Chapter 9
The Changing Composition and Fortunes of Overseas Graduates in Australia: The Case of Chinese and Indian Graduates

Angelina Zhi Rou Tang, Francisco Rowe, Jonathan Corcoran, and Alessandra Faggian

Abstract Responding to labour and skills shortages, Australia has developed a comprehensive immigration framework to attract and retain overseas graduates. While prior work has explored the post-graduation settlement patterns and work outcomes of overseas graduates, much less is known about the role of their country of origin on their labour market performances in the context of socio-economic and immigration policy changes. Drawing on the Australian Graduate Survey, this chapter explores the composition and labour market outcomes of overseas graduates who remained in Australia after graduation with a particular focus on the two largest source countries: China and India. Findings show that Chinese and Indian graduates are very highly educated, but they fare poorly in the labour market as compared with the locals, pointing to skill under-utilisation among overseas graduates. Nonetheless, their work and salary outcomes have improved over time, which may be attributed to

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J. Poot, M. Roskruge (eds.), *Population Change and Impacts in Asia and the Pacific*,
New Frontiers in Regional Science: Asian Perspectives 30,
https://doi.org/10.1007/978-981-10-0230-4_9

the relaxation of post-graduation migration and employment pathways in Australia. While Chinese graduates struggle more in securing full-time employment, they are less susceptible to education-job mismatch relative to their Indian counterparts. The Chinese nationals may be working part-time for relevant work experience that may help them to enhance their career prospects. These results are of importance to public policy in their capacity to highlight the issue of skill under-utilisation and the labour market integration patterns of overseas graduates as the socio-economic and immigration policy conditions shift over time.

Keywords Chinese and Indian graduates · Labour market integration · Australia

9.1 Introduction

With an ageing working population, developed countries are in a race for alternative sources of labour, skills and knowledge to boost productivity and economic growth. Of the pool of highly skilled migrants, they regard overseas graduates from local higher education institutions as a key human capital resource (Simmons 1999; IOM 2008; Hawthorne 2010). This preference is because domestically educated overseas graduates are more familiar with local language, culture and labour market conditions as compared with skilled migrants recruited offshore (Ziguras and Law 2006; Hawthorne 2013). Moreover, overseas graduates possess education qualifications that are perceived to be better geared towards the need of the local labour market (Ziguras and Law 2006; Hawthorne 2013). Developed countries, e.g. Australia, Canada, France, Germany and New Zealand, have thus introduced a series of immigration programmes to attract and retain this group of highly skilled individuals (Suter and Jandl 2008; OECD 2014a).

These immigration policy efforts have led to an increase in the number of overseas graduates remaining in host study countries (IOM 2008; OECD 2010). To harness the full potential of this new source of labour, skills and knowledge, it is critical to develop an understanding of their settlement and labour market integration patterns. Studies have explored the transition of overseas graduates into first employment in the host study country, showing that they experience a more troubled study-to-work transition than local graduates. Overseas graduates generally take longer to secure a job and, when they do, it is usually part-time or casual work with a relatively low salary (Bond et al. 2007; Brekke 2007; Hawthorne 2010; OECD 2014a; Faggian et al. 2016). They also tend to take up low-skilled jobs that typically misalign with their education qualifications (Li and Miller 2013; Faggian et al. 2016).

Prior studies have provided valuable insights into the labour market performance of overseas graduates in their host study country. However, existing knowledge remains limited in at least two important ways. First, overseas graduates are often treated as a homogenous group despite the fact that nationality has been shown to represent a major differentiating factor shaping the labour market integration and outcomes of migrant labour (Mason 2004; Constant et al. 2006; Zimmermann et al.

2007). The labour market variations across nationalities have been mainly attributed to the migrants' destination language fluency level (Chiswick and Miller 1992, 1995; Hawthorne 2013), access to social connections in local migrant community (MacDonald and MacDonald 1964; Evans 1986; Clyne 1991; Portes and Sensenbrenner 1993; Ioannides and Loury2004) and racial discrimination in host country (Oreopoulos 2011; Booth et al. 2010).

Second, previous work has investigated the changes in the composition and labour market performance of overseas graduates in isolation from the overarching socio-economic context and immigration policy shifts that shape the spatial landscape of labour market opportunities. There have been major shifts in immigration policies to attract and retain domestically educated overseas graduates, increasing the supply of locally trained skilled migrants. The 2007–2009 Global Financial Crisis (GFC) has meanwhile reduced the availability of full-time entry-level jobs (Beets and Willekens 2009; OECD 2009). These changes are likely to have transformed the size and composition of overseas graduates staying on and their outcomes in the local labour market.

To address these limitations, this chapter aims to explore the composition and labour market outcomes of overseas graduates in Australia in the context of socio-economic and immigration policy shifts between 1998 and 2012. Drawing on the Australian Graduate Survey (AGS), we employ a two-step analytic framework to examine the demographic and skills composition of overseas graduates remaining in Australia over the 15-year period, followed by an assessment of their work and salary outcomes. The present study offers better understanding and recognition of the expertise available and existing labour market conditions that are considered an important first step to improve the labour market integration and outcomes of migrant labour at the destination country (OECD 2014b).

A particular emphasis is placed on Chinese and Indian graduates. Globally, China and India have become the two largest sources of international students to the member countries of the Organisation for Economic Co-operation and Development (OECD), accounting for approximately 22 and 6%, respectively, of the international student population in 2014 (OECD 2014c). China has remained the largest contributor of international student enrolments in Australia since 2001, with India emerging as the second-largest contributor from 2004 (DET 2014). In 2012, Chinese students comprised 29% of international student population, while 11% originated from India (DET 2014). Examining the labour market dynamics of these two significant groups is, therefore, important in developing a more comprehensive understanding of the labour market conditions of overseas graduates remaining in Australia.

This chapter is structured as follows: Section 9.2 presents a brief overview of the existing literature on the population of overseas graduates in Australia and details the key socio-economic and immigration policy changes over the period of analysis. Section 9.3 describes the data employed in this study, followed by a discussion of the results in Sects. 9.4 and 9.5. This chapter concludes by reiterating the key findings and their importance for policy development along with possible avenues for future research.

9.2 Overseas Graduates in Australia and the Shifting Socio-Economic and Immigration Policy Contexts

In recent years, there has been a growing body of literature that attempts to investigate the labour market outcomes of overseas graduates in Australia. It has been demonstrated that overseas graduates remaining in Australia tend to experience a more difficult study-to-work transition as compared with local graduates. Evidence suggests that overseas graduates are more susceptible than their domestic counterparts to unemployment in the Australian labour market (Trevelyan and Tilli 2010), and they are less likely to secure full-time work (Hawthorne and To 2014). The overseas-born also tend to work in jobs that do not match their education attainment (Li and Miller 2013; Faggian et al. 2016; Corcoran et al. 2017) and earn substantially lower salary (Hawthorne and To 2014; Faggian et al. 2016).

