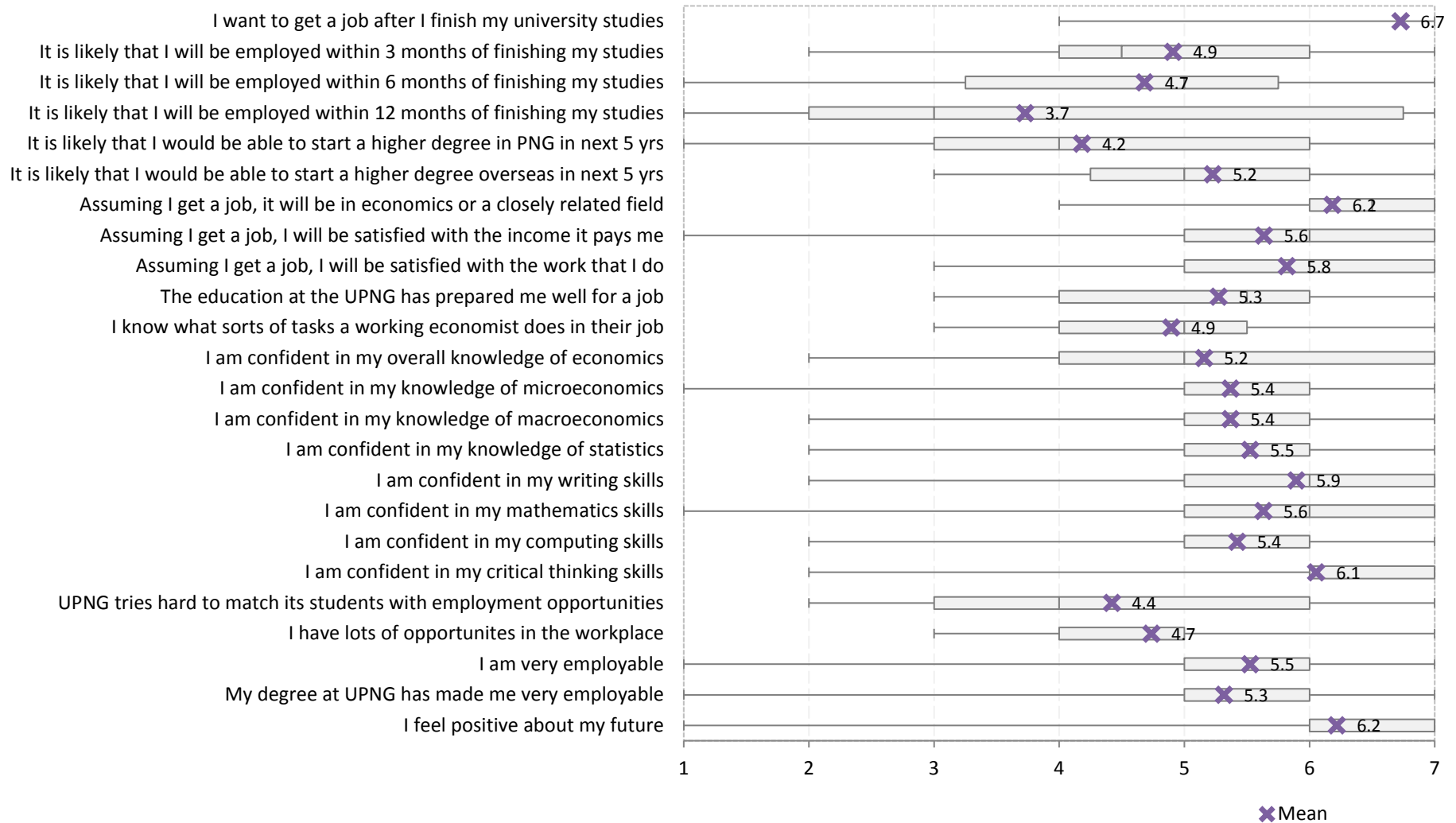
Less agreement was found with the statement "UPNG tries hard to match its students with employment opportunities" (a reasonably normal distribution around a mean of 4.4; median of 4), although students were moderately in agreement that they had many opportunities in the workplace (median of 5). Respondents strongly agreed that they were very employable and that their degree at the University of Papua New Guinea had made them more employable (both with medians of 6), and respondents were overwhelmingly positive about their futures (median of 7).

