

Demand and supply of **Accountants**

March 2014



Australian Government



**Australian Workforce
and Productivity** Agency

Demand and supply of Accountants

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Contents

List of figures	6
List of tables	7
Glossary	8
Executive summary	9
Introduction	10
Background	10
Purpose	10
Scope	11
Methodology and approach	13
Section One: Medium term assessment	15
State of the labour market	15
The recruitment experiences of employers and workers	23
Student responses to skills imbalances	25
New entrants	31
Summary of indicators	36
Section Two: Long term assessment	41
Demand for Accountants to 2025	41
Demand and supply of Accountants	43
Section Three: Conclusion and recommendations	45
Recommendation 1	45
Recommendation 2	46
Recommendation 3	46
References	48

List of figures

Figure 1	Employment level of Accountants ('000), 2002–03 to 2012–13	16
Figure 2	Employment growth index, 2002–03 to 2012–13	16
Figure 3	Accountants and related occupations—Unemployment rates, 2005–06 to 2012–13	18
Figure 4	Accountancy occupational usage rates by five-year age cohorts, 2011 Census	19
Figure 5	Median weekly full-time earnings (before tax), 2007–2012	20
Figure 6	Accountants—age profile 2012	21
Figure 7	Accountants—gender profile	22
Figure 8	Accountant percentages by gender in 10-year groups	22
Figure 9	Accountancy workforce—internet vacancy index (March 2006=100)	23
Figure 10	Proportion of vacancies filled (%), average number of applicants and suitable applicants per vacancy (no.), Accountants, 2007–08 to 2012–13	25
Figure 11	Bachelor degree and higher level award course completions by course specialisation in accountancy, 2006–2012	26
Figure 12	Domestic bachelor degree and higher level award course completions by field of education of accountancy, 2006–2012	27
Figure 13	Domestic bachelor degree and higher level award course commencements in accountancy, 2006–2012	28
Figure 14:	Overseas higher education accountancy commencements by level 2006–2012	29
Figure 15	Overseas higher education accountancy completions by specialisation and level, 2006–2012	29
Figure 16	Overseas skilled migration for accountancy occupations 2007–08 to 2012–13	33



List of tables

Table 1	Permanent migration of former international students, 2006–07 to 2012–13	30
Table 2	Median salary by occupation (ANZSCO Unit Group Level), Australian graduates employed full time in Australia, all degree levels.	31
Table 3	Percentage of employed Australian graduates in full-time work (%), all degree levels, 2008 to 2012	32
Table 4	Mean working hours for Australian graduates employed full-time in Australia (no.), all degree levels, 2008 to 2012	32
Table 5	Number of employer sponsored and 457 visas granted as a proportion of domestic graduates of degrees specialising in accounting, 2007 to 2012	33
Table 6	Outcomes of migrants nominating 'accountant' as their occupation at 12 months after migration, 2009 to 2011	34
Table 7	Summary of indicators of skills imbalance	36
Table 8	Job openings resulting from employment growth and replacement demand by scenario	42



Glossary

ABS	Australian Bureau of Statistics
ANZSCO	Australian and New Zealand Standard Classification of Occupations
AWPA	Australian Workforce and Productivity Agency
DAE	Deloitte Access Economics
CPA	CPA Australia
CSAM	Continuous Survey of Australia's Migrants
GCA	Graduate Careers Australia
ICAA	Institute of Chartered Accountants Australia
IPA	Institute of Public Accountants
NCVER	National Centre for Vocational Education Research
SOL	Skilled Occupation List
SpOL	Specialised Occupations List



Executive summary

The purpose of this study is to examine whether or not the inclusion of Accountants on the Australian Government's Skilled Occupation List (SOL) will assist in meeting the medium to long term skill needs of the Australian economy; and thereby inform advice from the Australian Workforce and Productivity Agency (AWPA) on the 2014 SOL.

The study explores this issue in two ways. Firstly, by examining the indicators of skills imbalance that provide evidence of pressures on Accountants in the medium term. Secondly, by using scenarios—developed by AWPA for the purposes of workforce planning—to estimate the skills balance for Accountants in the long term.

Although the indicators of skills imbalance are mixed, overall they provide a picture of a workforce that is relatively flexible on both the demand and supply side at the national level. This flexibility suggests that an over or undersupply of Accountants is unlikely in the medium term in the presence of existing levels of migration. However, at existing levels, it is possible that skilled migrant Accountants will 'crowd out' some existing domestic workers. With regard to skills balance over the longer term, the historical data and demographic trends suggest that domestic supply will be insufficient to meet demand for Accountants in the long term.

This paper therefore finds it likely that the supply of Accountants will benefit from skilled independent migration in the medium to long term; and that accordingly, it is appropriate that Accountants be included on the 2014 SOL.

The study also finds that although Accountants will benefit from skilled independent migration in the medium to long term, the number of migrants required is likely to be less than recent levels. Accordingly, this paper recommends that the occupational ceiling on the number of permanent skilled migrant Accountants should be reduced from 6.0 per cent to 3.0 per cent per annum of the domestic Accountant workforce. This recommended reduction takes into account changes to occupational ceilings effective from 1 March 2014, namely the exemption of the State/Territory Skilled Nominated Visa (subclass 190) and Skilled Regional (Provisional) Visa (subclass 489) from occupational ceiling calculations.

Subject to the reduction in the ceiling referred to above, this paper also recommends removing Accountants from the list of occupations 'flagged' as being borderline in terms of their inclusion on the SOL. It argues it would be more appropriate for the ceiling on permanent migration levels to be lowered than for Accountants to be removed from the SOL entirely. This is especially so given the finding that Accountants will benefit from skilled independent migration in the medium to long term.



Introduction

Background

The Australian Workforce and Productivity Agency provides annual advice to the Minister for Immigration and Border Protection on the composition of the Skilled Occupation List. The SOL identifies occupations that would benefit from skilled independent migrants for the purpose of meeting the medium to long term skill needs of the Australian economy, where such needs may not be more appropriately met by sponsored migration programs or up-skilling Australians. There are 187 occupations on the 2013 SOL.

In providing its advice on the Skilled Occupation List, AWPA examines indicators of skills imbalance for all specialised occupations in the Australian economy.¹ The output of this analysis is the Specialised Occupations List (SpOL). The three main criteria for inclusion on the SpOL are:

- long lead time—where skill acquisition requires extended learning and preparation over several years
- high use—where there is a strong match between education/training and occupational outcomes
- high risk—where potential disruption caused by undersupply is great, resulting in significant economic or community costs.

Accountants satisfy the long lead time and high risk criteria and are included on the SpOL as a result, however they do not satisfy the high use criteria as discussed in Section Two of this report.

Accountants are also included on the Skilled Occupation List on the basis of the indicators considered in the present study, along with consideration of stakeholder input from peak accounting bodies, education institutions and the Department of Employment. Accountants are presently flagged on the Skilled Occupation List and have been for the past three years. An occupation is 'flagged' on the Skilled Occupation List when evidence for its inclusion is marginal and examination may be warranted to determine the appropriateness of its inclusion on subsequent SOLs.

Purpose

The purpose of this paper is to:

- examine whether or not the inclusion of Accountants on the Skilled Occupation List will assist in meeting the medium to long term skill needs of the Australian economy
- inform the Australian Workforce and Productivity Agency's advice on the 2014 SOL.

1 A list of specialised occupations is available at www.awpa.gov.au. AWPA updates this list annually.



Scope

ANZSCO definition and classification system

The Australian and New Zealand Standard Classification of Occupations (ANZSCO) has been adopted for the purposes of this study. The primary level of analysis in the present study is the 4-digit ANZSCO Unit Group level.² At this level, ANZSCO states that Accountants (2211):

plan and provide accounting systems and services relating to taxation and the financial dealings of organisations and individuals, and advise on associated record-keeping and compliance requirements.

Accountants (2211) is made up of three 6-digit occupations, namely Accountant (General) (221111), Management Accountant (221112) and Taxation Accountant (221113). While not all of the professionals within these occupations would be registered (or eligible for registration) with a professional body³, registration is required in order to provide many accounting services, including services as a tax agent, an auditor of a public company or a large proprietary limited company, a registered liquidator or licenced financial advisor.

Data using the ANZSCO classification system is considered most appropriate for the purposes of this study because: firstly, it is the most comprehensive and official⁴ data currently available; and secondly, the inclusion of professionals who may not be registered or eligible for registration, and therefore fall outside the scope of the Skilled Occupation List, would not be likely to have any significant impact on the results of the analysis. This particularly applies as the size of membership of the professional accounting bodies suggests that the majority of Accountants would be registered.⁵

2 For the purposes of simplicity, the term 'occupation' is used in place of 'Unit Group' in the discussion of Accountants and other occupational Unit Groups throughout this paper.

3 Membership of a professional accounting body (CPA Australia, the Institute of Chartered Accountants, or the Institute of Public Accountants) generally requires a bachelor or above degree, a significant amount of work experience, and the completion of a structured learning program administered by the professional accounting body.

4 For example, the Australian Bureau of Statistics (ABS), Department of Education, Department of Employment, Graduate Careers Australia, Department of Immigration and Border Protection, and the National Centre for Vocational Education Research all collect their data in accordance with the ANZSCO classification system.

5 The combined membership of CPA Australia and the Institute of Chartered Accountants Australia as reported in their respective 2012 annual reports is over 200,000 persons. The Institute of Public Accountants did not report its membership level in its 2012 Annual Report. It should be noted, however, that not all members of the professional bodies are employed as Accountants. Members may be employed in other occupations (e.g. as an auditor) or may be retired.

Focus is on Accountants rather than occupations using accounting skills

The 2011 Census reveals that workers with an accounting degree are employed in a variety of occupations. The top five occupations employing persons of prime working age (25–54 years) with an accounting degree are:

- Accountants (which employs 38.4 per cent)
- Finance Managers, (which employs 7.3 per cent)
- Accounting Clerks (which employs 3.8 per cent)
- Auditors, Company Secretaries and Corporate Treasurers (which employs 2.4 per cent)
- Bookkeepers (which employs 2.4 per cent of persons with an accounting degree).⁶

The remaining 33.2 per cent of persons with an accounting degree are employed in a range of other occupations or are unemployed or not in the labour force.

This study is primarily focused on Accountants rather than persons with an accounting qualification as the SOL is a list of occupations (rather than a list of skills) that would benefit from skilled independent migrants. In addition, while Internal Auditors and External Auditors are on the 2013 SOL, they are not flagged as is the case with Accountants. Nonetheless, the wide usage of accounting skills is relevant in considering the employment prospects of existing and new Accountants and in determining the correct measure of supply of Accountants—in line with the above employment rates it is projected in this paper that only 38.4 per cent of new persons with accounting skills will become Accountants.

Supply and demand at the national level

Accountants is one of the largest occupations in the Australian workforce and is the largest source (by occupation) of migration into Australia with typically over 7,000 visas granted to Accountants each year.

In examining whether or not the inclusion of Accountants on the SOL will address skills needs, this study focuses on the supply and demand for Accountants at the national level. This focus reflects the nature of skilled independent migration that aims to address the demand for skills at the national level. Regional and state-level skill shortages are the focus of other migration programs to which the SOL does not apply.

6 Source: 2011 Census of Population and Housing; note, proportions are based on persons whose occupation and employment status is known.