The labour market disadvantages among overseas graduates are arguably the result of a combination of factors. Low English language proficiency (Arkoudis et al. 2009; Hawthorne and To 2014) and poor communication skills (Birrell and Healy 2013) have been associated with the inferior labour market performances. The limited knowledge of local work culture (James and Otsuka 2009; Gribble 2014) and their residency status as temporary migrant (Li and Miller 2013) also contribute to the less successful outcomes of overseas graduates in the Australian labour market. More recently, however, the literature offers contradictory evidence suggesting that having a non-English speaking background has minimal impact on their education-job alignment (Tang et al. 2017). Instead, the study suggests that the misalignment between education qualification and employment may be a result of their predisposition to take up part-time jobs in certain sectors, e.g. the recreation and services industry (Tang et al. 2017).

While existing scholarship provides valuable insights into their transition into the local labour market, it has mainly focused on examining aggregate patterns, taking overseas graduate population as a homogenous group. Less attention has been devoted to exploring the differences in labour market performances across nationalities. Generalisation in understanding the labour market conditions of overseas graduates is a major limitation as evidence indicates that Indian-born immigrants are likely to experience better outcomes than their Chinese counterparts in the Australian labour market. They are more likely than Chinese nationals to secure professional jobs besides being less likely to be unemployed or experience education-job mismatch (Arkoudis et al. 2009; Hawthorne 2010, 2013). Hawthorne (2013) also shows that overseas graduates from North America and Commonwealth Asian countries—including Singapore, Malaysia and India—fare better in full-time employment rates as compared with other nationalities, especially the Chinese and Vietnamese graduates.

Similarly, the labour market disparities across nationalities have been associated with an array of inter-related factors, including English language fluency (Chiswick and Miller 1992, 1995; Hawthorne 2013), the availability and extent of social networks in host country (MacDonald and MacDonald 1964; Evans 1986; Clyne

1991; Portes and Sensenbrenner 1993; Ioannides and Loury 2004) and racial discrimination in the local labour market (Oreopoulos 2011; Booth et al. 2010). Having greater familiarity with English language tends to correlate with better employment outcomes for immigrants in Australia as they can more easily assimilate local work codes and practices (Hawthorne 2013). Social connections to local migrant communities of similar cultural background also play an important role in facilitating labour market integration through the establishment of job information networks (MacDonald and MacDonald 1964; Portes and Sensenbrenner 1993; Ioannides and Loury 2004). Nevertheless, long-standing migrant communities may have a detrimental impact on migrants' labour market outcomes by deterring their learning of local language (Evans 1986; Clyne 1991). Labour market discrimination against immigrants has also been reported by linking their names to labour market opportunities. Foreign-sounding names are likely to struggle more than those with Anglo-Saxon names in the Australian and Canadian labour markets, possibly due to racial discrimination (Oreopoulos 2011; Booth et al. 2010). In Australia, the bias is, however, less common among the well-established ethnic minority groups, e.g. Italians, as compared with those who have arrived more recently, e.g. Chinese and Middle Easterners (Booth et al. 2010).

These factors are further mediated by shifting socio-economic and immigration policy conditions in Australia which shape the spatial landscape of labour market opportunities. In the last two decades, the Australian immigration framework increasingly focused on attracting and retaining domestically educated overseas graduates. Prior to 1999, overseas graduates were barred from skilled migration for a maximum period of 3 years following graduation (Arkoudis et al. 2009). The immigration restriction was lifted in 1999 to allow application for permanent residency immediately after graduation; the process was, however, restricting as only offshore submissions were accepted (Arkoudis et al. 2009). As such, overseas graduates were required to temporarily leave Australia in order to submit a visa application. In 2002, the immigration framework was further relaxed to permit onshore submissions from overseas graduates (Peykov 2004; Phillips and Spinks 2012). Following this policy arrangement, overseas graduates could submit the visa application in Australia immediately after completing their studies, streamlining the post-graduation migration pathway. Australia then transitioned to put greater emphasis on temporary migration as an alternative to attract and retain overseas graduates. A key recent addition to this policy framework was the 485 graduate visa scheme introduced in 2007 (Phillips and Spinks 2012). This visa policy permitted overseas graduates who completed at least 2 years of tertiary study in Australia to remain in the country with full working rights for a period of 18 months, and imposed no job offer requirements. In 2011, the period of stay for the graduate visa was extended to a maximum period of 4 years from the date the visa was granted, depending on the qualification level of the visa holder (Mares 2013).

The relaxation of immigration policies offers international students multiple, streamlined options to remain in Australia after the completion of their studies. Following the introduction of the graduate visa scheme in 2007, the annual inflow of overseas graduates grew substantially from about 31,000 in 2006–07

(i.e. pre-visa) to an annual average of 48,000 for the period 2007–10 (i.e. post-visa) (Birrell et al. 2011). The influx of overseas graduates is argued to have heightened job competition in the Australian labour market as the average employment conditions of overseas graduates have deteriorated since the policy change, possibly due to labour surplus in professions that are over-subscribed among the overseas-born (Faggian et al. 2016).

The poorer employment outcomes of overseas graduates since the visa introduction may also be related to structural changes in the Australian labour market. There has been a decline in the availability of full-time entry-level job opportunities over the last two decades (The Smith Family 2014; ABS 2015). Employment growth has concentrated on senior positions in knowledge-based industries that require extensive work experience, and casual low-skilled jobs in service sector that do not require a university qualification (The Smith Family 2014; ABS 2015). This polarisation in employment growth has made the transition from university into employment increasingly difficult (The Smith Family 2014; Rowe et al. 2015, 2017).

The 2007–09 GFC and declining mining activities have also contributed to lower employment opportunities in the Australian labour market (Borland 2012; ABS 2015). Part-time employment seems to be the main pathway into the labour market among Australian graduates at the expense of full-time employment (ABS 2010; Anlezark 2011; Knott 2014; Rowe et al. 2015). This has been accompanied with a worsening in their starting salaries (Knott 2014). Overseas graduates are arguably more vulnerable than their domestic counterparts to weakening labour market conditions due to their relative lack of local contacts and limited English language fluency (Gribble 2014). Empirical evidence of the labour market outcomes of overseas graduates since these socio-economic and immigration policy shifts, has, however, been relatively limited and fragmented. This chapter seeks to fill this gap by analysing the labour market performances of overseas graduates staying in Australia between 1998 and 2012.

9.3 Data Sources and Definitions

To study the composition and labour market performances of overseas graduates, this chapter draws on the AGS data collated by Graduate Careers Australia. In particular, we employ micro data from the Graduate Destination Survey component. Focusing on the study-to-work transition of recent university graduates, this annual survey collects information on their labour market outcomes (e.g. paid work status, occupation and income level) at approximately 4 months after graduation. It also captures a range of personal attributes (e.g. age, language background and country of permanent residence) and course characteristics (e.g. study mode, level of qualification and field of study).