Knowledge and skills formation

Respondents were in moderately strong agreement that they were confident in their level of knowledge of economics overall (median of 5); and more confident in their knowledge of the specific sub-disciplines of microeconomics, macroeconomics and statistics (all with medians of 6). However, each of these four answers had long tails of low confidence, with 25% of respondents answering between 2 and 4 for their knowledge of economics overall, 1 and 5 for microeconomics, and 2 and 5 for both macroeconomics and statistics.

Similar distributions were seen for the level of confidence in skills formation, with respondents indicating moderately strong agreement that they were confident in their writing skills, skills mathematics, computing skills, and critical thinking skills (all with medians of 6, but with 25% of respondents recording scores between 2 to 5, 1 to 5, 2 to 5 and 2 to 6 respectively).

Figure 9: Employment and study expectations; knowledge and skills formation



Free-text responses

In the final question of the survey, respondents were asked “Is there any other information you would like to add to this survey?”. 21 of 24 (87.5%) of respondents gave free-text responses.

5 of the 21 respondents who recorded free text answers (28.5%) indicated a desire to be involved in the development their country, often coupled with a desire to employ other people:

- *“...I believe I am an input [sic] for the development of this nation.”*
- *“[I]... want to go out and develop my country in whatever I can. My basic idea here is: I don’t want to be an employee but to be an employer. After here, I want to go out there and find some avenue/opportunity for me to be an employer not an employee.”*
- *“I am very confident that I can have a positive influence in Papua New Guinea. Given my current grades, if I’m employed I’ll be thrilled but if I don’t get employed, I will start my own business, employ myself and employ anybody else who needs a job. My years at UPNG have prepared me to go out into the world and deal with the challenges my country face.”*
- *“My dream is to get employed straight after completing my degree programme. This will make me to fully utilize my knowledge I have gained in the field of economics that will contribute meaningfully for the development of this country (PNG).”*

7 of the 21 who recorded free text answers (33.3%) were critical of the education that they received at the University of Papua new Guinea:

- *“I would like for courses to have more content and to have more interaction with academic staff in terms of tutorials (discussion as well as write ups. Also for my lecturers to be more involved in writing and commenting in journals and newspapers for example so they are well versed with past and current issues and policies options (research).”*

- “[The] UPNG Economics division really needs quality...”
- “The quality of education is low and as a final year student [I] am not so confident about my knowledge of economics...”
- “Yes, we were not taught well during my freshmen and sophomore year due to the shortage of lecturers. Though we had some part-time lecturers, the quality of the education we received was really poor. Not much was imparted to us and also insufficient funds for the teaching materials.”
- “I feel sometimes that most of the things I am learning might not be applied after I graduate.”
- “One thing I would like to add to this survey is [a question about?] the quality of education in Papua New Guinea, especially the secondary and tertiary level.”

Lastly, in addition to the comments above, there were various general responses from the students about their hopes, plans and concerns for their future:

- “A lot of tertiary graduates in PNG [every year] but little employment opportunities.”
- “I have learned a lot of economics during my four years of study at University of Papua New Guinea. And that has prepared me very well to be employed (or had made me employable). However, the only constraint would be to find a job in the labour market as information sometimes unorganised which takes time and other costs. If the university do a job placement for all its final year students, it would solve this.”
- “Would I like to do a cost benefit analysis of my time and go into business ventures and go out to do my masters in the next six years.”
- “I would like the information about universities that I would prefer for my further studies later on in the future.”
- “If there are possibilities of being employed in [the] public sector, then I would be working for more than four or five years and then go for further studies.”

- *“If PNG is looking for some best economists for the country, then I can be that person, I am available.”*

Graduate outcomes

Original plans to conduct a full-scale tracing study of graduate outcomes six to twelve months after the end of their studies were hampered by circumstances beyond the author’s control, but the author has retained contact with 12 of the 35 students. This personal knowledge does not paint a complete picture of what has since happened to the cohort, but it does at least provide a partial snapshot.