Methodology and approach

The following approach has been adopted in examining the national supply and demand for Accountants in this paper:

- *Section One*—This paper first considers the balance of supply and demand for Accountants in the medium term on the basis of indices from areas of economic activity where skills imbalances may be observed. This methodology was developed for AWPAs by the National Institute of Labour Studies.⁷ The areas of economic activity that will be examined are: the labour market, recruitment experiences, student responses (education indicators) and employment outcomes of new entrants (graduates and migrants). An overview of Accountants as assessed by the key indicators is presented in Section One.
- *Section Two*—Section Two of this paper examines the supply and demand for Accountants in the long term using scenarios developed by AWPAs as a basis for modelling Australia's workforce needs to 2025. This analysis is presented in Section Two.
- *Section Three*—Section Three of this paper sets out the implications of the above analysis for meeting future skills needs for Accountants, particularly in relation to the development of the 2014 SOL.

⁷ Mavromaras K, Healy J, Richardson S, Sloane P, Wei Z and Zhu R, 2013, A system for monitoring shortages and surpluses in the market for skills: Final report to the Australian Workforce and Productivity Agency (AWPA) by the National Institute of Labour Studies, AWPAs, Canberra.



Section One: Medium term assessment

This section examines the balance of supply and demand for Accountants in the medium term in Australia, on the basis of indices applied in areas of economic activity where skills imbalances may be observed.

The areas of economic activity considered are:

- the state of the labour market—focusing on indicators that provide insight into the outcomes of Accountants in the labour market
- the recruitment experience—focusing on the outcomes of recruitment activity
- the education experience—focusing on the effect that skills imbalances may have on a student's choice of study
- new entrants—focusing on the outcomes of graduates and migrants entering the labour market.

Although the indicators are based on historical data, they provide information on emerging trends that will influence Accountants in the medium term. In addition, the indicators elucidate the responsiveness of the workforce to factors affecting the supply and demand for Accountants. The more readily a workforce can adjust to changes in supply and demand, the greater its ability to rectify imbalances in the absence of government intervention.

These indicators must be considered together in determining whether or not a skills imbalance is likely in the medium term, as no single indicator is conclusive per se. It should be noted that this process requires a subjective assessment of the relationship between the potential indicators of skills imbalance, so there may be other explanations for the relationships observed.

State of the labour market

Employment growth

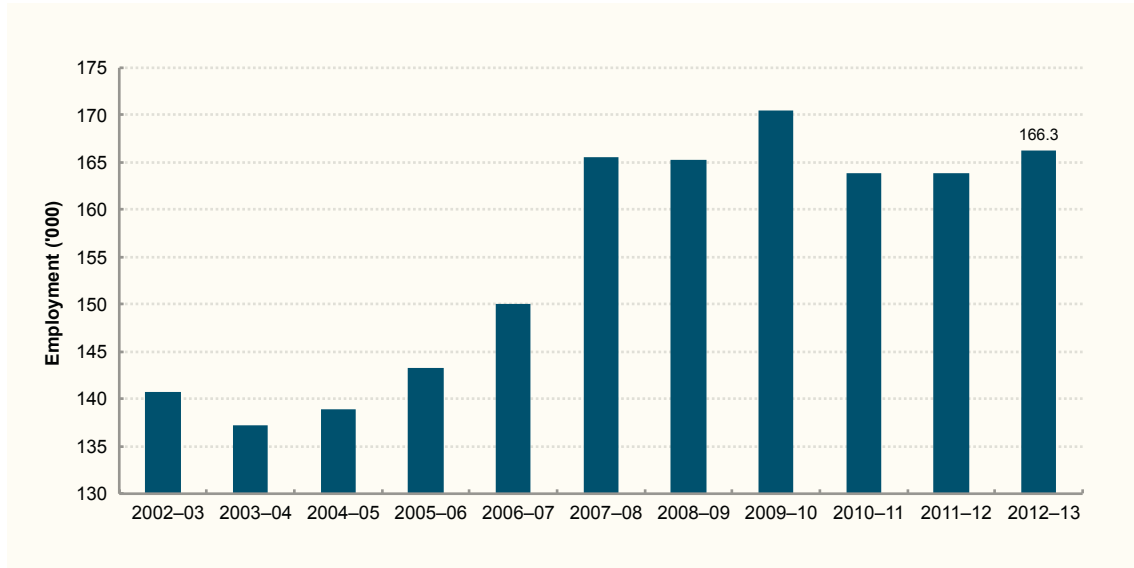
Figure 1 shows the employment level for Accountants for the period 2002–03 to 2012–13. There have been two distinct phases of employment growth⁸ for Accountants over the past decade. Employment of Accountants grew by 21 per cent, or 28,500 persons, in the five years prior to the global financial crisis. However, since 2007–08, employment has grown by only 0.5 per cent or 900 persons. Accordingly, the data indicates that employment growth for Accountants has slowed significantly since 2007–08.

Figure 2 compares employment growth for Accountants against a benchmark of 'all professional occupations' and a benchmark of 'all occupations.' Accountants have experienced relatively weak employment growth over the past decade, and especially since 2007–08.

8 Employment growth within an occupation represents increased demand for workers within that occupation and may therefore make a skills shortage more likely at a given level of supply. However, it should be noted that it is possible in certain circumstances for a skills shortage to exist in the absence of employment growth, for example, where employment growth is constrained by an undersupply of workers, in which case earnings would be expected to rise. Alternatively, strong employment growth would not signify a skills shortage if growth in the supply of workers is also strong. In order to obtain an accurate picture, it is therefore necessary to consider employment growth of Accountants in conjunction with other indicators of a potential skills shortage (e.g. earnings growth, unemployment, labour force participation, and the growth in supply of Accountants).

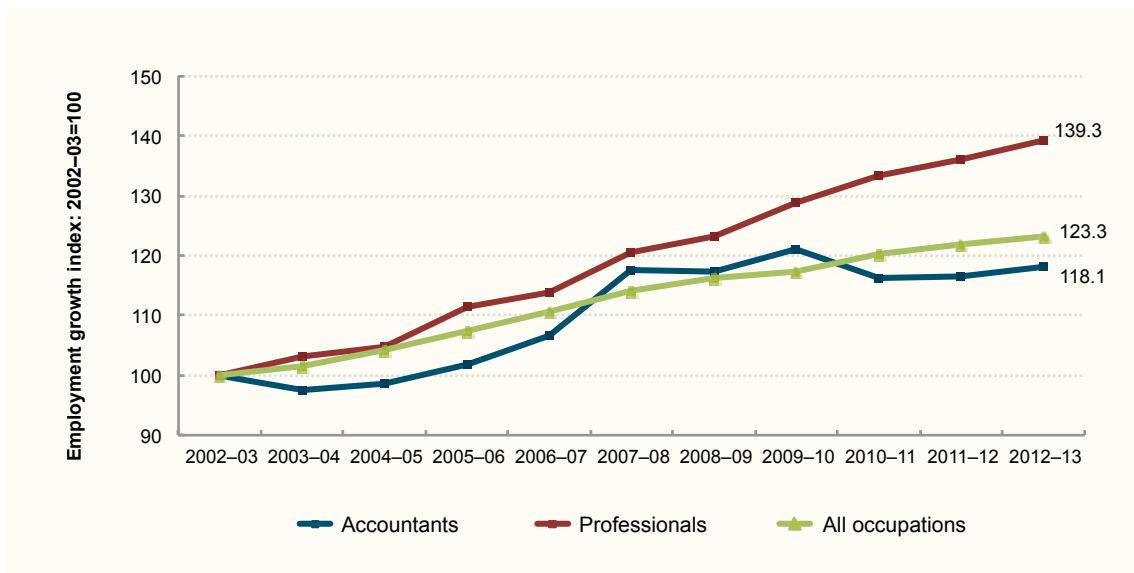
Interestingly, the employment growth of Accountants more closely correlates to the 'all occupations' benchmark than the 'all professions' benchmark to which it belongs.

Figure 1 Employment level of Accountants ('000), 2002–03 to 2012–13



Source: ABS Labour Force Survey, cat. no. 6291.0.55.003; four quarter average.

Figure 2 Employment growth index, 2002–03 to 2012–13



Source: ABS Labour Force Survey, cat. no. 6291.0.55.003; four quarter average indexed data.

The data above suggests the following:

- The employment growth of Accountants is sensitive to macroeconomic conditions and appears to have been pro-cyclical over the past ten years. Accountants may have been a key occupation for advising business on how to best respond to the global financial crisis. However, labour force data (not shown here) suggests that any such increase in employment was predominately attributable to accountancy related occupations, particularly accounting clerks.⁹
- The drivers of employment growth in the economy over the past decade, such as the mining boom and an aging population, have been more favourable to other occupations than to Accountants.

Weak employment growth is one factor that may suggest a skills surplus. However, as noted earlier in Footnote 8, employment growth needs to be considered alongside a variety of other indicators in order to provide an accurate picture of the balance of supply and demand. In addition, as employment growth of Accountants appears pro-cyclical it is likely to improve as the economy continues to recover from the global financial crisis. An improvement in employment growth is consistent with the Department of Employment's projection of average employment growth for Accountants of 2.4 per cent per annum to November 2017.

Unemployment and participation

Figure 3 shows the occupational unemployment rate for Accountants from 2005–06 to 2012–13.¹⁰ The unemployment rate peaks following the global financial crisis, supporting the pro-cyclical of Accountants suggested by the employment growth data above. Since 2009–10, the unemployment rate of Accountants has fallen relative to a benchmark of 'all occupations' and 'all professions'.¹¹

The relatively low occupational unemployment rate for Accountants suggests that the weakness in employment growth since the global financial crisis has not translated into unemployment. The decline in the unemployment rate in recent years may indicate a tightening in the labour market and point to an increased likelihood of a skills shortage.

Low occupational unemployment rates may not necessarily be a definitive indicator of skills demand, on the basis that the result may arise from weak employment conditions (for example, from people leaving the workforce, reluctantly working in lower skilled occupations or working short hours).¹² However, this does not appear to be the case for Accountants where

9 As defined by ANZSCO, the role of an Accounting Clerk includes investigating overheads and monitoring debtor and creditor accounts.

10 The occupational unemployment rate differs from the national unemployment rate insofar as it excludes individuals who have not worked for more than two weeks in the previous two years.