For the purpose of this study, we used the survey results from 1998 to 2012 which captured information of the university students graduating between 1997 and 2011. Our analysis concentrated on Chinese and Indian graduates staying in Australia after

Table 9.1 Individual records in the final data set

Year	Domestic graduates	Overseas graduates of other nationalities	Chinese graduates	Indian graduates
1998	74,404	677	26	29
1999	71,933	1351	59	91
2000	60,966	2788	129	114
2001	57,010	2113	230	209
2002	61,017	1804	211	110
2003	71,439	3846	492	403
2004	80,705	4361	625	415
2005	79,179	4864	932	505
2006	79,760	7703	1840	1092
2007	79,667	9926	2619	1529
2008	82,760	11,655	3622	1639
2009	86,258	14,378	4305	2468
2010	88,023	15,206	4975	2358
2011	94,352	17,703	5954	2718
2012	96,295	18,958	7148	2188

Authors' elaboration using data from the Australian Graduate Survey, 1998–2012

graduation. Overseas graduates are those who self-identified as international fee-paying students (Guthrie 2008), and Chinese and Indian graduates are identified using information on their country of permanent residence. In this analysis, Chinese graduates are those with a permanent address in the People's Republic of China, excluding Hong Kong and Macau Special Administrative Regions. Chinese and Indian graduates were compared with two graduate benchmark groups: overseas graduates of other nationalities and domestic graduates. Table 9.1 presents the number of valid records in the final data set once we restricted to respondents with valid responses to our variables of interest, which include location and main activity on reference date, country of permanent residence, highest level of qualification, field of study, occupation and salary outcome (adjusted to 2012 dollars).

The first step in our analysis was to explore the demographic and skills composition of overseas graduates who stayed on after completing their studies. In particular, we looked at the key source countries, highest level of qualification, field of study and labour market outcomes. We examined three labour market indicators, i.e. employment rate, alignment between education qualification and employment, and income level.

To define alignment of job to education qualification, we followed the OECD's approach which identified three types of education-job mismatch: qualification, field-of-study and skills (Quintini and Broecke 2014). Qualification mismatch occurs when workers hold a higher or lower level of qualification than that required for their jobs. We compared the attained qualification to the level prescribed in the Australian and New Zealand Standard Classification of Occupations 2006 (ANZSCO) (ABS 2013). Since most respondents (99.6 to 100.0%) held at least a

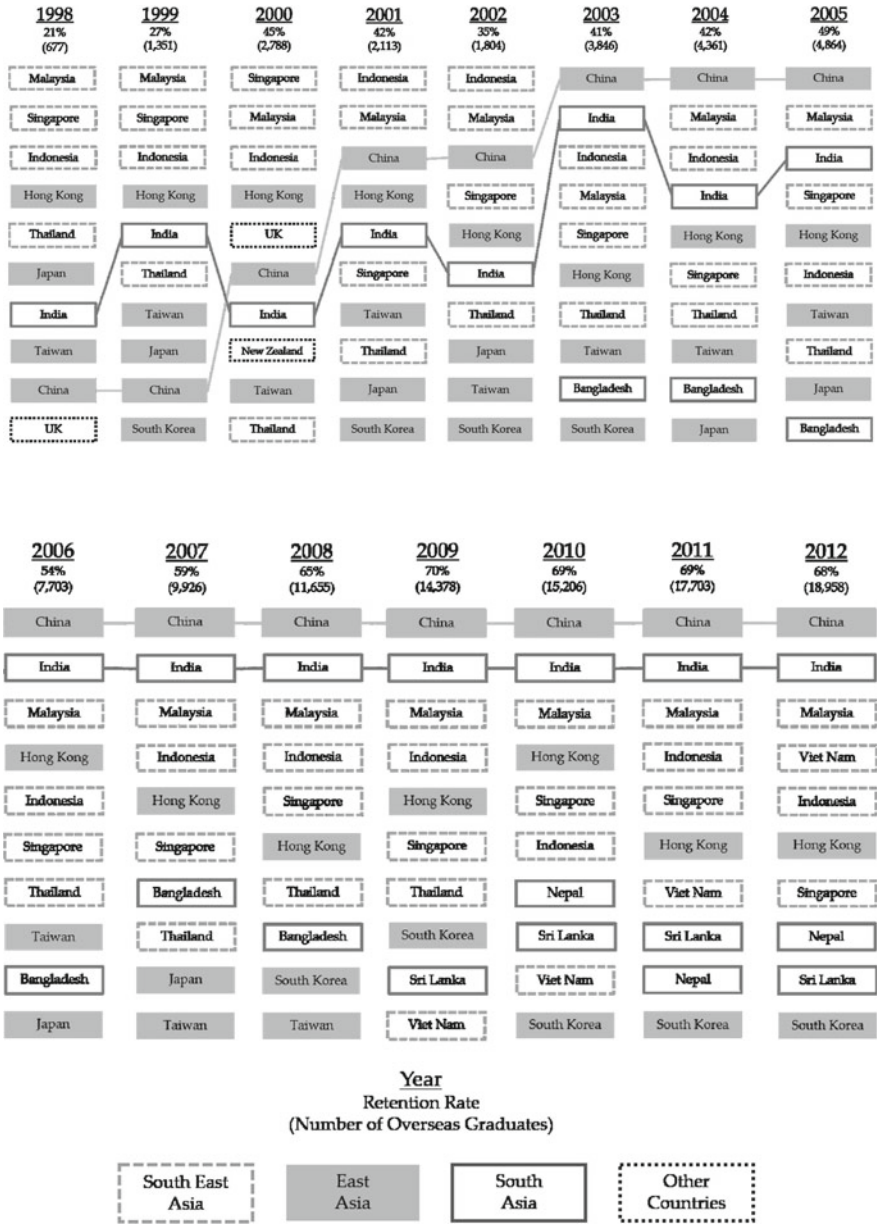
bachelor's degree, which is commensurate with the highest level of education in the ANZSCO, this study focuses on over-qualification, i.e. having a higher level of qualification than the prescribed level. An example of qualification mismatch is a medical graduate with a bachelor's degree working as a medical laboratory technician (that only requires an associate degree, advanced diploma or diploma) or a taxi driver (that only requires a vocational certificate).

Field-of-study mismatch arises when workers are employed in a field that does not align with their respective area of expertise. In our analysis, we compared the reported job to the list of occupations defined by Wolbers (2003) for each field. Respondents, who worked in a job that is not regarded a good match for their field of study, are considered mismatched. Using the above example, the taxi driver also experiences field-of-study mismatch as service industry does not align with medical field; however, this is not the case for the medical laboratory technician since the graduate remains in the medical field.

Skills mismatch exists when workers are not using their cognitive skills at work. Key cognitive skills include literacy, numeracy, problem-solving and communication skills. We identified skills mismatch based on respondents' self-assessment on the alignment between cognitive skills learnt during tertiary education and the reported occupation, i.e. respondents are regarded as having a skills mismatch if they self-identified that their cognitive skills were not important to their reported job. Nevertheless, the information is only available from 2008. As such, the assessment on education-job alignment is restricted to a shorter timeframe, i.e. a 5-year period between 2008 and 2012.

