



How are new overseas graduates faring in the labour market?
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Table of Contents

.....	i
Executive Summary.....	v
1. Introduction.....	1
2. Historical context.....	1
3. A statistical snapshot.....	3
3. Undergraduate outcomes.....	5
Effect of the global financial crisis.....	7
Field of study.....	8
Further study.....	12
5. Concluding comments.....	14
References.....	15

Tables

Table 1: Decomposition of the rate of full-time employment of overseas graduates (by region) less the corresponding rate for Australian graduates (per cent).....	12
Table 2: Estimate of the percentage of graduates in full-time employment after completing a contiguous period of study (one or more awards), 2010-2015, by region.	13

Figures

Figure 1: Completions by overseas students, 1989-2015.....	3
Figure 2: Completions by overseas students as a percentage of all completions, 1989-2015.....	4
Figure 3: Distribution of overseas students over fields of study, 1989-2015.....	4
Figure 4: Completions by overseas students as a percentage of all completions, by field of study, 1989-2015.....	5
Figure 5: Proportions of graduates (under 25 years) in full-time work, full-time study or other, Australian students, 1998-2015.....	6
Figure 6: Proportions of graduates (under 25 years) in full-time work, full-time study or other, overseas students.....	6
Figure 7: Ratios of the overseas proportion in graduates in full-time work (full-time study or other) to the corresponding Australian proportions, graduates under 25 years, 1989-2015.....	7
Figure 8: Percentages of graduates in full-time employment, full-time study or other, by whether Australian or overseas, by field of study, aged less than 25 years, 2010-2015.....	9
Figure 9: Ratios of the overseas proportion in graduates in full-time work (full-time study or other) to the corresponding Australian proportions, by field of study, graduates under 25 years, 2010-2015.....	10
Figure 10: Percentages of graduates in full-time employment, full-time study or other, by country of origin, aged less than 25 years, 2010-2015.....	11

Executive Summary

In this paper, we look at what happens to overseas students once they graduate, how their outcomes compare with those of domestic students, and how these outcomes have changed over time. The paper is primarily based on data from the Graduate Destination Survey, which surveys graduates around four months after they complete their studies.

The graduate outcomes around four months after graduation (from an undergraduate qualification) are quite different for overseas students relative to those of their Australian counterparts. The recent experience is that the proportion of overseas graduates in full-time employment is about 30 per cent of the proportion of Australian graduates in full-time employment. Furthermore the employment of overseas graduates is split reasonably evenly between those with jobs in Australia and those with jobs in their home countries. Overall we are talking about 15 percent of overseas graduates obtaining a full-time job within four months after graduation. This suggests that the overseas graduates are struggling in the labour market.

Associated with this very low proportion of overseas graduates in full-time employment we have seen very large percentages going on to further full-time study: in management and commerce, overseas students enrol in further full-time study at over four times the rate of their Australian counterparts. It appears that many overseas students are seeing an initial undergraduate qualification as just one step in achieving their aims. No doubt permanent residency in Australia is an aim of many of these students.

Noteworthy is that the employment patterns of overseas graduates have changed dramatically as overseas student numbers have increased. For example, in 1998 almost 50 per cent of the overseas graduate cohort were in full-time employment at the time of the survey, and this was mostly in their home country. 1997 was the year in which the Howard Government began making public announcements about overseas students being an immigration issue). As student numbers increased, and as immigration became central to this increase, we have seen a steady decline in the proportion of the graduating overseas cohort obtaining full-time employment. At the same time we have seen an increase in the proportion in full-time study. The inference is that the undergraduate qualification for overseas students has become an initial step in the transition from education to the labour market, and that to understand what really happens to overseas students we need to follow them after their next qualification.

An initial foray into outcomes for those who undertake a post-graduate qualification suggests that the employment outcomes for overseas students are a little better than the picture obtained for undergraduates. However, the picture taking the further study into account is still grim, with the worst outcomes being for students from North-East Asia, Southern and Central Asia, and North Africa and the Middle East. On the basis of some notional estimates for 2010-2015, around 25% of these students obtain full-time employment four months after their (final) graduation compared to the corresponding rate for Australian students of around 75%.

A second point to emerge is that the global financial crisis, which led to such a decline in the proportion of Australian graduates obtaining full-time employment after their graduation, did not have a more than proportionate effect on overseas graduates. Rather their relative employment position remained pretty much the same. However, what did differ was the proportion of overseas graduates going on to further study – this increased much more than was the case for their Australian counterparts.

In the paper we also consider country of origin and field of study. What emerged was that country of origin does matter, with graduates from North Asia having particularly low proportions finding full-time employment (and correspondingly very high proportions going on to further full-time study). This suggests that English proficiency may be an issue.

There are differences across fields of study in the relativities between Australians and overseas graduates. In all fields the proportion of overseas students in full-time employment is lower than for

their Australian counterparts, and the proportions in full-time study are higher. The greatest differentials occur in management and commerce, information technology and education. The smallest differentials occur in health, society and culture, creative arts and agriculture. It is noteworthy that management and commerce is by far the largest field of study for overseas students, and in fact the overseas graduates comprise around 60 per cent of graduations in that field.

1. Introduction

One of the largest changes to the higher education sector over the last 20 years is the remarkable increase in the number of overseas students. In this paper, we look at what happens to the students once they graduate, how the outcomes compare with those of domestic students, and how these outcomes have changed over time. In respect of the latter, of particular interest is what has happened since the global financial crisis, a period which has seen a dramatic decrease in the proportion of the graduating cohort in full-time employment among domestic students (Karmel and Carroll 2016).

The paper is essentially descriptive and is based on Graduate Destination Survey data collected by Graduate Careers Australia. We compare the outcomes of overseas graduates (by which we mean the graduates who were classified as overseas students) with those of domestic graduates, and look at the extent to which country of origin and field of study influence outcomes.

In the next section we briefly present some historical background on overseas graduate numbers, and some context about the visa programs that have underpinned the growth in the numbers. What is quite clear is that the intake of overseas students to higher education is inextricably linked to Australia's immigration policies. In Section 3 we provide a statistical snapshot of overseas student (numbers, field of study and country of origin). In Section 4 we look in detail at graduate outcomes, focussing on field of study, country of origin and the period since the global financial crisis. We end with some brief remarks.

2. Historical context

It is not the purpose of this paper to give a detailed historical account of Australia's international student and graduate migrant visa programs. There are numerous summaries for the period between the early 1990s through to the present (see, for example, Hawthorne, 2005; Markus *et al.* 2009; Hawthorne, 2011; van de Ven and Voitchovsky, 2015). However, what is clear is that there has been a growing interconnectedness between international student migration, the export education industry, and the emergence of skilled migration as a tool of government (see Tsukamoto 2009).