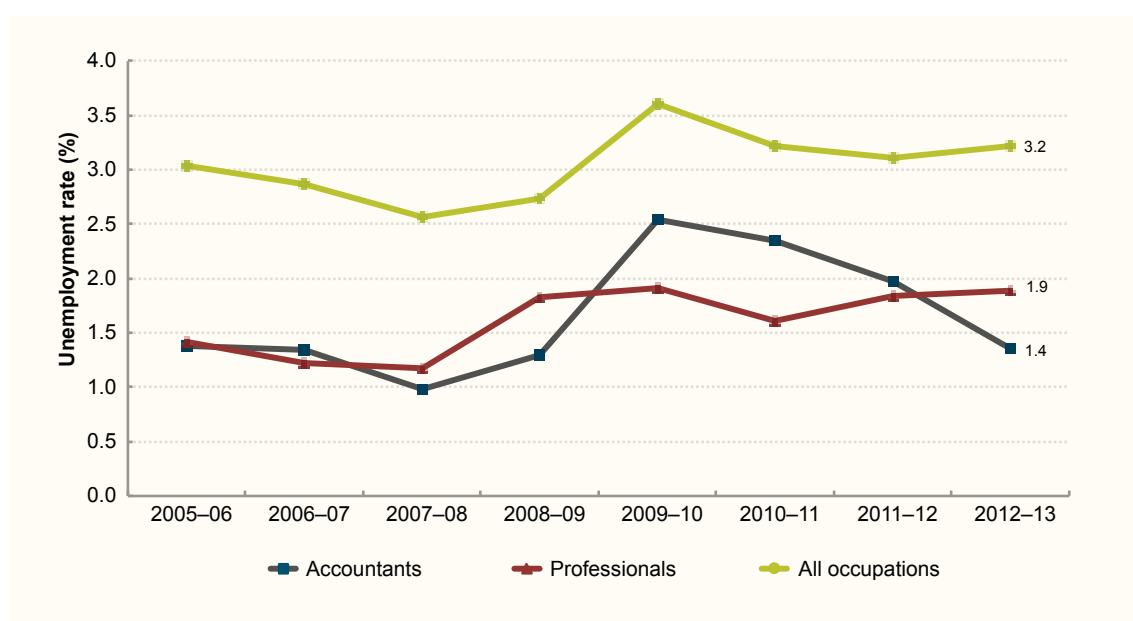
11 A fall in the unemployment rate may result from increased employment opportunities or a decrease in the supply of workers, both of which may suggest the likelihood of a skills shortage. However, a fall in unemployment could also result from weak employment conditions or a surplus of skills through disillusioned workers leaving the occupation or workforce. To overcome this shortcoming it is necessary to consider the unemployment rate along with indicators of employment conditions such as the participation rate and employment outcomes of workers.

12 A commonly cited criticism of occupational unemployment rates is that they relate to the occupation a person previously held rather than the occupation in which they seek employment. However, an empirical testing of this criticism found little difference between the two (see Frontier Economics, 2009).

participation, skilled employment and full-time employment is above applicable benchmarks. In particular:

- 86.1 per cent of persons with accounting qualifications are in the labour force (compared to 82.5 per cent for all persons holding bachelor or above qualifications)¹³
- 59.5 per cent of persons with an accounting degree are employed in occupations commensurate with their qualification profile (compared to 58.3 per cent of all persons with a bachelor or above degree)¹⁴
- 17.8 per cent of Accountants work part-time compared to an average of 30.5 per cent and 26.2 per cent across 'all occupations' and 'all professions' respectively.

Figure 3 Accountants and related occupations—Unemployment rates, 2005–06 to 2012–13



Source: Department of Employment calculations based on ABS Labour Force Survey, cat. no. 6291.0.55.003; four quarter average.

Figure 4 shows the employment outcomes of persons with an accounting degree. These outcomes suggest that:

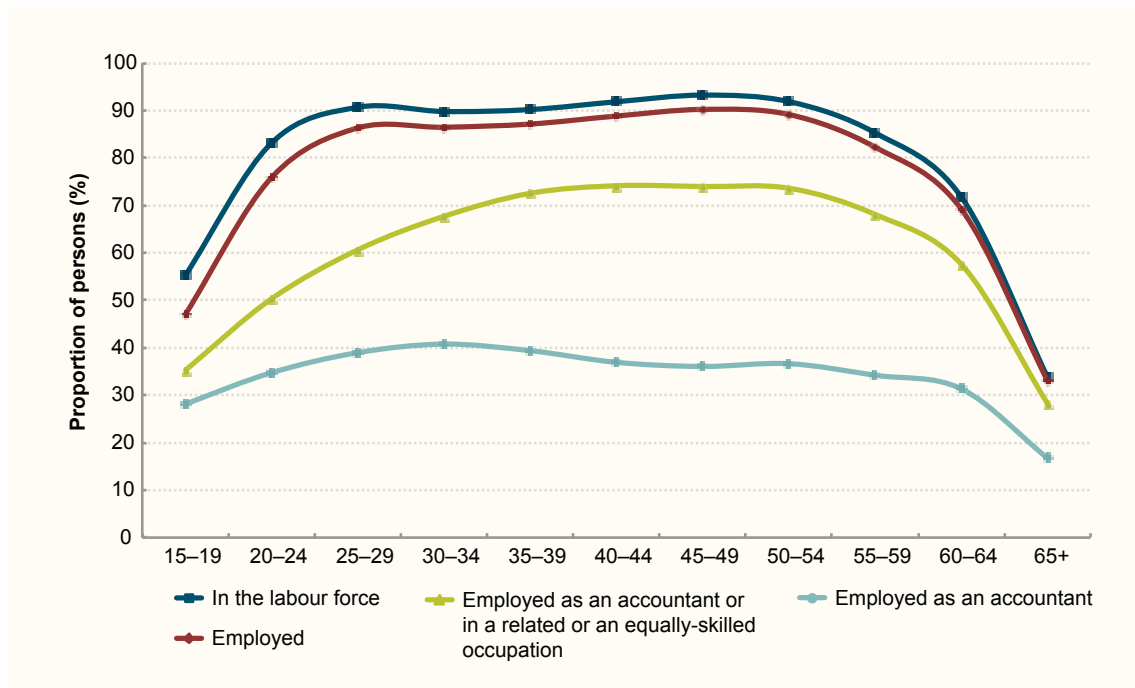
- an accounting degree provides relatively good prospects of skilled employment
- an accounting degree is a pathway to employment in a range of skilled occupations
- an accounting degree may provide flexibility to workers, enabling them to find alternative skilled employment if required, and enhancing the absorption of supply of accounting skills into the economy.

¹³ ABS, Census of population and housing, 2011.

¹⁴ That is, in occupations associated with bachelor or above level qualifications as set out in ANZSCO (i.e. ANZSCO Major Group 1 and 2); ABS, Census of population and housing, 2011.



Figure 4 Accountancy occupational usage rates by five-year age cohorts, 2011 Census



Source: ABS, Census of Population and Housing, 2011.

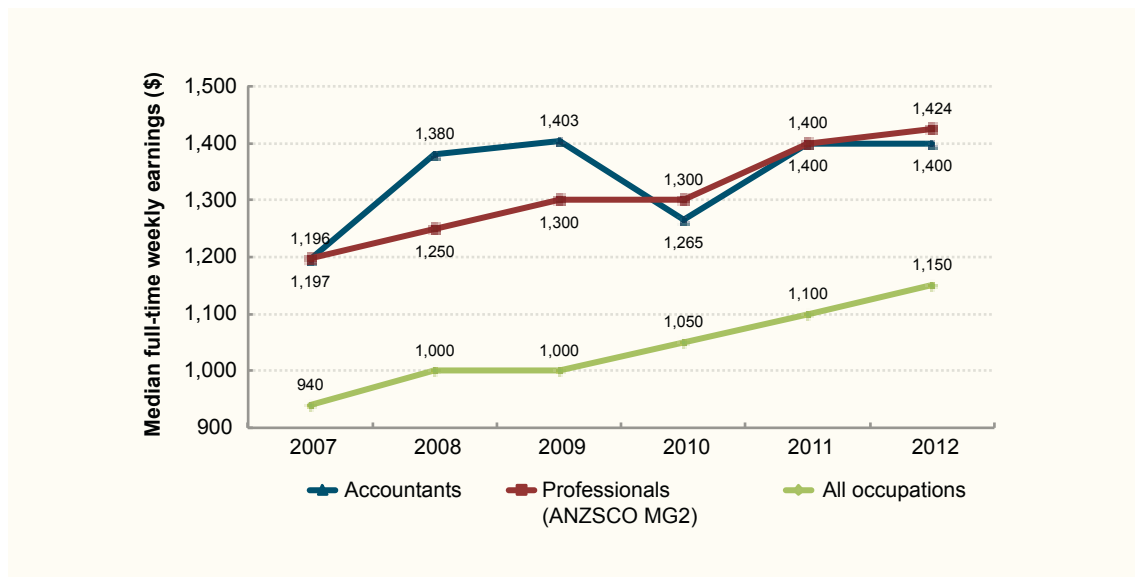
Accordingly, the data suggests positive employment and participation outcomes for Accountants, pointing towards a balanced labour market (i.e. neither oversupply nor undersupply of Accountants).

Shift in earnings

While an increase in earnings may suggest a skills shortage, it is not always a reliable indicator. In considering increased earnings as an indicator of a skills shortage, it is important to be mindful of other possible reasons for the increased earnings, including, for example, increased productivity, inflation or collective bargaining arrangements. In addition, there may be instances where workers receive non-earnings income (for example, subsidised training).

Figure 5 shows the median weekly full-time earnings for Accountants for the five years to 2012. Despite the weak employment growth noted above, the median weekly earnings for Accountants has tracked similarly to the 'all professions' benchmark since 2010. Both are currently around 22 per cent above the 'all occupations' benchmark.

Figure 5 Median weekly full-time earnings (before tax), 2007–2012



Source: ABS, Employee Earnings, Benefits and Trade Union Membership, Australia, customised data.

The above data supports the suggestion from the *employment growth data and unemployment and participation data* above that the supply and demand for Accountants is responsive to changes in the macroeconomic environment. This responsiveness provides for conditions receptive to resolving any skills imbalances. There is no indication of either a skills shortage or surplus on the basis of the data considered so far.

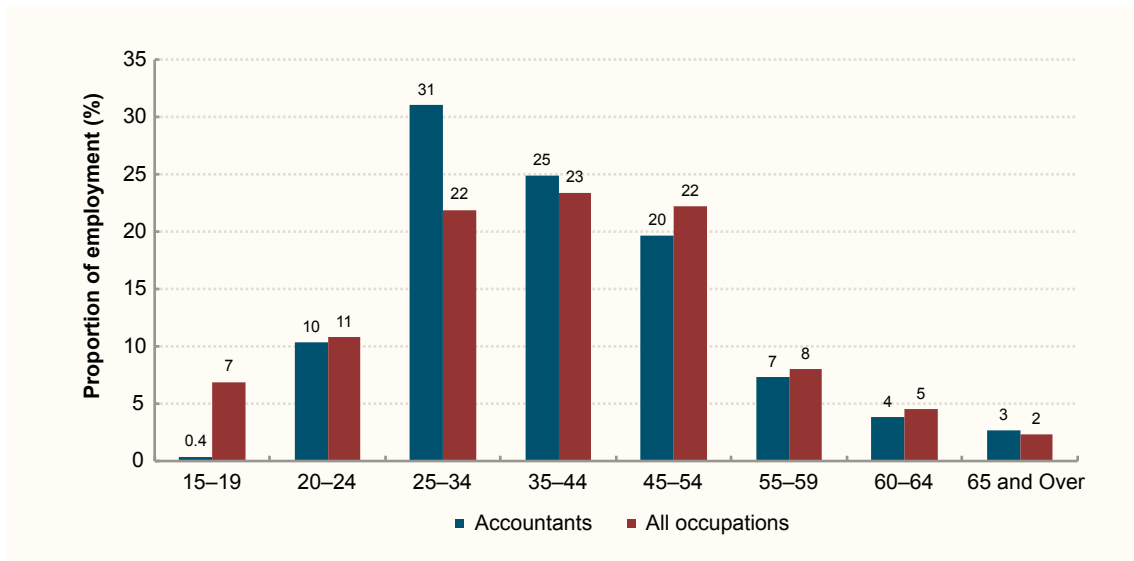
Age profile

The age profile of an occupation provides information about the present and future demand and supply of workers in that occupation. A relatively aged workforce suggests a reduction in future supply due to higher than average retirement and an increase in future demand as employers try to replace retiring workers. On the other hand, a relatively young workforce suggests lower than average retirement with smaller corresponding demand to replace exiting workers.