9.4 Demographic and Skills Composition of the Population of Overseas Graduates in Australia

Between 1998 and 2012, Australia experienced a substantial increase in the number and proportion of overseas graduates remaining in the country after graduation (Fig. 9.1). In 1998, only one in every five overseas graduates stayed in Australia after completing their studies. This relatively low retention rate was mainly due to visa restriction that limited overseas graduates from prolonging their stay in the country post-graduation. Following the removal of this restriction in 1999, Australia saw an immediate rise in the retention rate of overseas graduates, to about 45% in 2000. The proportion then fluctuated between 35 and 42% between 2001 and 2004 before growing to 49% in 2005. The year 2006 represents a milestone in the Australian immigration history as the share of overseas graduates staying in the country was greater than that of those leaving after the completion of their studies. The graduate visa scheme introduced in 2007 further raised the retention rate of overseas graduates. Between 2008 and 2012, approximately 65 to 70% of overseas graduates remained in Australia following graduation, a rate that was three times higher than that prior to the relaxation of immigration framework in 1999. Since



Note: Authors' elaboration using data from the Australian Graduate Survey, 1998 - 2012. The ranking is based on the share in overseas graduate population who were located in Australia on the survey reference date. Only the ten largest source countries have been presented in this figure.

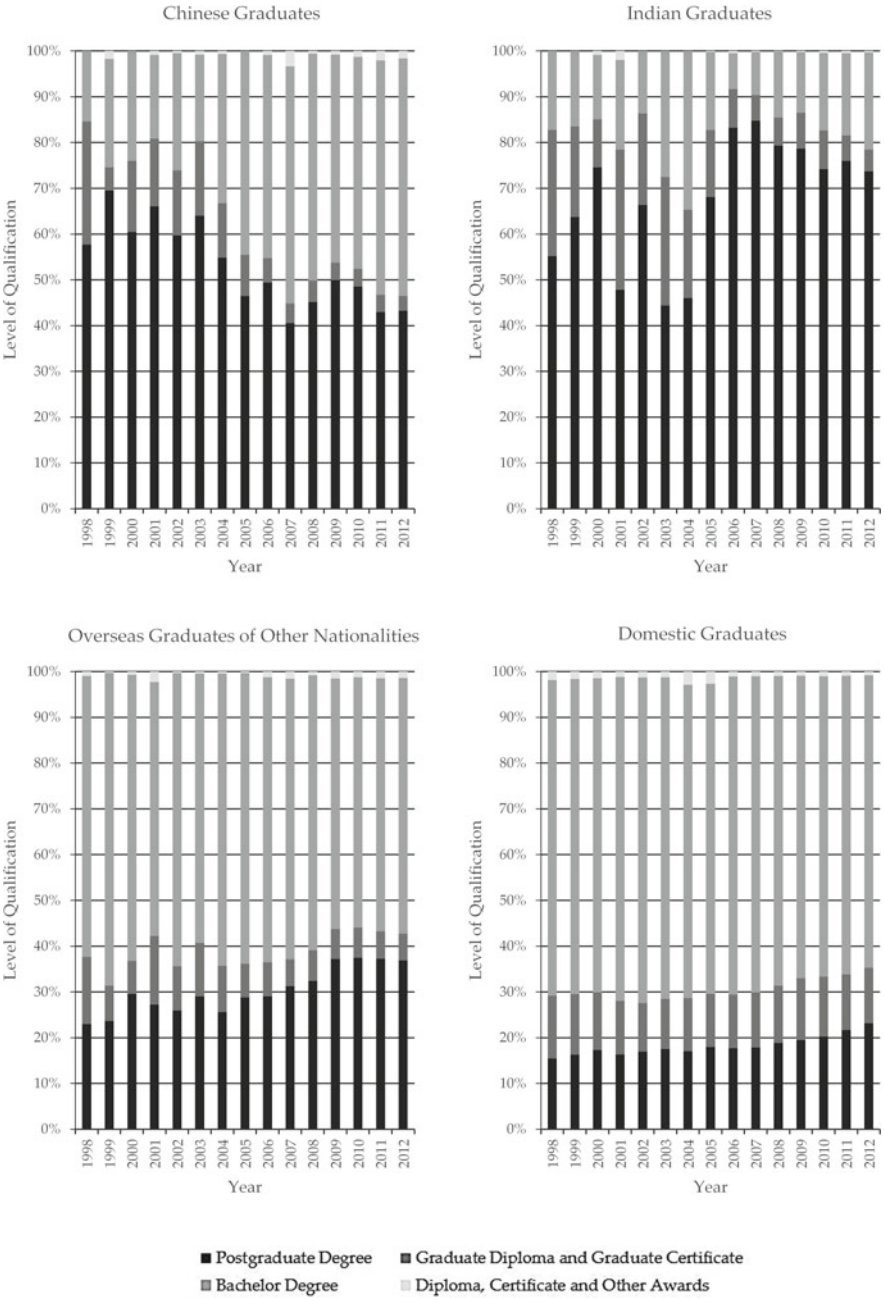
Fig. 9.1 Top ten source countries of overseas graduates in Australia, 1998–2012

2010, the retention rate appears to have stabilised at around 68 to 69%, suggesting that a plateau in the retention of locally trained overseas graduates may have been reached.

Figure 9.1 also demonstrates that the key source countries of overseas graduates in Australia changed between 1998 and 2012. One of the major shifts is the growing prominence of Chinese and Indian graduates among those who stayed in the country. In 1998, Chinese and Indian graduates each accounted for about 4% of overseas graduates remaining in Australia. In 2012, they constituted almost half of the population with more than one-third (37%) being Chinese and approximately one-tenth (12%) being Indian. This shift reflects the fact that China and India have become the two largest source countries of international student enrolments in Australia and throughout the world. More important, this finding reinforces the importance and need to examine the work and salary outcomes of Chinese and Indian graduates in the Australian labour market.

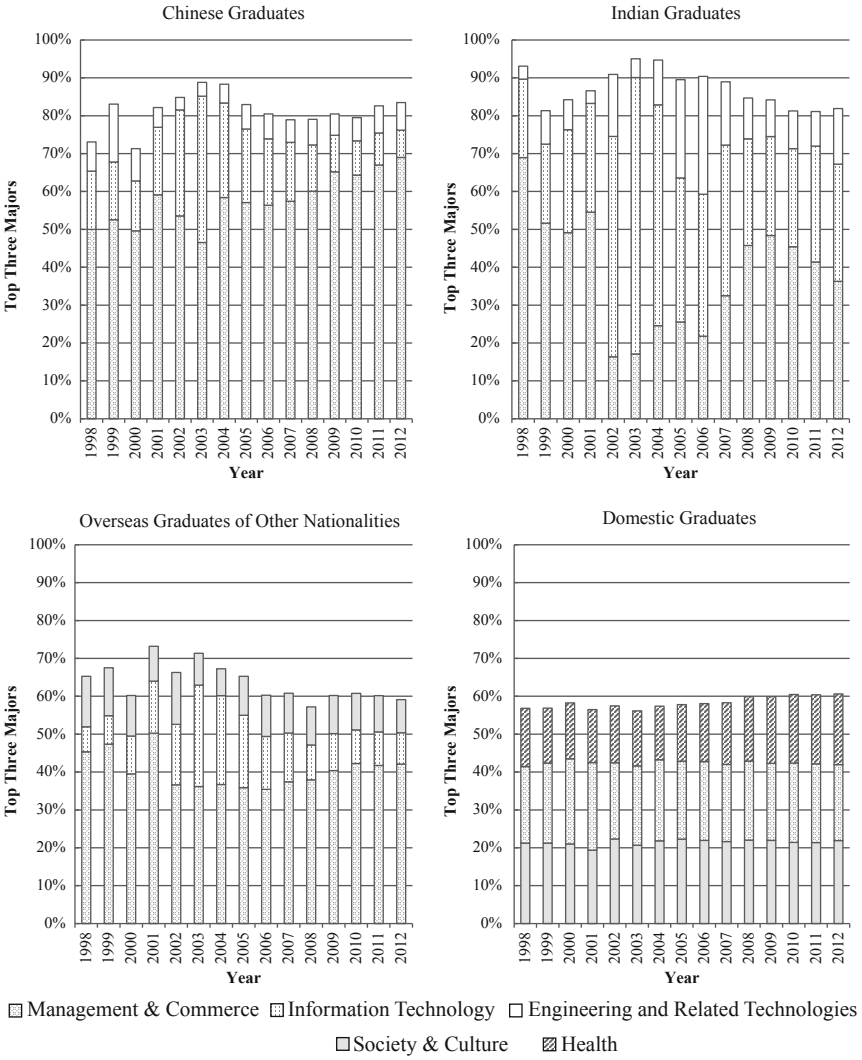
Our analysis reveals that overseas graduates staying in Australia tend to hold a higher level of qualification than their domestic counterparts (Fig. 9.2). Among the pool of overseas graduates, Chinese and Indian graduates are particularly highly educated. Figure 9.2 shows that the shares of Chinese and Indian graduates with a postgraduate qualification, i.e. a master's or a doctoral degree, have been consistently higher than those attained by overseas graduates of other nationalities as well as local graduates. More than 40% of Chinese graduates remaining in Australia between 1998 and 2012 completed postgraduate education; however, the proportion has declined gradually over time. In contrast, the percentage of Indian graduates holding a postgraduate degree has increased and remained higher than that for their Chinese counterparts.