Since the 1990s the international student and graduate migration visa programs have undergone a number of reforms and recalibrations. These have been in response to changes in government and the subsequent changes to the purpose and use of these visa programs as levers of population and economic growth, as well as social and cultural development. Along the way, there have been several major government reviews and inquiries that have shaped the structure of the current visa programs (see, for example, DIMA, 1999; Birrell *et al.*, 2006; Parliament, 2006; Deegan, 2008; DIAC, 2009b; DIAC, 2009a; Baird, 2010; DIAC, 2010b).

Broadly, the Australian system of immigration is unique to most other developed economies (with the exception of Canada, and to a lesser extent New Zealand) because it emphasises the need for skilled labour.² The framework underpinning this system was formalised during the late-1990s by the then Howard-led Liberal-Coalition Australian Government. This framework separates applicants for permanent migration to Australia based on humanitarian and refugee grounds from those seeking economic migration, that is, the General Skilled Migration (GSM) stream. Applicants for GSM category visas are further assessed using a system of points to prioritise the skills of applicants into rank-order. The intent behind the development of skills-focussed permanent migration was to improve the labour market outcomes for new migrants, reduce the risks of welfare

² See Adelman *et al.* 1994, Bedford 2006, Hawthorne 2011, Hawthorne 2013, and Hiebert 2006

dependency amongst recent migrants, and maintain the integrity of labour supply in Australia.³ Initially, the points-based selection strategy of skills emphasised English language ability, higher levels of education and qualification attainment, as well as occupational demand and critical occupational shortages.

The shift towards prioritising skills, however, inadvertently linked the temporary visa migrant programs to the permanent migrant visa programs. This is because international students temporarily studying at Australian higher education institutions were awarded bonus points towards a permanent skilled visa for completing their course/qualification and, in addition to meeting the education requirements, were also exempt from the English language testing. In comparison to 'offshore' independent skilled applicants, the permanent skilled visa program strongly favoured those 'onshore' who were temporary visa holders studying and graduating from Australian universities and TAFEs. For international students, the changes to the selection process also represented a considerable lowering of the eligibility bar to permanent migration, which in past years had been set at a 3-year waiting period.

The interconnection between skilled migration and the Australian education systems led to a 'two-step' migration pathway: from temporary study to permanent residency (Hawthorne 2010). As a result, the value of Australian education exports ballooned, approximately quadrupling from \$3.1 billion in 1997 to \$12.5 billion in 2007, to become Australia's third largest export industry behind coal and iron ore (AEI, 2008a). In 2007, this equated to 371,691 international students studying at Australian education institutions, most of whom concentrated in the university sector (45%) (AEI, 2008b). However, the two-step migration pathway resulted in questions being raised on the integrity of both Australia's skilled migration and education systems.

In 2009, a suite of reviews looking at the Migration Occupations in Demand List (MODL), the integrity of the education export industry, and the points-based selection process, determined that the interconnectedness between the skilled migration and education systems, and the two-step migration pathway they formed, were being exploited and undermined (Deegan 2008; DIAC 2009a; b; DIAC 2010b; Baird 2010). It was found that Australian VET providers, particularly unscrupulous private providers, were offering qualifications of little educational substance and to be completed in short time-frames, to economic migrants interested in the quickest route to permanent residency and for whom this was simply the cost of getting there. Moreover, it was also determined that many of the international students completing qualifications that fulfilled certain occupations on the MODL did not go on to enter into those occupations and ease the demand for skills. As Robertson (2011) commented, the portrayal of former international students seeking permanent residency as desirable 'designer migrants' had shifted for the worse, and were repositioned as either: exploited cash cows who were hapless victims of a flawed education and migration system; or, scheming and opportunistic 'backdoor migrants' who were deficient as workers.

From 2010, a number of reforms to the skilled migration program were made to recalibrate the quality of applicants, and to weaken the inextricable link that had formed between education and migration. The goal set for the skilled migration system by the Australian Government was to "deliver the best and brightest skilled migrants through emphasizing high level qualifications, better English language levels and extensive skilled work experience" (DIAC 2010a). Central to the reforms were the changes made to the points-based selection process to prioritise applicants. In addition to the supply-driven points-test to screen desirable applicants who put themselves forward, applicants would also require sponsorship from a potential employer or state/territory government to receive priority. That is, the new model for prioritisation of skilled applicants combined both supply and demand elements. On the supply-side, further changes were also made to how points were awarded to the skills of applicants. These included strengthening the English language requirements, increasing the points awarded for advanced tertiary qualifications and

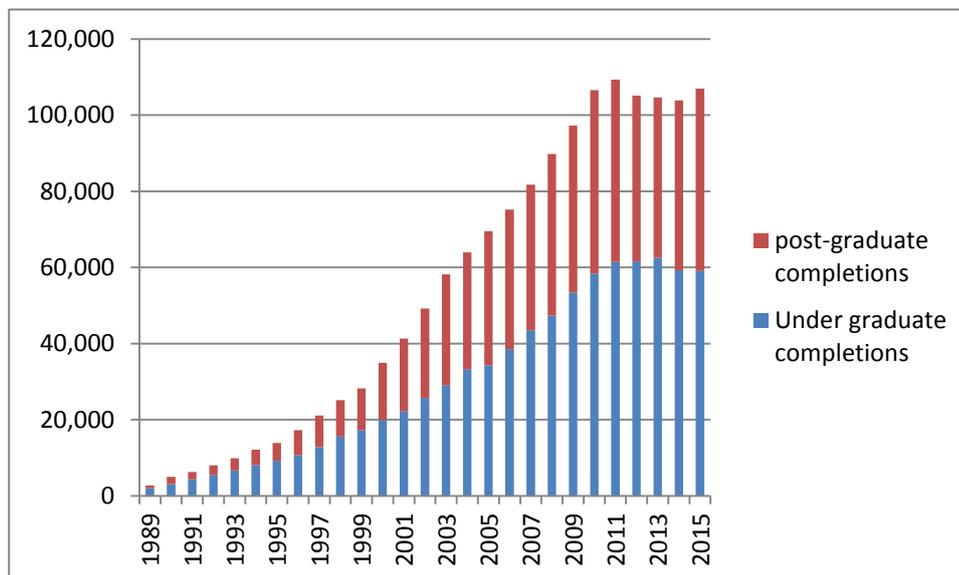
³ (Hawthorne 2011)

minimising the importance of qualifications obtained from Australian institutions, increasing the age eligibility, making it a requirement to meet the needs of a redeveloped ‘occupations in demand’ list that favours advanced tertiary qualifications and classic apprenticeship training, and bonus points for prior experience either in Australia or overseas. The changes to the skilled migration program also saw the introduction of new temporary visa categories specifically for former international students who had since graduated to gain work experience in Australia for 18 months prior to applying for permanent residency.

3. A statistical snapshot

Arguably, the most drastic change to Australia’s higher education sector over the last thirty years is the explosion in the numbers of overseas students studying at Australian universities. Since this paper is focused on graduate outcomes, we use the number of completions to give an idea of how the number of overseas students has grown (Figure 1). From a handful in the late 1980s, the number of graduating students each year reached over a 100,000 each year after 2010, with the number of under graduate completions reaching around 60,000 per year.