Accountants have a young age profile relative to other occupations. In 2012, the median age of an Accountant was 37 years compared with 40 years for 'all occupations'.

Figure 6 shows the age profile of the accounting workforce. The largest cohort is aged between 25–34 (31 per cent of Accountants are in this age cohort compared to 22 per cent of the whole workforce). Furthermore, 56 per cent of Accountants are aged 25 to 44 compared with 44 per cent of the whole workforce.

Figure 6 Accountants—age profile 2012



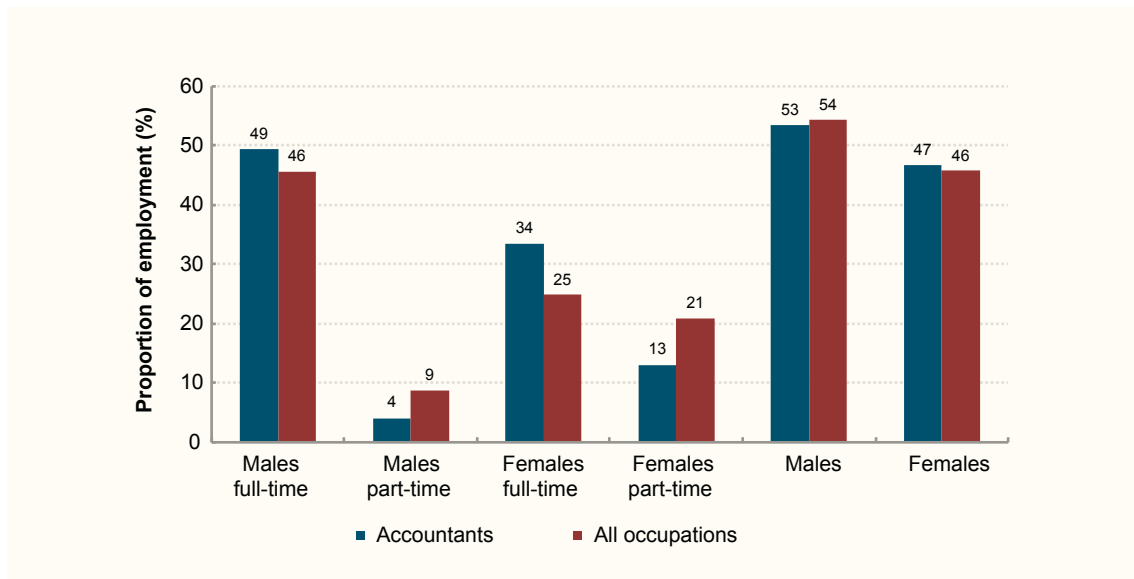
Source: ABS, Labour Force Survey, annual average 2012.

The relatively young age profile of the accounting workforce suggests that replacement demand for Accountants, is and will remain, below average. AWPAs has calculated the net replacement demand for Accountants as 1.6 per cent per annum compared to 2.4 per cent per annum on average for 'all occupations', as discussed in Section Two.

Gender profile

Figure 7 shows the gender profile of Accountants. Around 47 per cent of Accountants are female compared to 46 per cent of the total workforce. The data also shows that females have a much higher propensity for part-time work than their male counterparts.

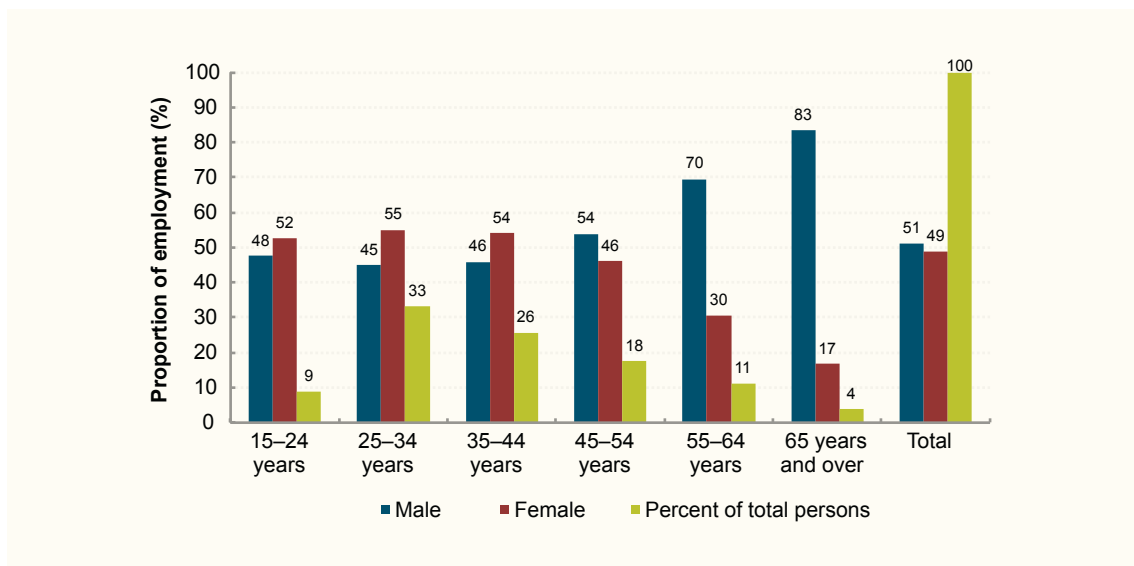
Figure 7 Accountants—gender profile



Source: ABS, Labour Force Survey, annual average 2012.

The proportion of Accountants that are female is likely to increase over time as existing cohorts leave and new cohorts enter the workforce. As shown in Figure 8, females comprise 54 per cent of Accountants aged 15–44 compared to 37 per cent of those aged over 45.

Figure 8 Accountant percentages by gender in 10-year groups



Source: 2011, Census of population and housing; note that the proportions in the Census do not necessarily match those in other ABS surveys, which make use of samples and alternate survey methodology.

The gender profile of Accountants suggests that the occupation is capable of attracting both female and male workers, which may assist the workforce in responding to sudden increases in demand and thereby lowering the risk of skills imbalance. Similarly, the presence of part-time workers provides capacity to increase supply if demand increases.

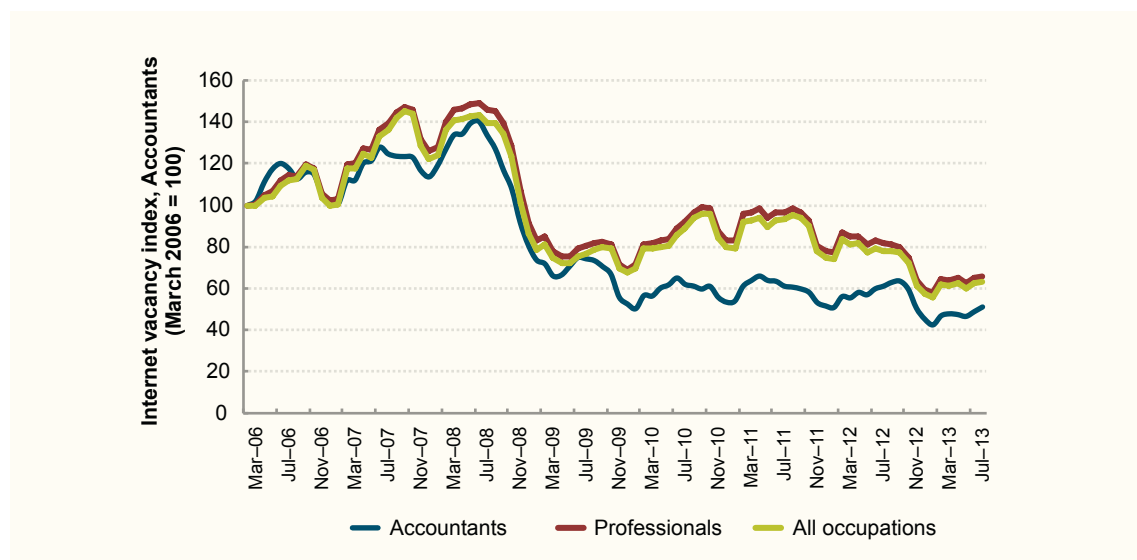
The recruitment experiences of employers and workers

Advertised vacancies

Figure 9 shows that the number of vacancies advertised online for Accountants peaked in July 2008 prior to falling 52.5 per cent over the period to May 2009—a similar decline is evident in the ‘all professions’ index (down 49.7 per cent). Since May 2009, vacancies have continued to decline, although at a slower rate, falling a further 17 per cent between May 2009 and August 2013 (compared to a decline of 12 per cent across all professions).

Vacancy levels provide an indication of the demand for workers. A high vacancy level or an increase in the number of vacancies over time suggests that there is excess demand for workers. Again, however, the reliability of vacancy levels as an indicator of demand is not without qualification. For example, in a tight job market an employer may cease advertising a position due to an expectation of it not being filled. Alternatively, positions may be filled without formal advertising—for example, through word of mouth.

Figure 9 Accountancy workforce—internet vacancy index (March 2006=100)



Source: Department of Employment Internet vacancy index.

The decline in online advertisements for Accountants since July 2008 suggests a reduced demand for Accountants in the period following the global financial crisis. At the same time it is acknowledged that advertised vacancies are more relevant for some occupations than others. In the case of Accountants employers may, for example, also recruit directly from universities or through word of mouth. However, to the extent that these practices have remained in place since 2009, advertisements for Accountants have dropped relative to those for all Professional occupations. This scenario is consistent with the low employment growth and net replacement demand for Accountants discussed above.

Survey of Employers who have Recently Advertised

The Department of Employment's most recent survey of Accountants in the *Survey of Employers who have Recently Advertised* (SERA) was conducted in May 2013. This survey found that, at the national level, employers were able to fill 71 per cent of surveyed vacancies and on average considered 4.0 applicants per vacancy to be suitable for employment. High numbers of qualified applicants, along with the relatively high fill rate, resulted in a rating of 'No shortage'. Accountants have received the same rating since the global financial crisis, with SERA last rating Accountants as being in 'Shortage' in 2008. In 2012–13 Accountants received both the highest number of applicants per vacancy (40.5) and the highest number of suitable applicants per vacancy (4.0) of any cluster of occupations surveyed in SERA.