Additionally, Chinese and Indian graduates are found to hold skills and knowledge which are in demand in the Australian labour market. Figure 9.3 highlights that the majority of Chinese graduates remaining in Australia are specialised in Management and Commerce, Information Technology or Engineering and Related Technologies. In particular, they demonstrate a strong and growing preference to undertake studies in Management and Commerce, especially in accounting. Like their Chinese counterparts, most Indian graduates are qualified in the same three areas of expertise. Nonetheless, Fig.9.3 notes that the share of Indian graduates who were qualified in Management and Commerce has declined over the 15-year period. On the contrary, they exhibit a greater tendency to study Information Technology or Engineering and Related Technologies. In view of their much sought-after skills and knowledge, the next section assesses the utilisation of these skilled individuals in the Australian labour market.



Note: Authors' elaboration using data from the Australian Graduate Survey, 1998 - 2012. Postgraduate degree includes a master's or a doctoral degree.

Fig. 9.2 Highest level of qualification, 1998–2012



Note: Authors' elaboration using data from the Australian Graduate Survey, 1998 - 2012. The categorisation of field of study conforms to the Australian Standard Classification of Education 2001. Only the three most popular fields of study have been shown in this figure.

Fig. 9.3 Top three fields of study, 1998–2012

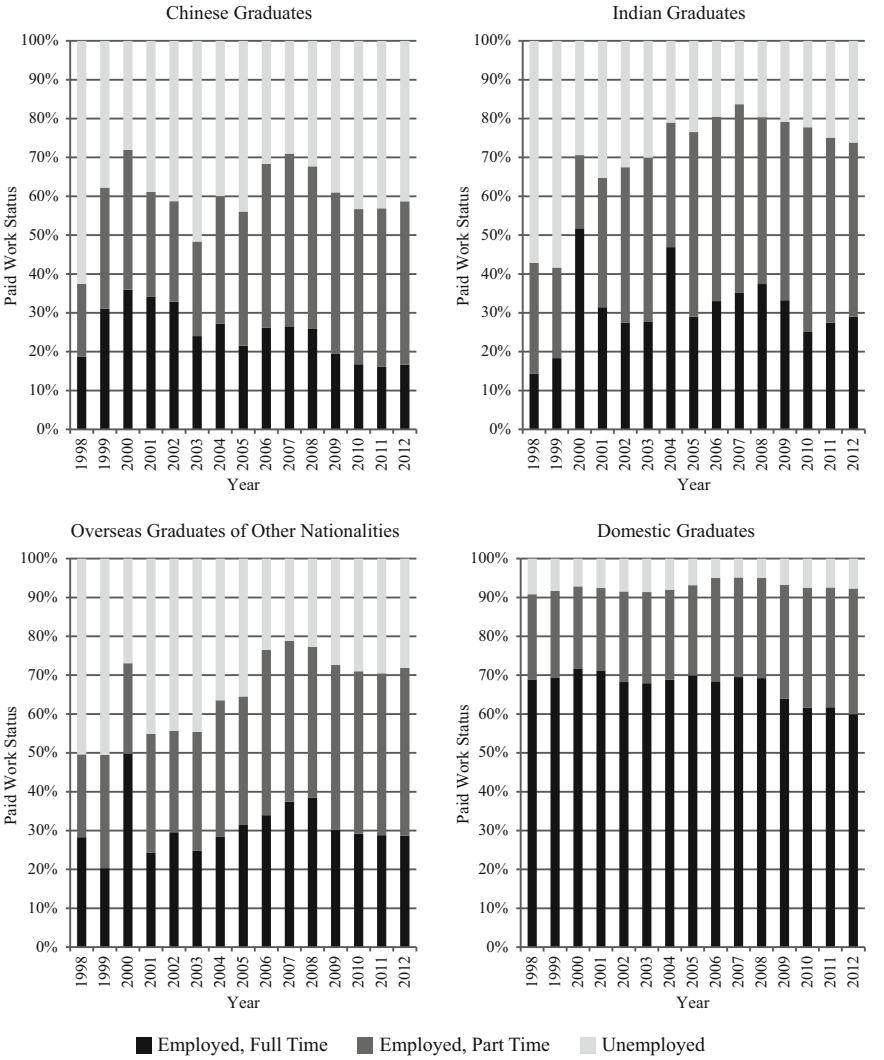
9.5 Work and Salary Outcomes of Chinese and Indian Graduates in Australia

Despite their acquisition of skills and knowledge in demand in the Australian labour market, Chinese and Indian graduates tended to experience relatively poor work and salary outcomes between 1998 and 2012. Our analysis reveals a number of interesting patterns. Figure 9.4 shows that a large proportion of Chinese and Indian graduates were unemployed in Australia at 4 months after graduation over the 15-year period; however, the unemployment rate, in general, has diminished over time. The percentage of unemployed Indian graduates halved from 57% (among the 1997 graduating cohort) to just about a quarter of the 2011 group, while the share decreased moderately from 63% (in 1998) to 41% (in 2012) for Chinese graduates. The decline in unemployment is linked to the relaxation and streamlining of post-study migration and employment pathways for overseas graduates. Nonetheless, the improving employment prospect appears to have been offset by the weakening labour market conditions during the GFC as the unemployment rates for Chinese and Indian graduates have rebounded slightly since 2007.