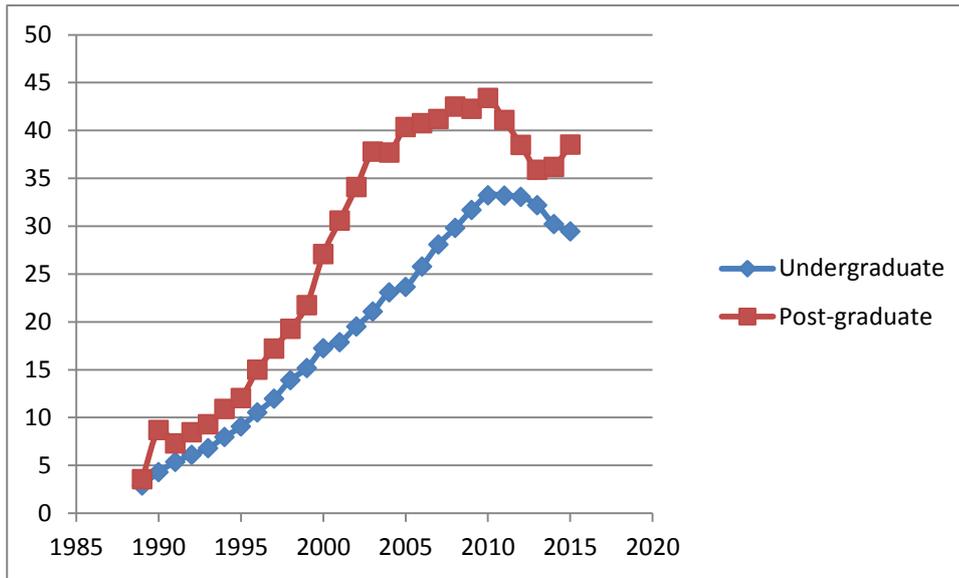
Figure 1: Completions by overseas students, 1989-2015



Source: Higher Education Statistics

While the number of domestic students has also grown, the rate of growth of overseas students has been much more rapid, particularly among post-graduate students. The high point was reached in 2010 at which time the proportion of undergraduate students who were from overseas reached 33% and the proportion of post-graduate 43% (Figure 2). The dip in numbers post 2010 though is hard to interpret. As we saw earlier (Section 2) it was a period when there were changes to visa rules that weakened the link between the Australian migration and education systems. However, during this period post the global financial crisis Australia’s economy was quite buoyant relative to many other developed countries and the mineral resources boom pushed the Australian dollar to very high levels, making Australia a more expensive option for prospective overseas higher education students.

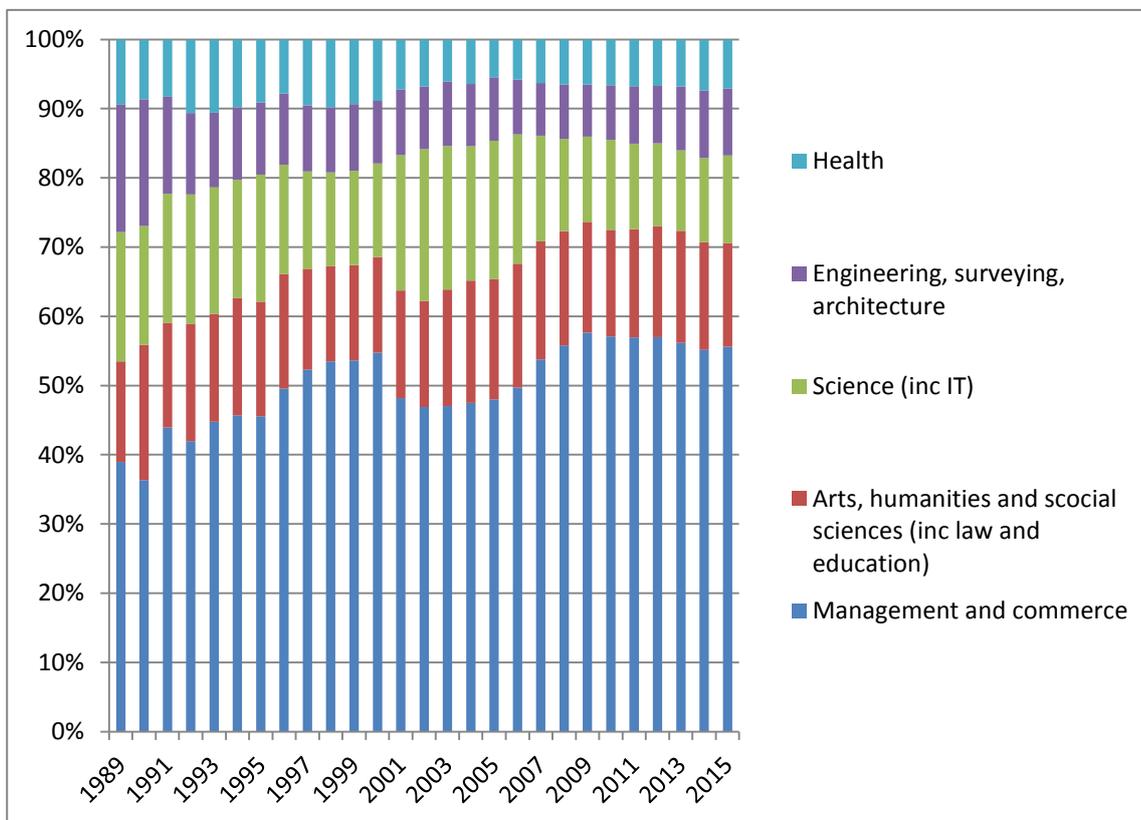
Figure 2: Completions by overseas students as a percentage of all completions, 1989-2015



Source: Higher Education Statistics

As is common knowledge, overseas students are not evenly distributed across fields of study, and for much of the period in question the proportion graduating from management and commerce exceeded 50% of all completions (Figure 3).