At the time of writing, 4 graduates (33.3%) were still formally unemployed; 1 (8.3%) was employed on a full-time, short-term contract; and the remaining 7 (58.3%) were employed permanently, full-time. Of these, the author had a direct role in facilitating employment for 2 (16.7%) of them, and an indirect role in facilitating employment for a further, single graduate (8.3%).

The employment outcomes for the ongoing employees were as follows:

- 2 with the Department of Foreign Affairs
- 1 with Price Waterhouse Coopers
- 1 with the Bank of South Pacific
- 1 with Ela Motors (a major car importer and dealership)
- 1 with Oil Search (the operator of all of PNG’s currently producing oil and gas fields)
- 1 with the provincial-level of the Department of Planning (Madang branch)

Of these 7 permanent employees, 6 gained employment via graduate development programs; programs with a single intake per year that are designed for graduating students. The remaining full-time employee was able to transition from part-time employment, into full-time employment with the same employer.

The graduate who is currently working on a short-term contract was unemployed for approximately 5 months before the author facilitated their employment at Price Waterhouse Coopers in their tax consulting division. This has since resulted in an additional short-term contract, but now in their marketing division, which has the potential for transition to permanent employment.

Of the unemployed graduates, one received graduate employment with the Department of Defence, but later terminated their employment when they were faced with a subsequent and additional requirement of becoming a member of the armed forces, and having to undertake training with the armed forces. It is unclear why these employment requirements changed, but the cause may have been a heightening lack of government funds, and a downgrading of the pay and positions available to graduate employees.

Another would-be graduate did not manage to fulfil the requirements of their degree and decided not to complete their university studies in 2016. The author has since encouraged this student to return to studies in 2017.

The two remaining students - both female - remain unemployed despite applying for multiple positions. One of these two students was a top student and the top female student in her year-level.

4. Discussion

Cohort demographics

One striking conclusion - that will come as no surprise to anyone who has taught in tertiary education in Papua New Guinea - is that men out-represent women at a ratio of almost 2:1. This has certainly been the author's observation across all his own classes at the University of Papua New Guinea. However, this is not too dissimilar from the gender

split in Bachelor of Economics graduates in Australia, where men out-represent women at a ratio of just over 3:2⁷.

A minor observation that did not come out in the analysis above is that there were no students from where some of the most disadvantaged communities are located in the country, notably, Western (Fly) Province⁸.

It was interesting to note that a significant minority of students (41.7%) took longer than the University of Papua New Guinea standard of four years to complete their economics degree, with almost a third of this amount taking longer than one additional year. A useful follow-up question would be what the causes are for this level of disjunction in their studies. Despite this, the age distribution of these graduating students was reasonably clustered around the 22 to 25 years range, and the median graduating age of 23 being only one year higher than the median graduating age of Australian Bachelor of Economics students, where it is only a three-year degree⁹.

Employment preferences

Students overwhelmingly sought to work in the public sector in the capital, Port Moresby. It is well understood that this form of employment offers the best mix of job stability, status, access to formal housing (which is extremely expensive in urban Papua New Guinea), and access to amenities (especially shopping, entertainment, education and healthcare). It was somewhat surprising to see the private sector fare so poorly as a preferred employer; although it is - on average - the second most attractive sector for

⁷ Graduate Careers Australia website, accessed July 2016, see:

<http://www.graduatecareers.com.au/Research/GradJobsDollars/BachelorU25/Economics/index.htm>;

⁸ p15, Cate Rogers, Richard Bleakley, Wala Ola and CARE Integrated Community Development Project Team,

Rural poverty in remote Papua New Guinea: Case study of Obura-Wonenara District, Development Policy Centre, Australian National University, October 2011

⁹ See above, n6

employment, only one respondent listed it as their most preferred sector for employment (on par with the number who listed it as their least-preferred sector). We have to go seven places down the list of top-three preferred employers before we reach what may be a private sector employer¹⁰.