Figure 9.4 also demonstrates that Indian graduates are less likely than the Chinese nationals to experience unemployment after graduation. However, it is important to note that the level of unemployment among Indian graduates was still three to five times higher than that experienced by their domestic counterparts. Only 5 to 9% of local graduates were unemployed between 1998 and 2012. This observation is in line with both local (Trevelyan and Tilli 2010; Hawthorne and To 2014) and international literature (Bond et al. 2007) that overseas graduates tend to be more likely to be unemployment than the locals.

Although the chance of securing employment after graduation has improved over time, Chinese and Indian graduates still face great difficulties in obtaining full-time jobs as compared with their domestic counterparts. Like those of other nationalities, Chinese and Indian nationals demonstrate a higher tendency to take up part-time work, rather than full-time employment. Additionally, the proportions of Chinese and Indian graduates working in part-time jobs rose substantially between 1998 and 2012. This large increase is likely a result of the shrinking pool of full-time entry-level jobs in the Australian labour market. Despite the lower availability of full-time work, Indian nationals appear to fare surprisingly well with an increasing full-time employment rate from 14.3% in 1998 to 29.0% in 2012. In contrast, Chinese graduates seem to be more affected by the structural change as the percentage in full-time employment declined from 18.8% in 1998 to 16.7% in 2012. This divergence leads to a greater disparity in the labour market performances between the two key source countries of overseas graduates.

Taken together, the findings presented thus far indicate that Indian graduates tend to achieve better employment outcomes than their Chinese counterparts. This pattern is consistent with Hawthorne (2013) who has also found that Indian graduates compare favourably to those who originated from China in regard to securing full-time employment in Australia after graduation.



Note: Authors' elaboration using data from the Australian Graduate Survey, 1998 - 2012. This analysis is based on the respondents' self-assessment on their paid work status on survey reference date. Respondents who self-identified to be out of the labour force have been excluded in this analysis.

Fig. 9.4 Paid work status, 1998–2012

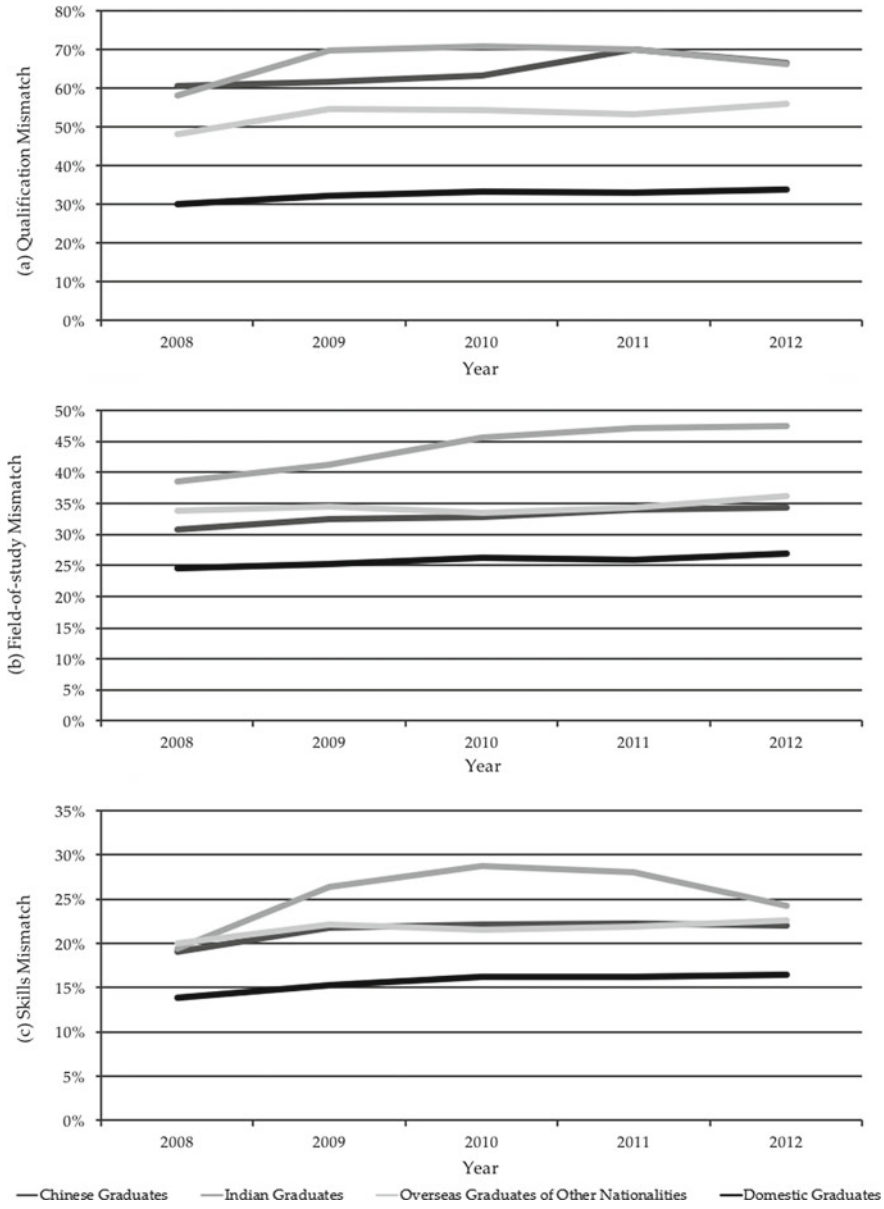
There are several possible explanations for this pattern. Indian graduates are likely to have a higher level of English language proficiency than the Chinese nationals, primarily due to the fact that those coming from a Commonwealth country tend to have had greater exposure to the language (Hawthorne 2013). Indian languages are also linguistically closer to English than Chinese languages (Chiswick and Miller 2004). Indian graduates, therefore, tend to pick up English more easily, facilitating their integration into the Australian labour market.

An alternative explanation is that Chinese graduates may be more willing to extend their job search until they find a full-time job that aligns with their education attainment. Figure 9.5 reveals that Chinese graduates are better off than Indian nationals in securing the right jobs that match their education qualifications even though they are less likely to work full-time at 4 months after graduation. In contrary, Indian graduates are more likely to experience all three forms of education-job mismatch in spite of their higher full-time employment rates. The gap between Chinese and Indian graduates is especially significant in the case of field-of-study mismatch. Between 1998 and 2012, only around one-third of Chinese graduates were working in jobs that did not align with their area of expertise, while it affected between 39 and 47% of Indian nationals. More important, Chinese and Indian graduates became increasingly susceptible to field-of-study mismatch over the 15-year period, and the rise was particularly evident among Indian graduates, widening the gap between the two groups. A possible explanation for this observation is that the decline of mining activities since 2010 has lowered the demand for skills and knowledge in Engineering and Related Technologies which was over-represented among the Indian nationals (Borland 2012).

Finally, our analysis further reveals that while they are more likely to work in the right jobs, Chinese graduates earn substantially less than their Indian counterparts (Fig. 9.6). More surprising, perhaps, is the fact that Chinese graduates consistently report the lowest gross median annual income among the four groups. Additionally, our findings indicate that salary outcomes of Chinese graduates worsened between 2008 and 2012, while the income level for the Indian nationals rebounded in 2011 following a decline. This result may be related to the lower and declining full-time employment rate among the Chinese graduates.