Figure 3: Distribution of overseas students over fields of study, 1989-2015

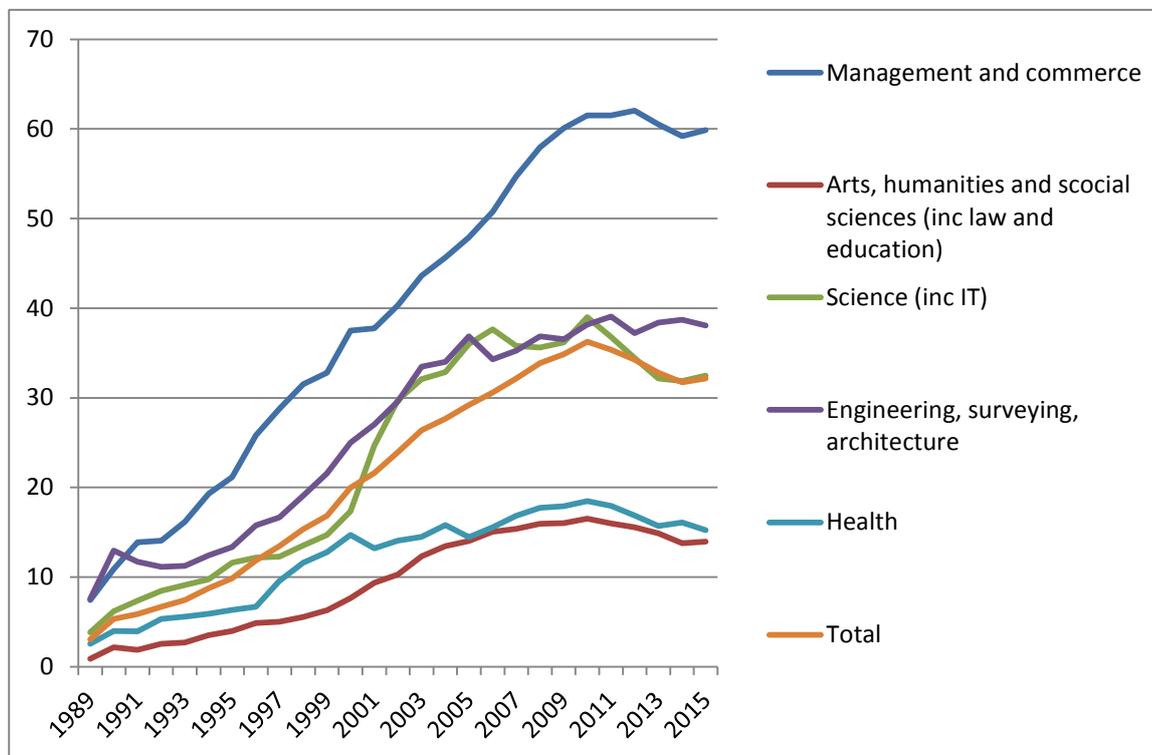


Source: Higher Education Statistics

In fact, the proportion of graduates from overseas in management and commerce reached 62% in 2012, as can be seen from Figure 4. The proportions in engineering, surveying and architecture,

and science (including Information technology) were between 30% and 40% after 2000. Only in health and arts (very broadly defined to include humanities, social sciences, education and law) were the proportions more modest.

Figure 4: Completions by overseas students as a percentage of all completions, by field of study, 1989-2015



Source: Higher Education Statistics

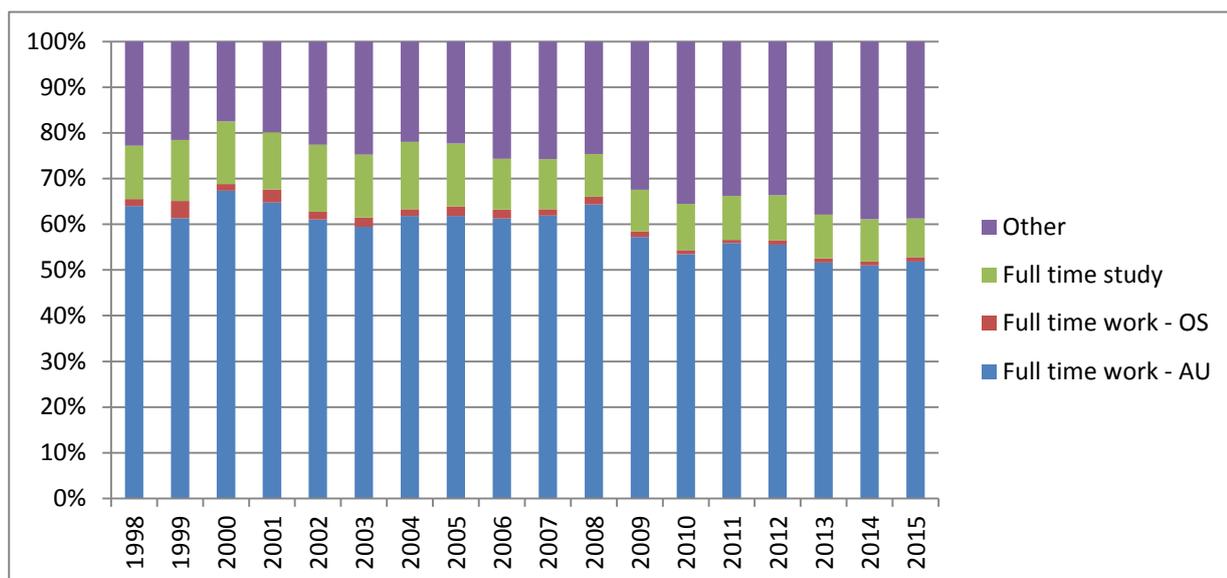
3. Undergraduate outcomes

Clearly, Australian universities have become a population destination for overseas students. The students and parents presumably see an Australian degree as a worthwhile investment, and for many the probability of getting a good job in Australia after graduation is an important consideration. This paper is not intended to look at the rate of return to a degree, but has a more modest aim of looking at immediate graduate outcomes, exploiting the Graduate Destination Survey that has been a feature of the Australian education sector for so long. Our approach is straightforward and is based on earlier work which focussed on young (less than 25 years) domestic undergraduates (Karmel and Carroll 2016). The restriction on age was to focus on graduates' first 'proper' job. In that work we grouped outcomes into three categories: full-time work; full-time study; and the remainder (which could include part-time study, part-time work, unemployment or non-participation in the labour force). Here, we make one modification by dividing full-time work into full-time work in Australia and full-time work overseas. This modification is at the margin for Australian students but of some importance for overseas students, given the link between education and migration.

We include domestic students as a comparator.

In Figure 5 we present the baseline data for Australian students, for the period 1998-2015. 1998 is the earliest year for which we can get the relevant outcomes data from the Graduate Destination Survey for overseas students. We see that up to 2008 the proportion of graduates finding full-time work exceeded 60%, dropping significantly after 2008 (when the proportion was around 66%), reflecting the impact of the GFC. In 2015 the proportion was just over 50%