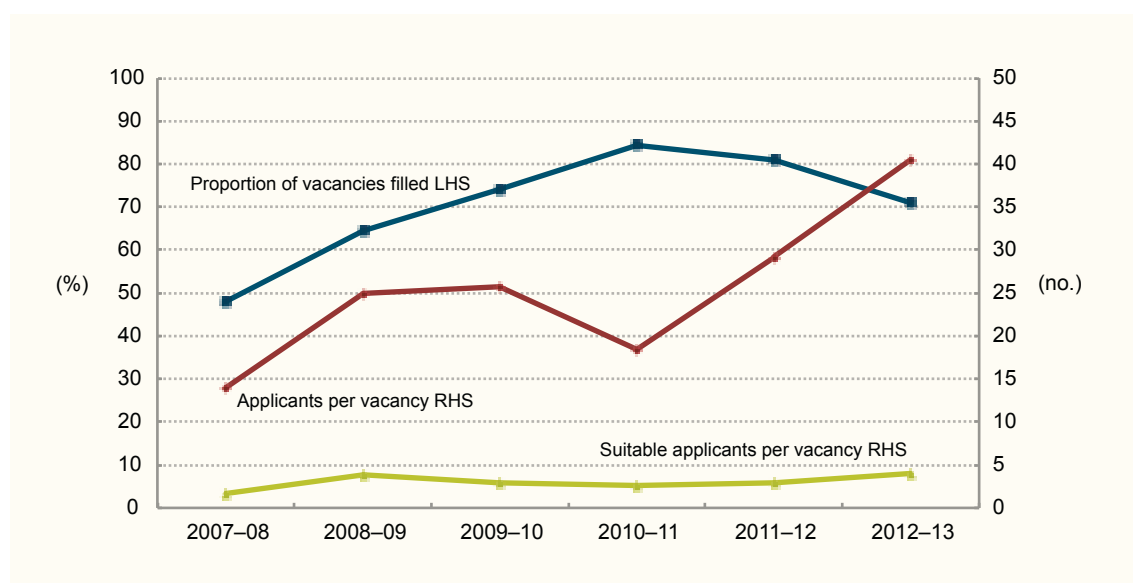
It should be noted, however, that the majority of surveyed accountancy vacancies in the most recent round of SERA were for Taxation and Financial Management Accountants, which at the 2011 Census only constituted around 9 per cent of Accountants.¹⁵ In addition, in 2011–12 SERA reported shortages in Queensland and the Northern Territory and recruitment difficulties were evident for senior roles in Western Australia and Tasmania. Recent media reports support the persistence of shortages in these areas.¹⁶

Figure 10 provides a summary of the main quantitative results of the SERA survey of Accountants from 2007–08 onwards.

15 The Department of Education has advised that the distribution of surveyed vacancies arose because there were few advertisements for the largest occupation within the accountant workforce, Accountants (general), in which around 91 per cent of Accountants are employed according to the 2011 census. The lack of advertisements for Accountants (general) may itself indicate weakness in the demand for Accountants, which would make a surplus of Accountants more likely.

16 NT News, 'Numbers stack up for in-demand Accountants', 3 August, 2013; Sunshine Coast Daily, 'What are the hottest jobs in 2013?', 10 January 2013; The West Australian, 'Clerks in hot demand', 12 June 2013.

Figure 10 Proportion of vacancies filled (%), average number of applicants and suitable applicants per vacancy (no.), Accountants, 2007–08 to 2012–13



Source: Department of Employment Survey of Employers who have Recently Advertised.

Student responses to skills imbalances

An increase in the commencement or completion rate of tertiary qualifications may signal a market response to a skills shortage. A shortage in the labour market would be expected to improve employment conditions (job prospects and wages) and thereby attract students to commence courses leading to employment in that occupation. Likewise, improved employment conditions may lead to an increase in completion rates due to transfers to relevant courses and/or a reduction in dropout rates.

Increased completion and commencement rates also lead to a growth in supply, with completions providing an indication of current flows of new Accountants, and commencements providing an indication of future flows. Accordingly, to the extent that students are able to judge labour market conditions, a change in completion and commencement rates may indicate that supply is responding to demand, making a skills imbalance less likely.

Completion of accounting qualifications

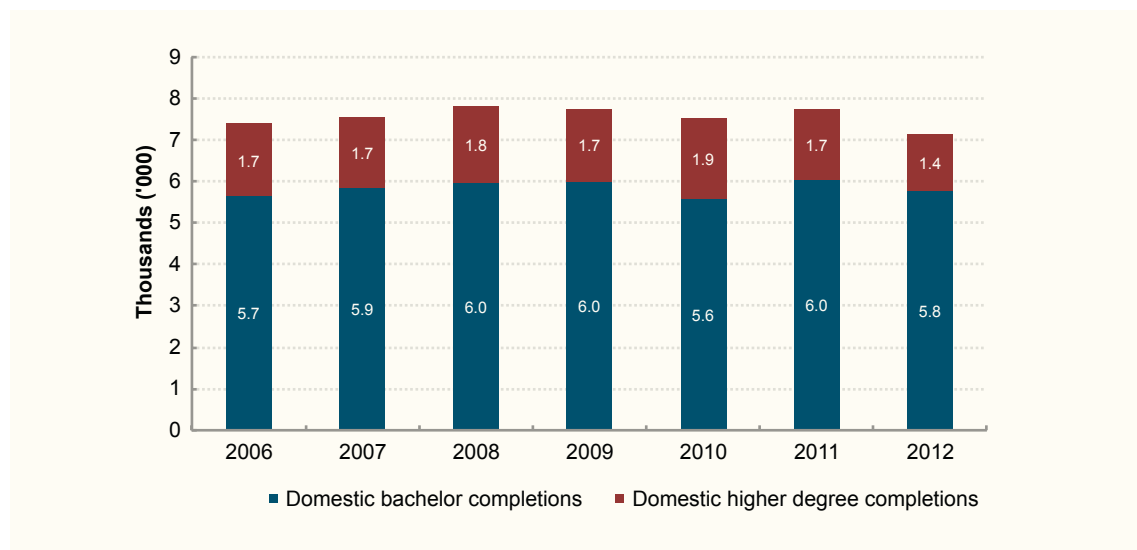
Figures 11 and 12 show domestic completions of accountancy degrees by specialisation and field of education respectively between 2006 and 2012. Completions by specialisation include not only those who have an accounting degree but also those who have completed another qualification with a major in accounting (for example, a commerce degree with a major in accounting).¹⁷ Completion by field of education captures those who have completed a bachelor

¹⁷ The most common degrees specialising in accounting are: Accounting, Management and Commerce, Banking and Finance, Business and Management, and Law (not further defined). Together these fields of education account for nearly 95 per cent of all degrees specialising in accounting.

degree or above in accounting only. Accordingly, completion by specialisation is likely to provide a better indication of the supply of new domestic Accountants than completion by field of education only.

Figure 11 shows that the completion of degrees with a specialisation in accounting fell by 3 per cent between 2006 and 2012. The result was primarily driven by an 8 per cent fall in domestic completions between 2011 and 2012. Completions of higher degrees are included on the basis that one pathway to a membership of a professional accounting body is the completion of an advanced diploma in accounting followed by a master's degree. However, it is likely that many of the higher degree completions do not constitute new Accountants but rather the up skilling of existing Accountants.¹⁸

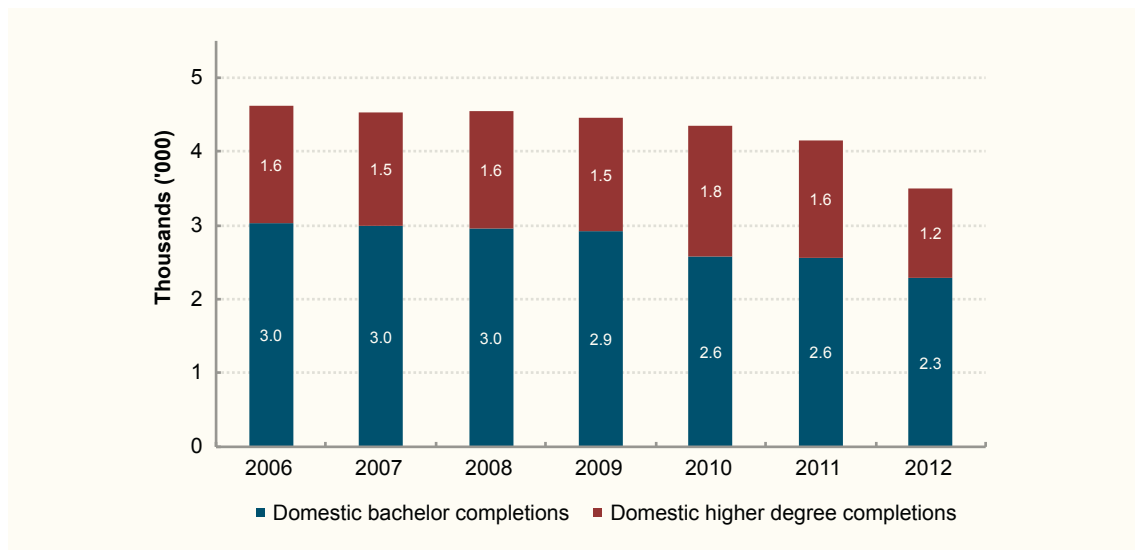
Figure 11 Bachelor degree and higher level award course completions by course specialisation in accountancy, 2006–2012



Source: Department of Education higher education statistics.

¹⁸ Interestingly higher degree completions are similar across Figures 11 and 12, with nearly all course specialisation occurring at the bachelor level through majors.

Figure 12 Domestic bachelor degree and higher level award course completions by field of education of accountancy, 2006–2012



Source: Department of Education higher education statistics.

The fall in domestic completions of degrees specialising in accounting (Figure 11) has been driven primarily by a fall in domestic completions of accounting degrees (Figure 12). Domestic completions of accounting degrees have fallen by 24 per cent since 2006, with the sharpest decline occurring from 2010 onwards.

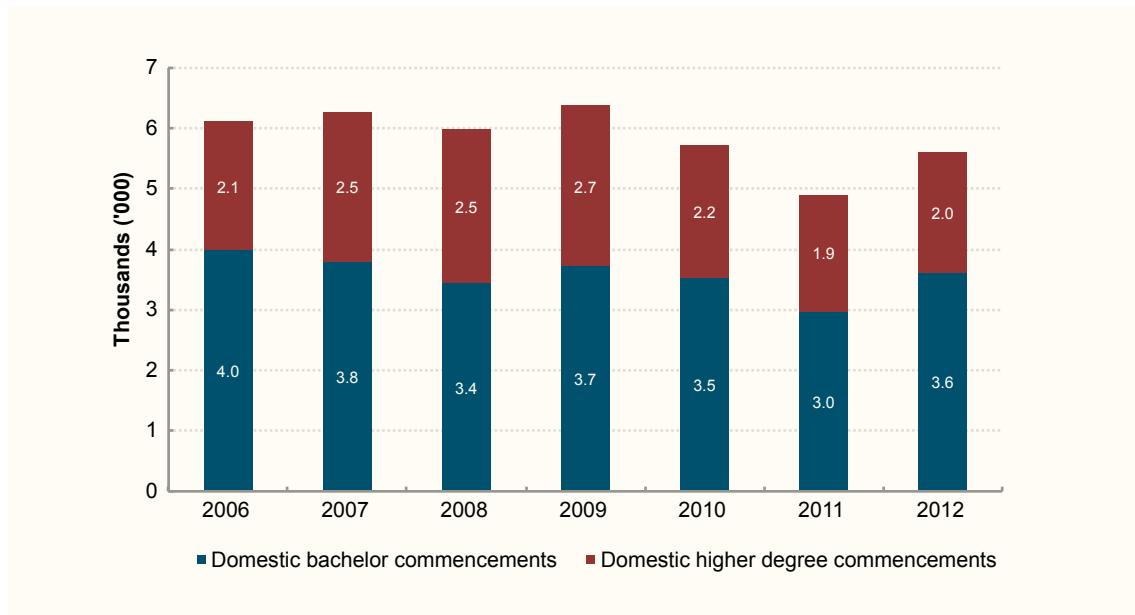
The decline in domestic completions following the global financial crisis suggests that the domestic supply of Accountants is responsive to changes in the macroeconomic environment. This is especially true for the decline between 2011 and 2012, given that a bachelor degree specialising in accounting is generally of three years duration. This responsiveness may partly explain the participation, unemployment and employment results for Accountants discussed earlier. However, the present weakness in demand for Accountants may also increase the risk of skilled migrants ‘crowding out’ domestic workers. While it is likely that some level of ‘crowding out’ is occurring, the effect is likely to be relatively small given the positive labour market outcomes for persons with Accounting qualifications, including above average employment in higher skilled occupations.