That the Bank of Papua New Guinea was the top preferred employer comes as no surprise - anecdotally, economics students often refer to the Bank as the best place to work, and this knowledge and preference appears to be transmitted down to earlier year-levels at the university. It is broadly believed that the best economists will end up working at the Bank, and that its employment (and housing) packages are quite generous by Papua New Guinean standards. Although the Department of Treasury does not have the same cachet with economics students as the Bank of Papua New Guinea, it is unsurprising that it is ranked second overall, as the Treasury is a common destination of public sector employment for economists in any country.

Self-employment - running one's own business - was also quite strongly preferred, ranking as the top preferred sector of employment for 31.8% of respondents. Yet the desire to be self-employed received a polarised response, with 21.7% of students listing it as their least-preferred sector of employment. Anecdotally, a small but regular proportion of students talk about running a sole-trading consultancy business in economics straight after graduating, however realistic or unrealistic this might be in practice; others talk about going into business but with less clarity as to what the business might actually be doing; many talk of running a business in their home province, especially in provincial urban centres.

It is also interesting that the National Statistics Office - where there is a critical need for quantitatively-minded economists - and the National Research Institute - where the greatest proportion of government-funded economics research occurs - and the National Development Bank - the government's primary rural-focused development lending institution - all only secured a top-three preference from one respondent each,

¹⁰ The exact proportion of government ownership of Air Niugini, in sixth place, is opaque

and in all three cases, it was the respondent's third of top three preferences. Academia fared almost as badly, securing only two, third-preferences as a destination for employment.

Unsurprisingly, working for the public sector at the District or LLG-level was not attractive to graduating students. More unexpectedly, the NGO sector received the highest number - almost a third (30.8%) - of last preferences for sector of employment. Anecdotally, one might posit that most NGOs in Papua New Guinea that are well-known are local, community-led organisations that have few options for well-paid formal employment; and that the bigger international charities like Oxfam and World Vision are perhaps less well-known.

Study preferences

The most striking conclusion about the respondents' future study preferences is that, almost regardless of the type or nature of graduate education, further study was overwhelming sought. From the author's discussion with students, it is understood that any opportunity for further formal education is highly regarded, although it is hard to tell what proportion of this is for the value of the signalling effect¹¹, for the higher wages that are attributed to better-qualified employees (such as is the case in many parts of the public sector), for the life experience (especially when undertaken in a country other than Papua New Guinea), or for knowledge the education itself provides.

One other relevant conclusion is that the desire to undertake further study within Papua New Guinea, whilst still a high proportion, was significantly lower at 64% of respondents versus the 100% of respondents who would be willing to undertake further study overseas. From the author's discussions with students, it is widely understood by students that the quality of an overseas degree is usually much better than that of degrees available in Papua New Guinea.

¹¹ The 'signalling effect' in this context is where a graduate, sends a signal about their level of ability to potential employers by acquiring education credentials that are expected to indicate greater ability, even if there is a mismatch between the graduate's skill and knowledge versus the employer's expectations

Employment and study expectations

The author was particularly surprised to see how positive, on average at least, the respondents were about their futures (6.2 out of 7), despite falling rates of employment within the formal economy from the last quarter of 2014¹², and the declining prospects of employment within the public sector due to an emerging economic crisis¹³. At the time of writing, most of the Papua New Guinean public sector, including the University of Papua New Guinea, have hiring freezes in place. However, perhaps this is somewhat reflected in the less positive sentiment about general employability, although that is still reasonably strong on average (5.5 out of 7). These broader economic concerns more likely shone through in the respondents' evaluation on whether many opportunities were available to them in the workplace (4.7 out of 7).

Despite the criticisms about the education they received at the University of Papua New Guinea that were given in free-text responses, on average, respondents were still reasonably optimistic that their degree had made them more employable (5.3 out of 7), and students did seem to believe, also on average, that their university education had prepared them well for a job (5.3 out of 7), despite being less certain on average about what sorts of tasks economists do in their jobs (4.9 out of 7).