9.6 Conclusions

In the past two decades, domestically educated overseas graduates have gained increasing importance in the Australian labour market to fill skills shortages in response to a shrinking local workforce due to population ageing. Recent immigration policy shifts enabling migration and employment post-graduation have been accompanied by a considerable increase in the retention rate of overseas graduates, tripling the 1998 level of 21% to 68% in 2012. Chinese and Indian nationals have been the two largest groups comprising this rise, and the large shares call for a better understanding of their employment outcomes in the Australian labour market.



Note: Authors' elaboration using data from the Australian Graduate Survey, 2008 - 2012. This analysis follows the OECD's approach (Quintini and Broecke, 2014) in defining the three forms of education-job mismatch.

Fig. 9.5 Qualification, field-of-study and skills mismatch, 2008–2012

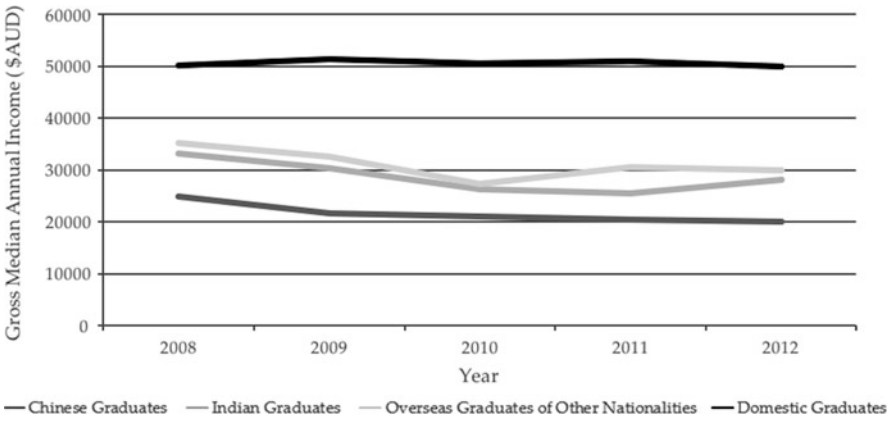


Fig. 9.6 Gross median annual income, 2008–2012

Our results reveal that Chinese and Indian graduates tend to hold a higher level of qualification than domestic graduates and overseas graduates of other nationalities. While they possess skills and knowledge in demand in the Australian labour market, Chinese and Indian graduates consistently experience poorer employment outcomes relative to the locals. Indian graduates fare favourably in almost all labour market outcomes considered in our analysis as compared with their Chinese counterparts. Nonetheless, a larger percentage of Indian graduates work in jobs that misalign with their area of expertise, qualification level and cognitive skills. Our findings further suggest that Chinese graduates may have compromised full-time employment and higher salaries to take up suitable part-time jobs for relevant work experience which may enhance their chances of securing the right full-time jobs later in their careers.

Understanding the temporal changes of graduate labour market outcomes in Australia is challenging as data restrict the time window of our analysis. The analysis of the patterns of education-job mismatch had to be focused on the 2008–12 period as data prior to 2008 were unavailable. Examining the changing extent and temporal patterns of education-job mismatch over a longer window of time can illuminate our understanding of the impacts of post-1999 changes in Australian immigration framework on the local labour market and individual employment outcomes. Data also restricted our analysis to the assessment of labour market performances at an early stage of graduates' transition into the labour market at 4 months after graduation. We know, however, this is a complex transition and securing a full-time permanent job may take up to 4 years after graduation (Foundation for Young Australians 2015). Extending the existing analysis to cover a longer window of time than is permitted by the AGS is crucial to assess if the poorer labour market outcomes captured by the current data set was a transitory state or a relatively permanent condition for overseas graduates.

Despite these limitations, the empirical findings from this study add to our understanding of the labour market integration and outcomes of overseas graduates in Australia and the differences across nationalities, reflecting the effects of language

fluency and local migration networks. Moreover, the present study confirms previous anecdotal evidence on skill under-utilisation, contributing additional empirical evidence that points to the phenomenon of brain waste among overseas graduates. The recruitment of highly skilled individuals from developing countries has been a controversial and disputed subject for undermining the pool of human capital at the origins, especially when the migrant labour is underutilised at the destinations (Scott et al. 2004; Kollar and Buyx 2013; Lofters et al. 2014). It is critical for Australia to develop better immigration and integration policies that aim at resolving the under-utilisation of this group of highly skilled individuals. Considerably more work is needed to identify key factors driving this labour market inefficiency and inform courses of actions to address this ever pressing issue.

Acknowledgements We acknowledge Graduate Careers Australia for their co-operation and the supply of the data on which this chapter is based. Graduate Careers Australia cannot accept responsibility for any inferences or conclusions derived from the data by third parties.

References

ABS (2010) Australian Social Trends, March 2010, cat. no. 4102.0. Australian Bureau of Statistics, Canberra

ABS (2013) ANZSCO—Australian and New Zealand Standard Classification of Occupations, 2013, Version 1.2, cat. no. 1220.0. Australian Bureau of Statistics, Canberra

ABS (2015) Labour force, Australia, cat. no. 6202.0. Australian Bureau of Statistics, Canberra

Anlezark A (2011) Young people in an economic downturn, Briefing paper no. 23. National Centre for Vocational Education Research, Adelaide

Arkoudis S, Hawthorne L, Baik C, Hawthorne G, O'Loughlin K, Leach D, Bexley E (2009) The impact of English language proficiency and workplace readiness on the employment outcomes of tertiary international students. Department of Education, Employment and Workplace Relations, Canberra

Beets G, Willekens F (2009) Theglobal economic crisis and international migration: an uncertain outlook. Research note to European Commission Demography Network of the European Observatory on the Social Situation and Demography. Netherlands Interdisciplinary Demographic Institute, The Hague

Birrell B, Healy E (2013) Implications of the Chaney Report for the Labour Market Outcomes for International Students, Centre for Population and Urban Research. The University of Melbourne, Melbourne

Birrell B, Healy E, Betts K, Smith F (2011) Immigration and the resources boom mark 2. Centre for Population and Urban Research, The University of Melbourne, Melbourne

Bond S, Areepattamannil S, Brathwaite-Sturgeon G, Hayle E, Malekan M (2007) Northern Lights: International Graduates of Canadian Institutions and the National Workforce. Canadian Bureau for International Education, Ottawa

Booth A, Leigh A, Varganova E (2010) Does racial and ethnic discrimination vary across minority groups? Evidence from a field experiment, discussion paper no. 4947. Institute for the Study of Labor, Bonn

Borland J (2012) Slow road to jobs growth: the true picture of unemployment in Australia. The Conversation, 31 January, viewed 25 November 2015. http://theconversation.com/slow-road-to-jobs-growth-the-true-picture-of-unemployment-in-australia-5077