Commencements of accounting qualifications

As noted earlier, the commencement rate for accounting qualifications may give an indication of the future supply of accountancy skills and the responsiveness of supply to changes in labour market conditions. However, the commencement rate is not a precise indicator for a variety of reasons, most notably because course specialisation is often unknown at the time of commencement. This means that analysis can only be conducted by field of education (i.e. bachelor degree or above in accounting) and will exclude qualifications in non-accounting fields with a specialisation in accounting.

Figure 13 shows commencements by field of education in higher education accounting courses over the six years to 2012.

Figure 13 Domestic bachelor degree and higher level award course commencements in accountancy, 2006–2012



Source: Department of Education higher education statistics.

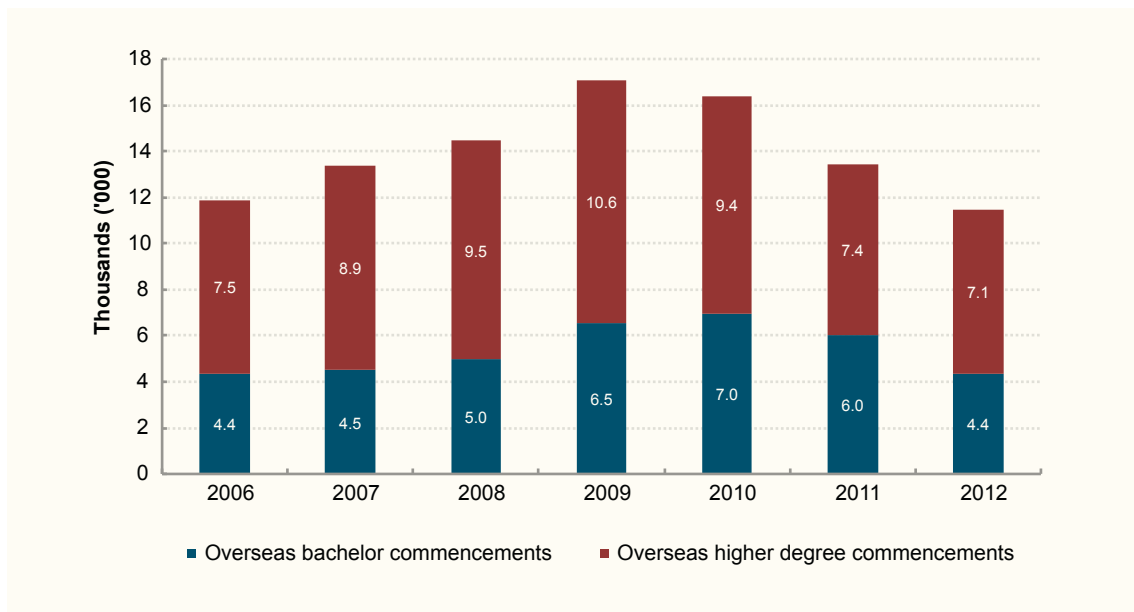
The decline in commencements after 2009 followed by a rise in 2012 suggests that the supply of accounting skills is sensitive to macroeconomic conditions, albeit with a lag as students become aware of the weakness in labour markets.

International students and migration

International students are a potential source of both temporary and permanent supply for the accountancy labour market. On completion of their studies international students are eligible for a 485 Temporary Graduate Visa of up to 18 months after completion of a bachelor degree, and up to four years after completion of a doctoral degree. International students seeking to permanently migrate to Australia must have experience and qualifications to the level required for membership of one of the three peak accounting bodies in Australia, and must be assessed by a peak body as part of the visa application process.

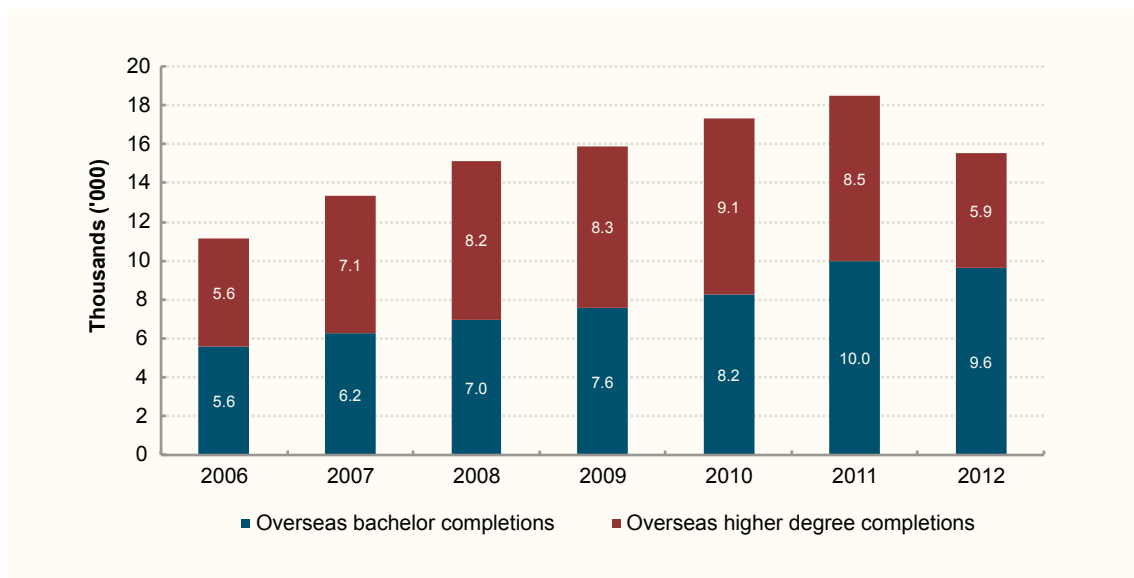
Figures 14 and 15 show overseas commencements and completions of accountancy degrees respectively between 2006 and 2012. As evident in Figure 14, international accountancy commencements peaked in 2009 at just over 17,000, up 44 per cent on 2006 commencements. Between 2009 and 2012, commencements fell by a similar margin to be just under the number of commencements in 2006 at 11,441. Completions data in Figure 15 shows a similar pattern with a lag of two years, with international completions peaking in 2011 at 18,506. Changes in international student commencements and completions are unlikely to be reliable indicators of the supply and demand for Accountants in Australia. The number of international students coming to Australia is, however, influenced by a number of factors beyond domestic employment prospects, including international employment opportunities, changes in migration policy, the exchange rate and perceptions of Australia as a study destination.

Figure 14: Overseas higher education accountancy commencements by level
2006–2012



Source: Department of Education higher education statistics.

Figure 15 Overseas higher education accountancy completions by specialisation and level, 2006–2012



Source: Department of Education higher education statistics.

A comparison between the international and domestic figures reveals that in 2012 both domestic commencements and completions were around half those of international students.

Table 1 shows the total number of permanent visas granted to skilled migrants who previously held either a Student Visa or a 485 Temporary Graduate Visa.¹⁹ Between 2006–07 and 2012–13 just over 43,000 international accountancy students permanently migrated to Australia through the General Skilled Migration Program (constituting a large proportion of the skilled migration reported in Figure 16). This represents 40 per cent of all international accountancy completions over the period. As a consequence, even though there were a much larger number of international completions than domestic completions between 2006 and 2012, around 10,000 more domestic accounting students entered the labour market over the period.

Table 1 Permanent migration of former international students, 2006–07 to 2012–13

Previous visa	Program year						
	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
485 Temporary Graduate			88	1,141	2,121	1,233	2,572
Student	8,342	6,248	3,979	2,845	9,766	3,324	1,514
Total	8,342	6,248	4,067	3,986	11,887	4,557	4,086

Source: Department of Immigration and Border Protection, custom data.

Note: The migrants reflected in Table 1 are captured in the migration data provided in Figure 16, and for this reason should not be considered separately in estimating the supply of Accountants.

Vocational education and training

Accountants is classified as an ANZSCO skill level 1 occupation, meaning that it has a level of skill that is equivalent to a bachelor degree or higher qualification. Vocational education and training (VET) is therefore not a major pathway to the occupation, especially as admission to a professional accounting body requires a degree (only Accountants eligible for admission to an accounting body are listed on the Skilled Occupation List).²⁰

Census data shows that the proportion of Accountants with VET as their highest qualification fell by 25 per cent (to 11.7 per cent of Accountants) between 2006 and 2011. In addition, census data also indicates that those Accountants with VET as their highest qualification tend to be workers more senior in age, suggesting that its importance as a direct pathway for new entrants has diminished over time.

VET may, however, be a pathway to higher education accounting courses. Research suggests that around 16 per cent of entries into higher education accounting courses are via a VET pathway and that over half of VET accounting graduates aged 15 to 24 continue on to university.²¹

Given the above, VET accounting qualifications are not considered further in this paper.

19 Note that all 485 Temporary Graduate visa holders also previously held a Student Visa.

20 An advanced diploma in accounting enables associate membership of one of the professional bodies but full membership requires the completion of a subsequent master's degree. Commencements of advance diplomas in accounting dropped by 60 per cent (to 1,577 commencements) between 2006 and 2011, which indicates that this pathway to professional accreditation is likely to diminish in future.

21 Stanwick J, 2006, Outcomes from higher-level vocational education and training qualifications, NCVER.



New entrants

This section examines the outcomes for new entrants (domestic graduates and migrants) into the accounting workforce. Graduate outcomes in terms of earnings, full-time employment and hours worked provide an indication of the state of the market for accounting graduates. Likewise, the employment outcomes of migrants within the broader labour market provide an indication of whether or not there is sufficient demand to utilise their skills.

Graduate earnings

An increase in graduate salaries may suggest an increased demand for new graduates.

Graduate salaries may also be a useful indicator of a skills imbalance as they are likely to be more responsive to labour market conditions than non-graduate wages. Non-graduate salaries tend to be 'sticky' as existing workers would be reluctant to accept salary reductions. On the other hand, employers would be likely to find it less difficult to lower starting salaries for new graduates. Similarly, it is likely that graduate salaries could be increased without triggering a corresponding increase in the salaries of the other existing non-graduate workers.

Table 2 shows the median starting salaries for graduate Accountants over the past five years. Salaries for graduate Accountants have been consistently lower than the average graduate salaries for all occupations, and grew by less over the relevant period.

Table 2 Median salary by occupation (ANZSCO Unit Group Level), Australian graduates employed full time in Australia, all degree levels.

	2008 \$	2009 \$	2010 \$	2011 \$	2012 \$	Annual average change 2008–12 %
Accountants	45,000	49,000	48,000	50,000	52,000	3.7
All Occupations	49,000	52,000	53,000	55,000	58,000	4.3

Source: Graduate Careers Australia, custom data.

The data above suggests weak demand in the market for graduate Accountants. However, this weakness may be explained by factors other than an oversupply of graduates. For example, accounting graduates typically need to complete a work experience program (usually three years) at the start of their careers before becoming full members of a professional accounting body—without which they are unable to perform many accounting services. In addition, accounting graduates may receive more non-salary income in their first year of employment than the average graduate (for example, sponsored training to complete professional membership courses).