The question about the timeframes within which the graduates expected to have a job after graduating needs finessing in any future work, to avoid what appears to be a misunderstanding that the questions are mutually exclusive; through an imprecise but plausible interpretation of the results, it could be argued that most students believed that they would be employed within 6 months of graduating, as it received the highest average response.

¹² 'QEB Statistical Tables', Bank of Papua New Guinea, Port Moresby, 2015

¹³ Author's own work, 'The PNG Economy: Is a crisis inevitable?', speech as the United Nations Port Moresby office, 28 April 2016; Paul Flanagan, 'From economic boom to crisis management in PNG', DevPolicy Blog, Development Policy Centre, Australian National University, 5 January 2016; and various other sources

Knowledge and skills formation

The self-evaluation of the level of knowledge and skills acquired by students by graduation was significantly more positive than the evaluations that the author would have given. However, the survey had no benchmark by which to compare these self-evaluations; no doubt graduating university students have good cause to be optimistic when comparing themselves to their lesser educated peers in Papua New Guinean society.

From the questions asked, it was perhaps concerning to note that the lowest average self-evaluation was in regards to an overall knowledge of economics, although knowledge of microeconomics, macroeconomics and statistics all scored higher averages.

Of the skills, writing skills and critical thinking skills scored the highest average in self-evaluation - if not by much - compared to skills in mathematics and computing. Yet, from the author's observation, whilst the level of computing skill is highly variable amongst Papua New Guinean university students, writing and critical thinking skills are generally weak, when compared to undergraduate students he has taught across Australian universities in recent years.

Free-text responses

Three salient themes were identified in the analysis, namely:

1. A stated desire to assist in the development of Papua New Guinea
2. Criticism of the education received at the University of Papua New Guinea
3. Praise for the Australian-National University partnership with the University of Papua New Guinea and/or the lecturers employed under that partnership.

That the first emerged in the survey was very encouraging, and supports the author's own discussions with students who have indicated a strong and real desire to engage in public service for the benefit of their community. The other aspect that is interesting here is that it is the *national* community - Papua New Guinea as a whole - that is

referred to in the free-text responses, rather than just local-level communities. That the future educated elite has developed a mindset of national identity is very positive, and aligns with one ambition of the long-term development strategy of Papua New Guinea ('Vision 2050'), to "...embrace vast cultural diversity as blessings, and institutionalize them as symbols of national identity and national unity."¹⁴

The criticism of the education at the University of Papua New Guinea, especially the quality of the education, and way in which courses are taught and delivered, is less encouraging. Whilst it is unreasonable to expect that universities in developing countries could be expected to perform at the same level and quality as their developed country counterparts when they have less funding, resources, and international talent, this is nonetheless still concerning.

Indeed, as the PNG Universities Review prepared in 2010 by Prof. Ross Garnaut and Sir. Rabbie Namaliu concludes:

*"To the extent that partial indicators of quality are available, they tell an unhappy story. Employers in all fields report that new graduates are poorly prepared to take their places in responsible positions without high levels of on-the-job training - rather more training than would normally be expected of graduates... The general assessment was that there had been substantial deterioration in standards in recent years, and that the decline is continuing. Business and professional organisations generally provided a more positive assessment of the quality and preparedness for professional employment of graduates from the private universities."*¹⁵

It is useful to note that many (if not most) students are well aware that there are significant problems with quality and delivery of education at the University of Papua New Guinea; the author's own observations and discussions with staff and students

¹⁴ p40, *Papua New Guinea Vision 2050*, National Strategic Plan Taskforce, Government of Papua New Guinea, Port Moresby, 2009

¹⁵ p14, above n1

certainly support the conclusion that these problems are of major and increasing concern.¹⁶

Graduate outcomes

Although this study only has a partial snapshot of graduate outcomes, some preliminary conclusions can be inferred. Firstly, it is very striking that, of the former students with whom the author still retains contact, fully one-third remain formally unemployed. Similarly striking is that of those who are employed on a full-time, ongoing basis, all were successful applicants to graduate development programs (ubiquitously called 'GDPs' by students). Indeed, when communicating with those students who were still unemployed, most had concluded that they had applied to few or insufficient GDPs, although this view may well be simply a function of being unsuccessful at those GDPs to which they did apply. Although it is far from a conclusive judgment, the author believes that those with more rural backgrounds appeared to have significantly fewer useful employment contacts than those that had undertaken at least secondary schooling in Port Moresby.