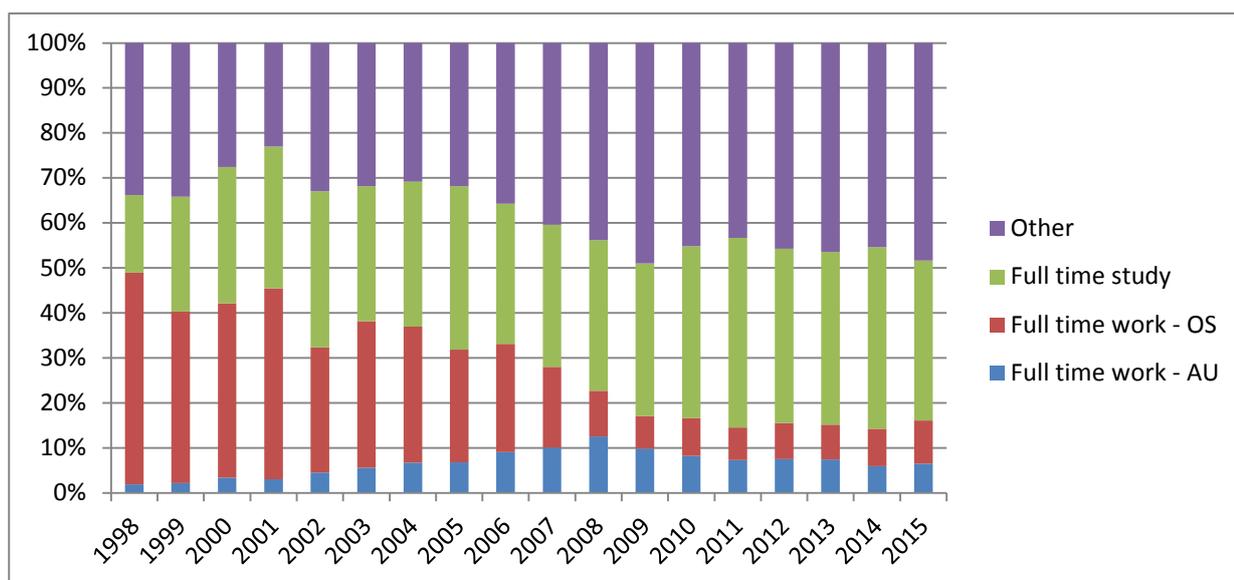
Figure 5: Proportions of graduates (under 25 years) in full-time work, full-time study or other, Australian students, 1998-2015



Source: Graduate Destination Survey

The distribution of outcomes for overseas students is very different (Figure 6). The first major difference is that the proportion of overseas students going on to full-time study is much higher than for Australian students. The second major difference is that the proportion finding full-time work declined significantly between 1998 and 2008, a period for which the employment outcomes were reasonably stable for Australian graduates. Over this period the location of full-time work for overseas students shifted very significantly from overseas to Australia. In fact 2008 saw more overseas graduates working in Australia than overseas, whereas in the early years obtaining full-time work in Australia was quite rare.

Figure 6: Proportions of graduates (under 25 years) in full-time work, full-time study or other, overseas students

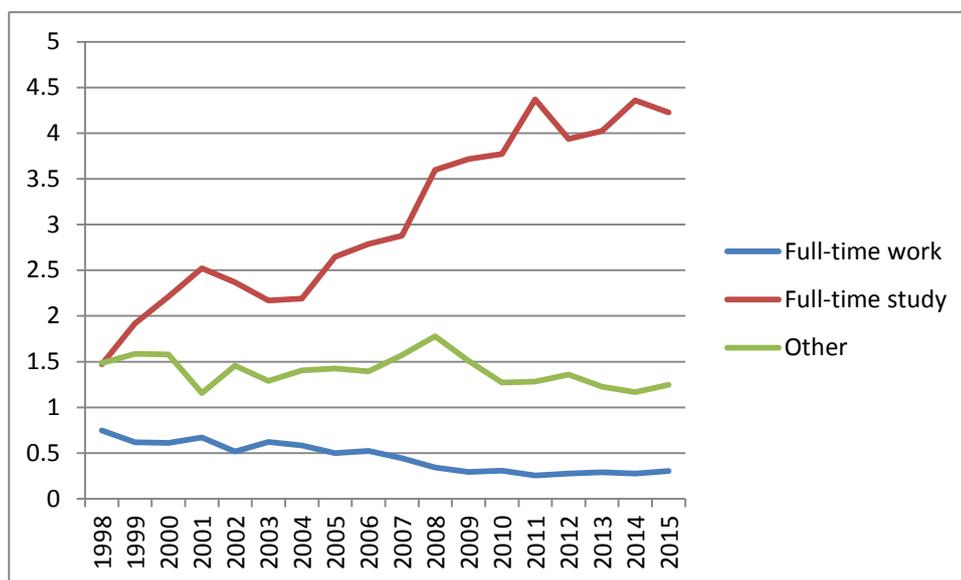


Source: Graduate Destination Survey

To make it easier to compare the outcomes for overseas and Australian students we calculate some simple ratios. On the numerator we put the proportion of overseas students in full-time

employment (full-time study or other), and on the denominator we put the corresponding proportion of Australian students (Figure 7).

Figure 7: Ratios of the overseas proportion in graduates in full-time work (full-time study or other) to the corresponding Australian proportions, graduates under 25 years, 1989-2015



Source: Graduate Destination Survey

We see that over the period since 1998, the proportion of overseas students in full-time work has declined relative to their Australian counterparts. By contrast, the proportion going on to full-time study has always been higher than for Australian students but has increased quite dramatically in the same period that the same time the proportion finding full-time work has declined.

Of course, the above data are purely descriptive, and do not tell us whether more overseas students are going on to full-time study because job prospects are poor, or less are going on to full-time work because of the increase in the proportion going on to full-time study. What is noticeable is that the proportion going on to neither full-time work nor full-time study has always been higher than for their Australian counterparts but the gap has closed somewhat after 2008.

Effect of the global financial crisis

Karmel and Carroll (2016) focused on graduate outcomes for new young (less than 25 years) Australian graduates over a long period with the period since 2008, corresponding to the global financial crisis, showing some dramatic trends. In particular, the proportion of new graduates finding full-time work dropped from 58.6% in 2008 to 39.4% in 2014. Clearly the labour market had become a lot less friendly for new graduates. Overseas graduates clearly have not been immune from the impact of the global financial crisis. Referring back to Figure 6 we see that the proportion of overseas graduates in full-time work in Australia was at an all-time high in 2008, and this proportion dropped subsequently such that the proportion in 2014 was around half that of 2008. However, overseas graduates have the option of obtaining work in their home country and we see that the proportion obtaining full-time work in their home country has stabilised to some extent with 2009 and 2011 marking the low point. That said, the proportions in full-time employment in their home country since 2008 is much lower than in earlier years, with the importance of the Australian labour market relative to the home labour market much greater in the period after 2008 relative to before 2008.

Figure 7 suggest that relative to Australian graduates, the global financial crisis had only a proportionate impact on overseas students in terms of full-time employment. We see that the percentage of overseas graduates in full-time employment relative to the percentage of Australian

graduates remained fairly stable in the period after 2008, and the percentage of overseas graduates neither in full-time employment nor full-time study relative to the percentage of Australian graduates decreased a little. However, this is against a backdrop of relatively few overseas graduates finding full-time work relative to their Australian counterparts, with very large proportions going on to full-time study. In addition, we see that since 2008, the proportion of overseas graduates going on to full-time study increased significantly compared to their Australian counterparts, with the proportion more than four times that of their Australian counterparts after 2011.

So our conclusion is that impact of the global financial crisis differed little between Australian and overseas graduates, except in the proportion of graduates going on to full-time study. It seems that overseas graduates see full-time study as the obvious thing to do when the employment market is difficult. Another factor may be that further study allows overseas graduates to remain in Australia.

The above description of the data has been at an aggregated level. We now look at the outcomes at the field of study level and by country groups.