Employment outcomes of graduates

A decline in the percentage of graduates securing full-time employment or a decline in full-time hours worked may indicate a supply surplus. However, it could also signify a change in preferences of new entrants over time between part-time and full-time work.

Tables 3 and 4 show the percentage of accounting degree graduates working full-time and their mean working hours respectively. Graduates of accounting degrees are 15 per cent more likely

to be working full-time upon graduation than graduates in other professions. In addition, the shift in the percentage of graduates in full-time employment (while negative) is stronger than the average for all professions. However, their outcomes with respect to mean working hours are slightly weaker than for other graduates entering a profession.

Overall, the employment outcomes of accounting graduates appear relatively strong compared with graduates in other professions. This suggests that demand for accounting graduates is sufficient relative to supply.

Table 3 Percentage of employed Australian graduates in full-time work (%), all degree levels, 2008 to 2012

	2008	2009	2010	2011	2012	Average annual increase (%)
Accountants	92	91	90	91	90	-0.6
Professionals	80	77	76	76	75	-1.8
All occupations	73.4	68.7	67.0	66.9	65.2	-2.9

Source: Graduate Careers Australia, custom data.

Table 4 Mean working hours for Australian graduates employed full-time in Australia (no.), all degree levels, 2008 to 2012

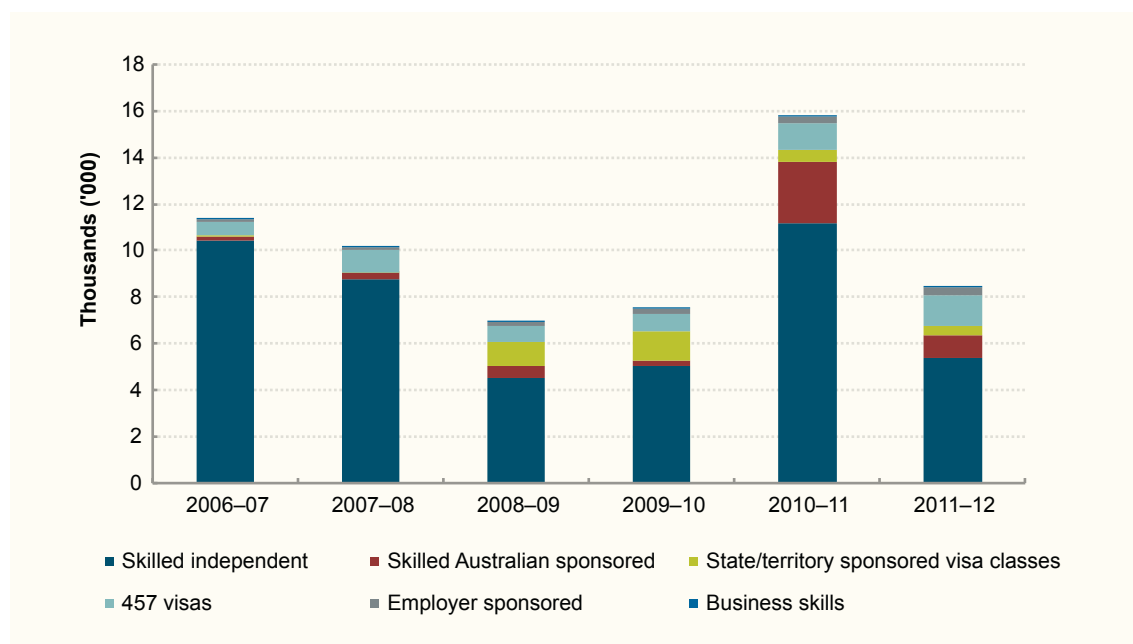
	2008	2009	2010	2011	2012	Average annual increase (%)
Accountants	40.1	40.2	39.9	40.0	39.9	-0.2
Professionals	40.8	40.8	40.5	40.8	40.8	0.1
All occupations	41.0	41.0	40.6	40.9	41.0	0.0

Source: Graduate Careers Australia, custom data.

Migration levels

Figure 16 shows the number of Accountants that have migrated to Australia over the five years to 2012–13 by visa category. Over this period the average number of Accountants migrating to Australia was 9,380 per year of which, on average, 6,500 were skilled independent migrants to which the SOL applies. These figures fall to 8,100 and 5,560 respectively if the high migration figure in 2010–11 is excluded. The 2010–11 intake may have been influenced by the expected introduction of a new migration policy (the points based system) on 1 July 2011 that changed migration rules including by increasing English proficiency requirements

Figure 16 Overseas skilled migration for accountancy occupations 2007–08 to 2012–13



Source: DIAC skilled migration data. (Amounts < 200 not labelled); all categories apart from 457 Visas are for permanent skilled migration. *Note: The 2010–11 intake may have been influenced by the expected introduction of a new migration policy (the points based system) on 1 July 2011 that changed migration rules including by increasing English proficiency requirements. Excluding the results for 2010–11 the migration intake averaged 8,100 per annum over the six years to 2011–12.

Changes in the total number of Accountants migrating to Australia is unlikely to be a useful indicator of skills balance as migration decisions are likely to be based on a variety of factors in addition to employment prospects. However, changes in employer sponsored and 457 visas may provide an indication of the ease (or otherwise) of employers finding suitable domestic Accountants.

Table 5 shows the number of employer sponsored and 457 visas granted as a proportion of domestic completions of degrees specialising in accounting from 2007 to 2012. The proportion has more than doubled during the period which may suggest that employers are finding it increasingly difficult to fill positions from the domestic workforce.

Table 5 Number of employer sponsored and 457 visas granted as a proportion of domestic graduates of degrees specialising in accounting, 2007 to 2012

	2007 %	2008 %	2009 %	2010 %	2011 %	2012 %
Employer sponsored	1.2	1.6	2.3	3.1	3.9	4.2
457 visas	8.2	12.1	8.7	10.3	15.0	18.6
Total	9.4	13.7	10.9	13.3	18.8	22.8

Migrant outcomes

Poor employment outcomes for migrants may indicate that there is insufficient demand to support utilisation of their skills, that is there is a skills surplus. However, there may be other factors at play that are unrelated to market conditions, for example, a shortfall in English language proficiency.

Table 6 Outcomes of migrants nominating ‘accountant’ as their occupation at 12 months after migration, 2009 to 2011

	Employed as an Accountant (%)	Employed as an Accountant or in a related equally skilled occupation* (%)	Employed as Accountants or equally skilled occupation** (%)	Employed as an Accountant, in an equally skilled occupation or in a related lower skill occupation*** (%)	Employed (%)
Cohorts 1–4	35.7	42.3	52.7	72.3	92.2
Cohort 4	36.1	40.7	51.2	70.9	95.1
Domestic workforce (aged 25–54)	38.4	49.8	63.1	72.4	87.5

Source: DIBP, Continuous Survey of Australia’s Migrants, custom data; ABS, Census of Population and Housing, 2011.

Notes:

Proportions of skilled migrants are based on persons whose labour force outcomes are known, and, who were granted permanent visas via points based skilled migration (subclasses 175 and 885). CSAM is based on five cohorts of skilled migrants, with cohorts one to three either arriving in Australia or being granted a permanent visa prior to 1 July 2010, and cohorts four to five gaining this status after 1 July 2010. Cohort four data is the latest data in the table as cohort five was not surveyed 12 months after migrating to Australia. Proportions for the domestic workforce aged 25–54 are based on persons with a bachelor or above in ASCED 0801 Accounting as reported in the 2011 Census of population and housing.

*Related equally skilled occupations include ANZSCO 1322 Finance Manager, 221 Accountants, Auditors and Company Secretaries, 222 Financial Brokers and Dealers, and Investment Advisers

**Equally skilled occupations include all ANZSCO Major Group 1 (Manager) and 2 (Professional) occupations

***Related lower skilled occupations include 5311 General Clerks along with all occupations in the ANZSCO Sub-major group 55 Numerical Clerks.

Table 6 shows the employment outcomes of migrants nominating ‘accountant’ as their occupation at 12 months after arrival. Of such migrants, 53 per cent are employed as Accountants (or in an equally skilled occupation) 12 months after migration, compared with 63 per cent of all Australians with an accounting degree aged 25–54.²² At the same time 92 per cent of migrants obtain employment 12 months after migration (this includes any field of employment), compared with 87.5 per cent of 25 to 54 year old Australians with an accounting qualification.

The data above suggests that the employment outcomes achieved by recent migrants nominating ‘accountant’ as their occupation are generally not as strong as the outcomes achieved by domestic workers with an accounting qualification. The largest differences are in employment rates in occupations other than Accountants.

22 A disproportionate share of the employment of migrant Accountants is in lower skilled occupations that are nonetheless related to accounting. In particular, 20 per cent of migrant Accountants are employed as Accounting Clerks or Bookkeepers 12 months after arriving in Australia compared to just 6.9 per cent of non-migrants with accounting qualifications.

Recent migrants are:

- 4.7 percentage points more likely to be employed than their domestic counterparts
- 7.5 percentage points less likely to be employed as an Accountant, or in a related equally skilled occupation, such as Finance Manager
- 15.1 percentage points more likely to be employed in a lower skilled occupation (although around half of them are employed in related lower skilled occupations such as Accounting Clerk, Bookkeeper or Financial and Insurance Clerks)²³
- equally likely to be employed as either an Accountant, or in an equally skilled or lower skilled related occupation (both around 72 per cent).

Most of the lower skilled related occupations included in the analysis above may be pathways for migrants to higher skilled accounting occupations. While new migrants are also more likely to work in non-accounting related lower skilled occupations, this increased likelihood is almost entirely explained by the higher percentage of new migrants in work.

It should be noted that the most recent Continuous Survey of Australia's Migrants (CSAM) data relates to the employment outcomes of skilled migrants in September 2011. It is therefore not possible to consider the outcomes for migrants under the new points based system that commenced on 1 July 2011. The new points based system changed some of the migration criteria, including an increase in the English proficiency requirements. Migrants who have met the new requirements may have improved employment outcomes in comparison to the results shown above. It should also be noted that CSAM reports the employment outcomes of new migrants at six and 12 months after migrating to Australia. There is an improvement in new migrant employment outcomes (not shown here) between those achieved six months and 12 months after arrival. It is likely that the outcomes of new migrants continue to improve after the 12 month period observed by CSAM.

Overall, we do not consider that migrant outcomes (albeit weaker than those of domestic qualification holders) reflect a skills surplus of Accountants. There is only a 2.7 percentage point difference between the rate that new migrants are employed as Accountants and the rate of the domestic workforce with accounting qualifications aged 25 to 54. This difference is likely to decline as migrants live and work in Australia beyond the 12 months observed by CSAM and is likely to have fallen in general with the introduction of points based migration

23 This is the difference between total employment (in Table 6 final column) and employment in an equally skilled occupation (Table 6, column 3) for skilled migrants and the domestic workforce aged 25 to 54.



Summary of indicators

Table 7 provides a summary of each indicator of skills imbalance assessed above.