Brekke I (2007) Ethnic background and the transition from education to work among university graduates. J Ethn Migr Stud 33(8):1299–1321
Chiswick BR, Miller PW (1992) Language in the labor market: The immigrant experience in Canada and the United States'. In: Chiswick BR (ed) Immigration, language and ethnic issues: Canada and the United States. American Enterprise Institute, Washington, DC, pp 229–296
Chiswick BR, Miller PW (1995) The endogeneity between language and earnings: International analyses. J Labor Econ 13(2):246–288
Chiswick BR, Miller PW (2004) Linguistic distance: a quantitative measure of the distance between English and other languages, discussion paper no. 1246. Institute of the Study of Labor, Bonn
Clyne M (1991) Community languages: the Australian experience. Cambridge University Press, Cambridge
Constant A, Gataullina L, Zimmermann KF (2006) Gender, ethnic identity and work. Discussion paper no. 2420. Institute of the Study of Labor, Bonn
Corcoran J, Rowe F, Faggian A, Stimson R (2017) The impacts of policy change on overseas human capital in Australia: the implementation of the 485 graduate visa scheme'. In: Lombard J, Clarke G, Stern E (eds) Applied spatial modelling and planning. Routledge, Oxon
Department of Education and Training (DET) (2014) International Student Data 2014, Department of Education and Training, viewed 29 April 2015.https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2014.aspx
Evans MDR (1986) Sources of immigrants' language proficiency. Australian results with comparisons to the Federal Republic of Germany and the United States of America. Eur Soc Rev 2 (3):226–236
Faggian A, Corcoran J, Rowe F (2016) Evaluating the effects of Australian policy changes on human capital: the role of a graduate visa scheme. Environ Plann C 34(1):151–170
Foundation for Young Australians (2015) How young people are faring in the transition from school to work. Foundation for Young Australians, Melbourne
Gribble C (2014) Employment, work placements & work integrated learning of International Students in Australia, Research Digest 2. International Education Association of Australia, Melbourne
Guthrie B (2008) Graduate destination 2007. Graduate Careers Australia, Melbourne
Hawthorne L (2010) How valuable is "Two-step Migration"? Labor market outcomes for international student migrants to Australia. Asian Pac Migr J 19(1):5–36
Hawthorne L (2013) Indian students and the evolution of the study-migration pathway in Australia. Int Migr 52(2):3–19
Hawthorne L, To A (2014) Australian employer response to the study-migration pathway: the quantitative evidence 2007-2011. Int Migr 52(3):99–115
International Organisation for Migration (IOM) (2008) Managing labour mobility in the evolving global economy. International Organisation for Migration, Geneva
Ioannides YM, Loury LD (2004) Job information networks, neighborhood effects, and inequality. J Econ Lit 42(4):1056–1093
James K, Otsuka S (2009) Racial biases in recruitment by accounting firms: the case of International Chinese applicants in Australia. Crit Perspect Account 20(4):469–491
Knott M (2014) Work and pay prospects for graduates deteriorated in 2014, a survey shows, The Sydney Morning Herald, 30 December, viewed 11 June 2015. http://www.smh.com.au/federal-politics/political-news/work-and-pay-prospects-for-graduates-deteriorated-in-2014-a-survey-shows-20141230-12fl2u
Kollar E, Buyx A (2013) Ethics and policy of medical brain drain: a review. Swiss Med Wkly 143: w13845. https://doi.org/10.4414/smw.2013.13845
Li IW, Miller PW (2013) Overeducation in the Australian graduate labor market: the roles of immigrant status and language background'. In: Jelinek P (ed) Education in Australia: cultural influences, global perspectives and social challenges. Nova Science, New York
Lofters A, Slater M, Fumakia N, Thulien N (2014) "Brain drain" and "Brain waste": experiences of international medical graduates in Ontario. Risk Manag Healthc Policy 7:81–89

MacDonald J, MacDonald L (1964) Chain migration, ethnic neighborhood formation and social networks. Millbank Mem Fund Q 42(1):82–97
Mares P (2013) We know about 457. What about 485?, Inside Story, viewed 15 June 2015. http://insidestory.org.au/we\know\about\the\457\what\about\the\485
Mason PL (2004) Annual income, hourly wages and identity among Mexican-Americans and other Latinos. Indus Relat 43(4):817–834
OECD (2009) International migration outlook 2009. Organisation for Economic Co-operation and Development, Paris
OECD (2010) International migration outlook 2010. Organisation for Economic Co-operation and Development, Paris
OECD (2014a) International graduates: an underutilised labour source in Norway. In: Recruiting immigrant workers: Norway 2014. OECD, Paris
OECD (2014b) Labour market integration of immigrants and their children: developing, activating and using skills. In: International migration outlook 2014. OECD, Paris
OECD (2014c) Education at a glance 2014: OECD indicators. Organisation for Economic Co-operation and Development, Paris
Oreopoulos P (2011) Why do skilled immigrants struggle in the labor market? A field experiment with thirteen thousand resumes. Am Econ J Econ Policy 3(4):148–171
Peykov P (2004) Immigrant skilled workers: should Canada attract more foreign students? SIPP Public Policy Paper no. 27. Saskatchewan Institute of Public Policy, University of Regina
Phillips J, Spinks H (2012) Skilled migration: temporary and permanent flows to Australia. Department of Parliamentary Services, Canberra
Portes A, Sensenbrenner J (1993) Embeddedness and immigration: notes on the social determinants of economic action. Am J Sociol 98(6):1320–1350
Quintini G, Broecke S (2014) The roles of skills in early labour market outcomes and beyond. In: Keese M (ed) OECD employment outlook 2014. Organisation for Economic Co-operation and Development, Geneva
Rowe F, Corcoran J, Bell M (2015) Changing post-school pathways and outcomes: Melbourne and regional students. Report 6 prepared for the Department of Planning and Community Development, Queensland Centre for Population Research, The University of Queensland, Brisbane
Rowe F, Corcoran J, Bell M (2017) The returns to migration and human capital accumulation pathways: non-metropolitan youth in the school-to-work transition. Ann Reg Sci 59(3):819–845
Scott ML, Whelan A, Dewdney J, Zwi AB (2004) "Brain drain" or ethical recruitment? Solving health workforce shortages with professionals from developing countries'. Med J Aust 180 (4):174–176
Simmons A (1999) International migration and designer immigrants: Canadian policy in the 1990. In: Castro M (ed) Free markets, open societies, closed borders? Trends in International Migration and Immigration Policy in the Americas. North-South Center Press, Miami
Suter B, Jandl M (2008) Train and retrain: national and regional policies to promote the settlement of foreign graduates in knowledge economies. Int Migr Integr 9(4):401–418
Tang AZR, Corcoran J, Rowe F (2017) The role of migration on education-job mismatch: evidence from international graduates in Australia. In: Corcoran J, Faggian A (eds) Graduate migration and regional development: an International perspective. Edward Elgar, Cheltenham
The Smith Family (2014) Young people's successful transition to work: what are the pre-conditions? The Smith Family, Sydney
Trevelyan JP, Tilli S (2010) Labour force outcomes for engineering graduates in Australia. Aust J Eng Educ 16(2):101–122
Wolbers M (2003) Job mismatches and their labour market effects among school-leavers in Europe. Eur Soc Rev 19:249–266
Ziguras C, Law S (2006) Recruiting international students as skilled migrants: the global "skills race" as viewed from Australia and Malaysia. Global Soc Educ 4(1):59–76
Zimmermann L, Zimmermann KF, Constant A (2007) Ethnic self-identification of first-generation immigrants. Int Migr Rev 41(3):769–781