From communications with this small cohort of unemployed former students, and from the author's interactions with continuing undergraduates, there have been regular comments about the general lack of knowledge and unpreparedness about how to effectively apply for work. This was certainly borne out in the average quality of curricula vitae, cover letters, and other job application materials reviewed and edited by the author over the 16 months of engagement with the University of Papua New Guinea. In addition to assistance provided at the individual level, the author began professional skills sessions with their economic students at the University of Papua New Guinea from October 2015 until May 2016. These sessions were curtailed by the student class boycotts from early May 2016; it will be hard to evaluate how effective these sessions were or will be on graduate study and employment outcomes.

¹⁶ This is also a likely reason for positive feedback regarding the ANU-UPNG partnership, which has seen lecturers employed by the ANU placed in teaching roles in UPNG's School of Business and Public Policy.

5. Further research

There are many avenues for further research on graduate outcomes in PNG. The author's view is that the most useful leads are:

- A broader graduate exit survey that encompasses a significant number of graduating students across multiple disciplines and tertiary institutions, and that goes further than this research by seeking to tease out the *reasons* behind the various preferences and answers given in this survey
- A graduate tracing study, to check employment and study expectations and preferences against actual employment outcomes; and, with the benefit of hindsight, to check how well-prepared graduates felt they were for tasks in the workplace (this was the initial, as yet unrealised aim of this body of work)
- A skills formation and knowledge development study that tracked students through each year of university, using a mixture of self-evaluations and external evaluations; this might be particularly useful in helping to determine how valuable the signalling effect¹⁷ of a Bachelors degree is worth versus its actual worth in terms of improved productivity in the workplace, and help to identify potential areas to focus upon for the greatest improvement
- An investigation into why a significant minority of students take longer than the standard number of years to finish their degrees; how many students discontinue rather than defer their studies; whether there are commonalities between these students; and how student retention can be improved

¹⁷ See above, n10

6. Final conclusions

Conclusions gleaned from graduate exit surveys are ordinarily used to enhance the student educational experience. Whilst this exit survey is comparatively small in size and limited in scope, there are still valuable conclusions that can be drawn from it for the University of Papua New Guinea, other Papua New Guinean universities, student advocates, and external supporters of the Papua New Guinean tertiary education system (including the Australian aid program and the Australian National University through its partnership with the University of Papua New Guinea).

Self-evaluations by the economics students demonstrated that the student's themselves believe their knowledge of economics to be weak (25% of students recorded results of less than 4 out of 7, and 50% recorded results of less than 5 out of 7). This is of great concern. When paired with the open criticisms of the educational experience that were recorded in the free text responses, there are some clear warning signs that more needs to be done to improve the quality and delivery of the economics degree at the University of Papua New Guinea.

Added to this, only two-thirds of graduates were willing to pursue a higher degree in Papua New Guinea, versus 100% who were willing to study overseas. These conclusions are not new to those acquainted with the state of economics at the University. It would be reasonable to assume that similar problems are likely to exist within other disciplines at the University of Papua New Guinea.

Another major conclusion is that most graduates of the Bachelor of Economics seek employment in the public sector in Port Moresby, where most economic policy is formulated, but with a sizeable minority seeking self-employment by running their own business. This highlights the need for the economics degree to enhance the focus on practical policy-making and entrepreneurial skills, and not merely economic theory. It should be noted that there are already some intentions to make this transition in the economics discipline at the School of Business and Public Policy at the postgraduate level, but it is suggested here that more should be done at the undergraduate level as well.

There is scope for a great deal more research in and around these topics. The core challenges are well known by those close to them, and they have been but reinforced by the conclusions of this study. The biggest challenge is to design practical, implementable changes that improve the quality of the education for students in Papua New Guinea universities.