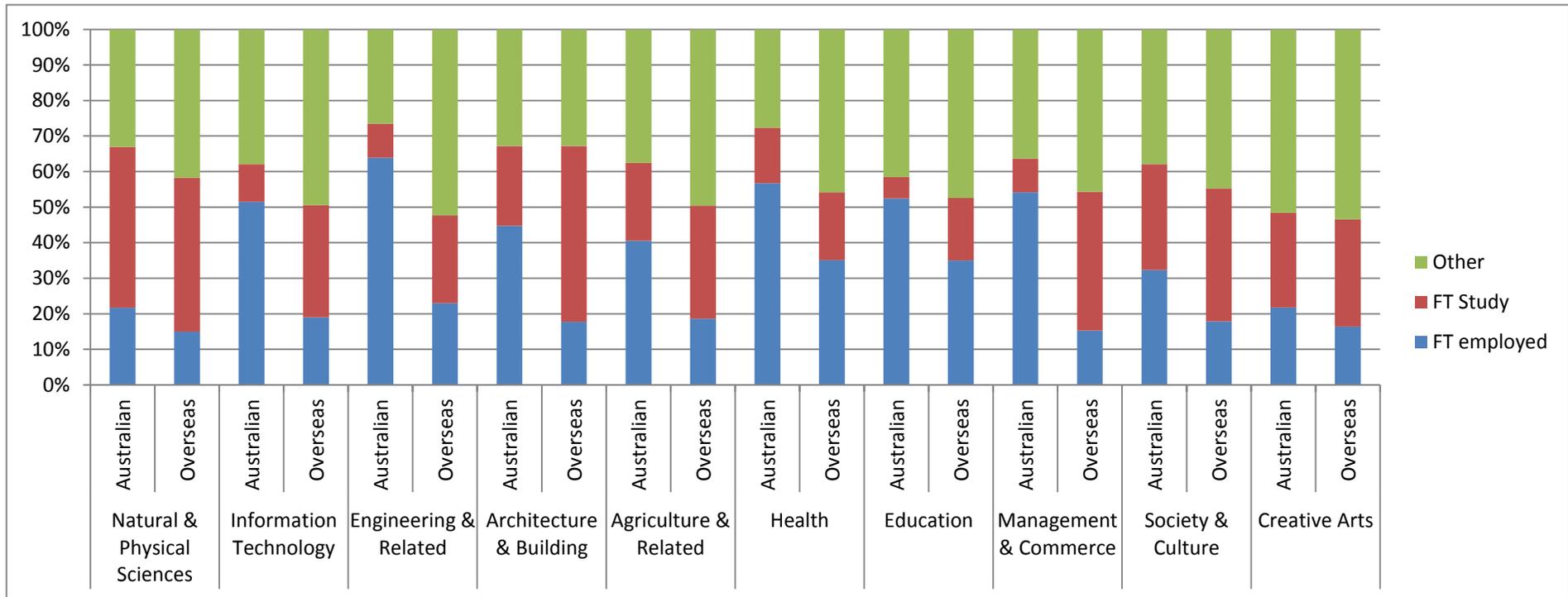
Presenting the data at this level becomes problematic for a couple of reasons. The first reason is one of presentation – the number of graphs becomes too large. The second is that sample sizes begin getting rather small and therefore the data are less robust. To overcome these two problems we aggregate over time, and the period that we focus on is 2010 to 2015. This is the period (refer back to Figure 1) when overseas student numbers reached their peak and stayed more or less around the same level. This is the also the best period for thinking about the prospects for current students as it is the most recent.

Field of study

In Figure 8, we compare the outcomes for Australian students with those of overseas students, by field of study.

There are a number of features of this comparison. First, there is more variation by field of study for Australians than for their overseas counterparts. Second, employment outcomes are relatively high for overseas students in two fields which are among the least popular for overseas students – education and health. The proportion of overseas student finding full-time work is particularly low for management and commerce, and this is by far the most popular field of study for overseas students. We see that in a number of fields there are particularly large numbers of overseas students going on to full-time study, notably natural and physical sciences (with full-time study also a common destination for domestic graduates in this field), architecture and building and management and commerce.

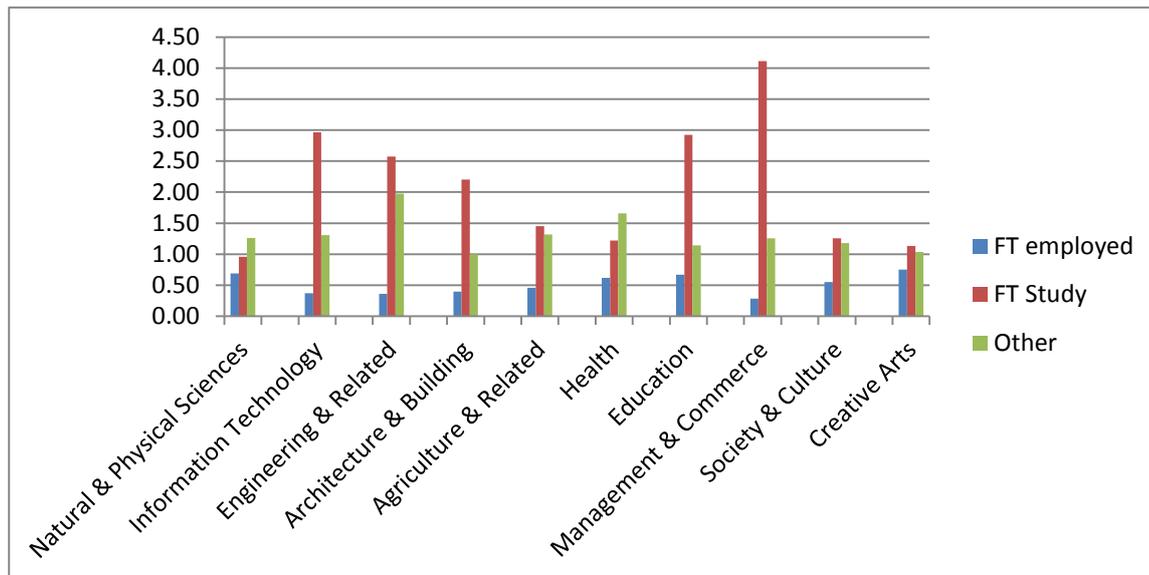
Figure 8: Percentages of graduates in full-time employment, full-time study or other, by whether Australian or overseas, by field of study, aged less than 25 years, 2010-2015



Source: Graduate Destination survey

To make the comparisons between the outcomes for Australians and overseas students we again present the ratios described earlier (Figure 9). Management and commerce stands out with overseas students having a much lower proportion in full-time work and hugely more in full-time study. ⁴It would also seem that overseas students have decided that they need a post-graduate qualification to be competitive in this area. However, there are other fields in which a much higher proportion of overseas students go on to further full-time study, namely, information technology, engineering (and related), architecture and building, and education.

Figure 9: Ratios of the overseas proportion in graduates in full-time work (full-time study or other) to the corresponding Australian proportions, by field of study, graduates under 25 years, 2010-2015

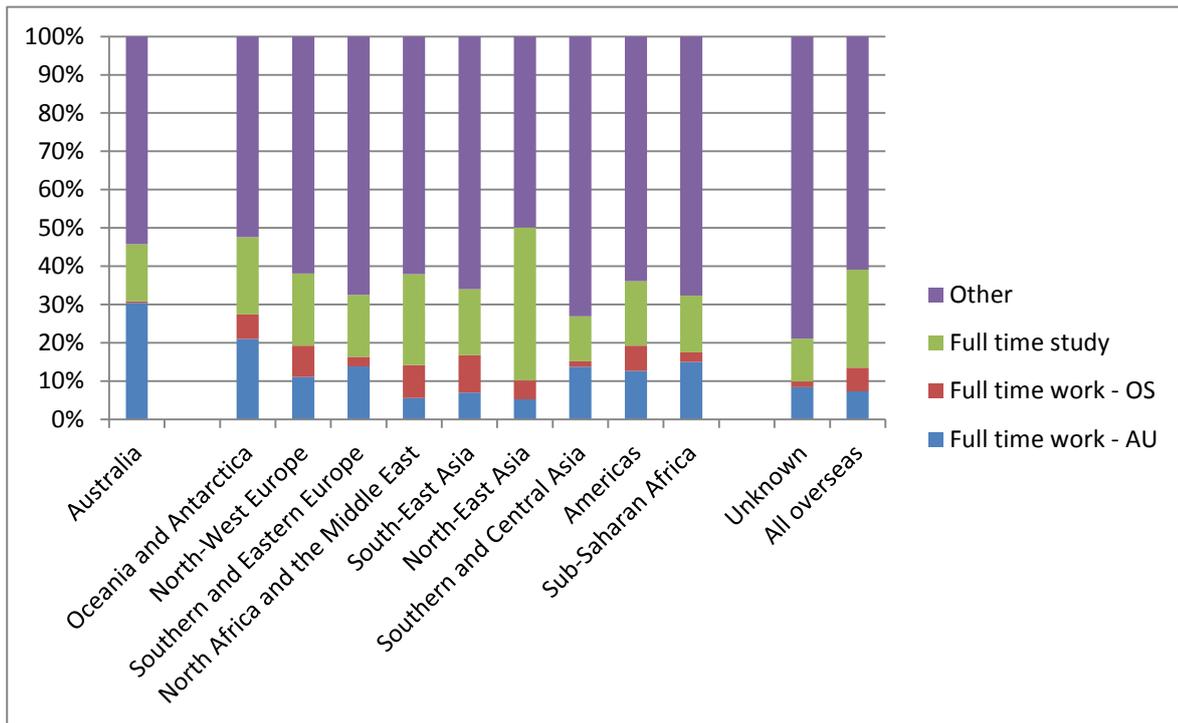


Source: Graduate Destination Survey.

We now present similar data by region. We have chosen nine regions to give a reasonable amount of detail but to ensure that that the sample sizes are sufficiently large. Figure 10 presents the data for these nine regions.

⁴ This result echoes Birrell and Healy 2008, in a paper with the catchy title of ‘Migrant accountants – high numbers, poor outcomes).

Figure 10: Percentages of graduates in full-time employment, full-time study or other, by country of origin, aged less than 25 years, 2010-2015



Source: Graduate Destination Survey

Not surprisingly, the region with outcomes most similar to those of Australians is Oceania and Antarctica (although one suspects that there are few students from Antarctica). This region includes New Zealand, which shares many things with Australia including few restrictions on trade and immigration. The region with the lowest proportion in full-time work and the highest proportion in full-time study is North-East Asia which is dominated by China.

This raises an interesting speculation. To what extent are the outcomes for North-East Asian students due to the fields of study that they are concentrated in? While we cannot answer this in a causal sense we can look at the interaction of field of study and country, and that is what we now do through a simple shift-share analysis.

Let E represent the number in full-time employment and N the overall number of graduates. Further, let i be an index representing country of origin and j field of study. We wish to decompose

$$\frac{E_{2,j}}{N_2} - \frac{E_{1,j}}{N_1} \text{ where } 2 \text{ represents a region (other than Australia) and } 1 \text{ represents Australia.} \quad (1)$$

Then this can be written as

$$\sum_j e_{2j} * n_{2j} - \sum_j e_{1j} * n_{1j} \text{ where } e_{ij} = E_{ij}/N_{ij} \text{ and } n_{ij} = N_{ij}/N_i \quad (2)$$

$$(2) \text{ can be arranged into } \sum_j n_{2j} (e_{1j} - e_{2j}) + \sum_j e_{2j} (n_{1j} - n_{2j}) \quad (3)$$

The first of the two terms in (3) we label the *employment effect*, which is the difference between the proportion of graduates from an overseas region and the corresponding Australian proportion, but based on the distribution of students across fields of study in the overseas region. The second term we label the *field of study effect* which represents the differences in the distribution of students across fields of study, weighted by the rate of employment of Australian graduates for each field of study.

In essence, the employment effect nets out the impact of differences in the distribution of students across fields of study.

The results of this decomposition are presented in Table 1.

Table 1: Decomposition of the rate of full-time employment of overseas graduates (by region) less the corresponding rate for Australian graduates (per cent)

	Proportion in full-time employment	Prop in FT emp minus proportion of Australian graduates in FT emp	FT emp effect	Field of study effect
Australia	43.6			
Oceania and Antarctica	36.7	-6.9	-8.6	1.7
North-West Europe	28.3	-15.3	-14.6	-0.7
Southern and Eastern Europe	24.1	-19.5	-22.8	3.3
North Africa and the Middle East	18.0	-25.6	-31.9	6.3
South-East Asia	24.7	-18.9	-23.7	4.8
North-East Asia	12.2	-31.4	-38.9	7.5
Southern and Central Asia	20.8	-22.8	-31.1	8.3
Americas	26.7	-16.9	-18.1	1.1
Sub-Saharan Africa	23.1	-20.5	-25.6	5.0

As we have already seen, the rate of full-time employment is considerably higher for Australian graduates compared to graduates from overseas, with North East Asia having by far the lowest proportion of graduates in full-time employment. What the decomposition shows is that this naïve comparison, if anything, understates the ‘true’ difference because of the interaction with field of study. If we hold field of study constant, the difference in employment rates compared to Australian graduates increases substantially for all regions except Oceania and Antarctica, North-West Europe and the Americas.

Further study

One complication with interpreting the low proportion of graduates from some regions in full-time employment is the high proportion going on to further full-time study. For example, from figure 9 we see that graduates from North East Asia have a higher proportion in full-time study than in full-time employment. Since the additional study will add to the graduates’ human capital, may-be it is the case that employment outcomes would be better if we take into account the employment outcomes after the further study.

While we do not have a sufficiently detailed longitudinal data set which traces the activities of individual graduates, we do have data on transitions for those who complete post-graduate awards.⁵ By making a number of ‘stylised’ assumptions we can combine these transitions with those of the undergraduate completers. We assume that those going on to full-time study in the Graduate Destination Survey do so in the same field, and that they ultimately complete the post-graduate award. A further complication is that a proportion of those graduating with a post-graduate award go on to further post-graduate study. We treat these as having the same outcomes

⁵ The Beyond Graduation Survey, conducted three years after the Graduate Destination survey, provides some potential data but the sample size is too small to be useful in analysing overseas graduates.

(after their next award) as those we observe. While these assumptions may be heroic they do enable us to combine data from undergraduates and post-graduates in a coherent manner, and the relativities between fields of study should be robust even if the point estimates are 'notional'.

The precise way we combine the data is as follows;

Let p_{FTE} be the probability that an undergraduate is in full-time employment at the time of the survey, and p_{FTS} be the corresponding probability for being in full-time study at the time of the survey.

Similarly let π_{FTE} be the probability that a postgraduate is in full-time employment at the time of the survey, and π_{FTS} be the corresponding probability for being in full-time study at the time of the survey.

Then the notional probability that a graduate is in FT employment four months after completion of their complete period of (successful) study is

$$\hat{p}_{FTE} = p_{FTE} + p_{FTS} * \pi_{FTE} + p_{FTS} * \pi_{FTS} * \pi_{FTE} + p_{FTS} * \pi_{FTS}^2 * \pi_{FTE} + \dots \dots \dots$$

where \hat{p}_{FTE} represents the notional probability of being in full-time employment four months after the completion of the whole period of study (consisting of one or more awards).

This can be simplified to

$$\hat{p}_{FTE} = p_{FTE} + p_{FTS} * \frac{\pi_{FTE}}{1 - \pi_{FTS}}$$

One way of thinking about this formula is that it is the proportion of graduates in full-time employment after adjusting for the outcomes of those going on to full-time study.

The results of this adjustment are presented in Table 2. The adjustment used Graduate Destination Survey data from postgraduates aged 30 years or less and data from undergraduates aged less than 25 years, over the period 2010-2015.

Table 2: Estimate of the percentage of graduates in full-time employment after completing a contiguous period of study (one or more awards), 2010-2015, by region.

	% from undergraduates		After adjusting for further study
	Full-time emp	Full-time study	Full-time emp
Australia	43.6	21.0	75.3
Oceania and Antarctica	36.7	26.9	67.0
North-West Europe	28.3	27.8	48.7
Southern and Eastern Europe	24.1	23.7	36.1
North Africa and the Middle East	18.0	30.1	24.8
South-East Asia	24.7	25.3	35.3
North-East Asia	12.2	47.8	24.1
Southern and Central Asia	20.8	16.2	24.5
Americas	26.7	23.4	39.0
Sub-Saharan Africa	23.1	19.5	30.1

We see that the adjustment certainly increases the proportion of graduates in full-time employment. It changes somewhat the 'pecking order' of regions although the position of Australian graduates remains well ahead of all other regions. The region with the highest proportion of undergraduates going on to full-time study after the GDS is North-East Asia (with

almost one half going on to further study). This region has considerably fewer undergraduates (proportionally) in full-time employment than all other regions. By contrast, if we take into account the further study, North-East Asia improves its relative position a little; while still lowest ranked it joins Southern and Central Asia and North Africa and the Middle East. These countries, however, lag behind other regions considerably, and the proportion in full-time employment, after taking into account the further study, is only one third of the figure for corresponding Australian graduates.

5. Concluding comments

The graduate outcomes around four after graduation (from an undergraduate qualification) are quite different for overseas students relative to those of their Australian counterparts. The recent experience is that the proportion of overseas graduates in full-time employment is about 30 per cent of the proportion of Australian graduates in full-time employment. Furthermore the employment of overseas graduates is split reasonably evenly between those with jobs in Australia and those with jobs in their home countries. Overall, we are talking about 15 percent of overseas graduates obtaining a full-time job within four months after graduation. This suggests that the overseas graduates are struggling in the labour market, perhaps not a surprising finding. For example, Blackmore *et al.* (2014) found there are multiple barriers to graduate labour market entry. Many international graduates are poorly prepared for the labour market

Associated with this very low proportion of overseas graduates in full-time employment we have seen very large percentages going on to full-time study: in the management and commerce field, overseas students enrol in further-full-time study at over four times the rate of their Australian counterparts. It appears that many overseas students are seeing an initial undergraduate qualification as just one step in achieving their aims. No doubt permanent residency in Australia is an aim of many of these students.

Two other things have emerged from our analysis. First, the employment patterns of overseas graduates have changed dramatically as overseas student numbers have increased. For example, in 1998 almost 50 per cent of the overseas graduate cohort were in full-time employment at the time of the survey, and this was mostly in their home country. (Note that 1997 was the year in which the Howard Government began making public announcements about overseas students being an immigration issue, see Spinks 2016). As student numbers increased, and as immigration became central to this increase, we have seen a steady decline in the proportion of the graduating overseas cohort obtaining full-time employment. At the same time we have seen an increase in the proportion in full-time study. The inference is that the undergraduate qualification for overseas students (in Australia) has become an initial step in the transition from education to the labour market, and that to understand what really happens to overseas students we need to follow them after their next qualification. An initial foray into outcomes for those who undertake a post-graduate qualification suggests that the employment outcomes for overseas students are a little better than the picture obtained for undergraduates. However, the picture taking the further study into account is still grim, with the worst outcomes being for students from North-East Asia, Southern and Central Asia, and North Africa and the Middle East. On the basis of some notional estimates for 2010-2015 for undergraduates and postgraduates, around 25% of these students obtain full-time employment four months after their (final) graduation compared to the corresponding rate for Australian students of around 75%.

A second point to emerge is that the global financial crisis, which led to such a decline in the proportion of Australian graduates obtaining full-time employment after their graduation, did not have a more than proportionate effect on overseas graduates. Rather, their relative employment position remained pretty much the same. However, what did differ was the proportion of overseas graduates going on to further study – this increased much more than was the case for their Australian counterparts.

In the paper we also looked at country of origin and field of study. What emerged was that country of origin does matter, with graduates from North Asia having particularly low proportions finding full-time employment (and correspondingly very high proportions going on to further full-time

study). This suggests that English proficiency may be an issue, as is suggested by Buddelmeyer *et al.* (2013) who found that overseas graduates aged 25-29 years had low employment rates if their English proficiency (self-reported) was poor. Adjusting for field of study made little difference although the differences between the Australian graduates and overseas graduates were higher once field of study was controlled for. There are differences across fields of study in the relativities between Australians and overseas graduates. In all fields the proportion of overseas students in full-time employment is lower than for their Australian counterparts, and the proportions in full-time study are higher. The greatest differentials occur in management and commerce, information technology and education. The smallest differentials occur in health, society and culture, creative arts, and agriculture. It is noteworthy that management and commerce is by far the largest field of study for overseas students, and in fact the overseas graduates comprise around 60 per cent of graduations in that field.

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