Table 7 Summary of indicators of skills imbalance

	Indicator	Description	What indicator suggests
1	State of the labour market		
1.1	Employment growth	Employment growth has been relatively weak since the global financial crisis.	Demand for Accountants is responsive (pro-cyclical) to changes in the macroeconomic environment. Consistent with indicator 2.1 below.
1.2	Unemployment rate and qualification usage	Unemployment rate is relatively low. Participation rate, participation in full-time employment and employment in higher skilled occupations are relatively high.	Supply of Accountants is relatively responsive to changes in demand as accounting skills are transferable to a range of occupations. Consistent with indicator 4.2 below.
1.3	Earnings growth	Earnings growth is in line with the average for all professions.	Supply and demand for Accountants respond to changes in the macroeconomic environment (when considered alongside results 1.1, 1.2 and 2.1).
1.4	Age profile	Relatively young workforce.	The need to replace retiring workers (i.e. net replacement demand) is likely to be less than for the average occupation.
1.5	Gender profile	Roughly half the workforce is female, with this proportion likely to increase over time.	The profession is able to attract skills from both genders to respond to changes in demand or supply.
2	Recruitment experiences of employers and workers		
2.1	Vacancy index	Fallen in both absolute terms and relative to the 'all professions' index.	Demand for Accountants has been more pro-cyclical than for other professions in recent years. Consistent with 1.1 above.
2.2	SERA	There are very large numbers of qualified applicants for accounting positions. There are around 34 applicants per vacancy, on average, who hold accounting qualifications but are regarded by employers as being unsuitable.	Suggests that there is no shortage of Accountants.
3	Student response		
3.1	Completions	Completions fairly stable between 2006 and 2011 but fell 8 per cent between 2011 and 2012.	Suggests that supply is responsive to changes in the macroeconomic environment. Consistent with 1.2, 1.3 and 3.2.



	Indicator	Description	What indicator suggests
3.2	Commencements	Commencements have fallen since the global financial crisis.	Suggests that supply is responsive to changes in the macroeconomic environment. Consistent with 1.2, 1.3 and 3.1.
4	New entrants		
4.1	Graduate starting salary	Graduate earnings and earnings growth are relatively low.	Suggests excess supply of new graduates. However, results may be affected by the pre-admission status of graduates and non-salary benefits.
4.2	Graduate employment outcomes	Proportion of graduates in full-time employment is relatively high, albeit the mean hours worked by accounting graduates is slightly below average.	There is demand for accounting graduates, as they are able to find full-time work on graduation with similar hours to other full-time graduates. Consistent with 1.2 above.
4.3	Migration levels	Number of employer sponsored and 457 visas has increased over time relative to the number of domestic completions.	Employers may be unable to find suitable domestic Accountants to fill vacancies.
4.4	Migrant outcomes	Weaker outcomes than for the domestic workforce (aged 25–54) holding an accounting qualification.	May suggest excess supply of migrants, as a relatively high proportion find employment in lower skilled occupations. However, the rates of employment as an Accountant are less disparate and are likely to improve as new migrant cohorts live/work in Australia for longer periods and due to changes in migration policy.

Given the mixed results, it is necessary to consider the indicators together to form a judgment about the balance of supply and demand.

On the whole, the indicators that suggest a risk of an oversupply of Accountants in the medium term (i.e. employment growth, recruitment experiences and graduate salaries) appear to be based on a decreased demand for Accountants stemming from a weak economy following the global financial crisis. Accordingly, it would appear that the continuing recovery of the global and domestic economy will see demand for Accountants increase. This is consistent with the Department of Employment's medium term employment projections that suggest annual growth in employment of Accountants of 2.4 per cent per annum to November 2017.

The only indicator for which there is some disconnect is the labour market outcomes for new migrants 12 months after migrating to Australia. However, for the reasons already canvassed in this paper we do not consider the outcomes of new migrant Accountants to be so disparate from their domestic counterparts as to suggest an oversupply of Accountants in the medium term.

The remaining indicators suggest that the supply of accounting skills is sensitive to changes in demand. The data shows that this sensitivity of supply is evident in two key areas:

- the commencement and completion rate of relevant accounting qualifications shift to meet changes in the demand for Accountants
- the strong labour market outcomes of Accountants due to the readily transferrable nature of accounting skills enabling employment in a wide range of occupations and industries in response to changing labour market conditions.

The responsiveness of supply to demand appears to have assisted in balancing the national market for accounting skills over time, leading to the observed labour market outcomes such as low unemployment rates, high participation rates and earnings in line with applicable benchmarks.

There is no reason to expect this responsiveness of supply to demand to diminish in the medium term. However, the responsiveness of supply to demand may also increase the likelihood of skilled migrants 'crowding out' domestic workers. It is likely that some 'crowding out' is presently occurring but the level is likely to be relatively low given the labour market outcomes for persons with accounting qualifications.

The next section considers the long term outlook for Accountants at the national level.

Section Two: Long term assessment

This section estimates the demand for Accountants in the long term using scenarios developed by AWPAs as a basis for modelling Australia's workforce needs to 2025. The four scenarios—Long Boom, Smart Recovery, Terms of Trade Shock and Ring of Fire—outline possible, plausible futures for Australia to help plan for an uncertain world.²⁴

- In the Long Boom scenario, the high demand for resources traded with China and other countries continues. Industries challenged by the high terms of trade undertake structural adjustment. This results in a scenario of sustained prosperity and a restructured economy.
- In the Smart Recovery scenario, the challenges facing Europe and the United States affect financial markets. This means low growth for Australia to 2014–15. Growth then improves and Australia benefits from industry and government strategies to implement a knowledge economy.
- In the Terms of Trade Shock scenario, resource prices fall mainly due to increased supply from other countries, the Australian dollar falls and we move to a broader-based economy.
- The Ring of Fire scenario presents a risky world with multiple economic and environmental shocks resulting in ongoing lower growth.

The estimates of demand for Accountants are then considered against key drivers of the domestic supply of Accountants to provide an indication of whether there is likely to be a continuing need for skilled independent migrants in the long term.

Demand for Accountants to 2025

Estimating demand for Accountants involves calculating the total number of job openings for new Accountants in each AWPAs scenario to 2025. There are three components to new job openings—employment growth, net replacement demand and demand due to emigration.

Employment growth refers to an absolute increase in the number of persons employed in an occupation.

Deloitte Access Economics estimated the employment growth of Accountants for each AWPAs scenario to 2025 to inform AWPAs *Future focus, 2013 National Workforce Development Strategy*.²⁵ The results are shown in the first row of Table 8 below. The results are consistent with the Department of Employment's medium term projections for Accountants.²⁶

24 A description of the scenarios and Deloitte Access Economics' modelling of employment in each scenario is available at the AWPAs website, awpa.gov.au. The modelling focuses on flows of additional supply and demand for workers (rather than the stock of supply and demand) to highlight pressures on the workforce going forward.

25 AWPAs publishes a national workforce development strategy every three years. The first two national workforce development strategies are *Australian workforce futures, 2010*, AWPAs and *Future focus, 2013 National Workforce Development Strategy, 2013*, AWPAs.

26 The Department of Employment projects average employment growth for Accountants of 2.4 per cent per annum to November 2017. The department's projections are closest to DAE's projections under the Long Boom scenario.

Net replacement demand refers to jobs that are made available from workers leaving an occupation (e.g. via retirement) after accounting for those re-entering the occupation. Net replacement demand is estimated by calculating the net replacement rate for an occupation (which is the percentage of the occupation's workforce which permanently exits the occupation each year) and multiplying it by the number of persons employed in that occupation.

AWPA has calculated the net replacement demand for Accountants for each of the scenarios outlined above.²⁷ The results at five year intervals to 2025 are shown in the second row of Table 8.

Emigration is another source of job openings within an occupation. The estimated number of job openings in each AWPA scenario due to Accountants emigrating from Australia is shown in the third row of Table 8. The results are based on Deloitte Access Economics calculations which proportionally allocate emigration data based on employment share.

The final row of Table 8 shows total estimated job openings for each scenario at five year intervals to 2025. Total job openings for Accountants are highest overall in the long boom scenario although the number of new jobs declines over time to 2025. In the remaining scenarios, job openings are highest in 2020 and range between 9,054 and 10,900 openings in 2025.

Table 8 Job openings resulting from employment growth and replacement demand by scenario

	Long Boom			Terms of Trade Shock			Smart Recovery			Ring of Fire		
	2015	2020	2025	2015	2020	2025	2015	2020	2025	2015	2020	2025
Employment growth	5,827	4,495	2,511	2,541	4,349	2,645	2,63	4,087	2,095	-192	2,409	1,184
Replacement demand	3,066	3,496	3,779	2,925	3,228	3,512	2,833	3,187	3,431	2,745	2,915	3,083
Emigration demand	3,260	3,859	4,646	3,300	3,942	4,743	3,265	3,912	4,768	3,369	4,087	4,787
Total job openings	12,153	11,850	10,936	8,766	11,519	10,900	6,361	11,186	10,294	5,922	9,411	9,054

Source: Deloitte Access Economics, Economic modelling of skills demand and supply, custom data; AWPA net replacement rates; AWPA emigration demand calculations.

27 AWPA estimates the net replacement rate for Accountants as 1.6 per cent, below the all occupations average of 2.4 per cent. The AWPA methodology is based on the 2006 and 2011 censuses of population and housing. A correction for shrinking occupations is applied to the census data and corrections for changes in the business cycle and age-related structural changes in the labour force are made on the basis of the ABS Labour Force Survey. Net replacement differs from gross replacement, or labour turnover, which measures replacement demand for both new entrants and re-entrants to an occupation. As a result, net replacement rates tend to be lower than gross replacement rates.



Demand and supply of Accountants

The scenarios developed by AWP for the purposes of workforce planning suggest that in 2025 the economy will require between 9,054 and 10,926 new Accountants per annum, depending on the scenario (see Table 8 above). However, in order to make an assessment of the continuing need for migrant Accountants it is necessary to consider whether future domestic supply of Accountants is likely to be sufficient to meet the future demand for Accountants.

Estimating the future domestic supply of Accountants via higher education completions is difficult due to the sensitivity of student and provider decisions to government policy settings (e.g. funding policies). Because of these difficulties no attempt is made in this paper to estimate the domestic supply of Accountants in the long term. However, on the basis of historical data and demographic trends it appears likely that domestic supply will not be sufficient to meet demand for Accountants in the long term.

For example, it is estimated that in 2012 domestic completions of higher education courses specialising in accounting supplied the economy with around 2,700 new Accountants.²⁸ This is well below the levels of job openings shown in Table 8.

While Table 8 provides estimates of future job openings, domestic completions of accounting qualifications are unlikely to reach required levels under current conditions. In particular, the ageing of the population means that growth in the number of persons aged 15–24 (a particularly important cohort for future domestic completions) is likely to be relatively low in future.²⁹ This means that even though a higher proportion of younger persons are likely to have higher education qualifications in future, the absolute numbers of such persons is likely to grow more modestly relative to the estimates of demand. The requirement for migrant Accountants in the long term is, however, likely to be below the average number of Accountants (8,100) that have migrated to Australia each year over the past six years (see Figure 16).

28 As noted in Table 11 above, in 2012 there were around 7,200 completions of higher education qualification specialising in accounting. However, census data indicates that only around 38 per cent of persons holding accounting qualifications are employed as an Accountant. Multiplying these two results suggest that domestic completions of accounting qualifications are likely to contribute around 2,700 new Accountants to the economy in 2012.

29 Growth in the 15–24 year old cohort is projected to be the weakest of all age cohorts in DAE projections as a result of Australia's ageing population. The growth in 15–24 year olds is particularly important to future domestic completions given the age profile of completers.

Section Three: Conclusion and recommendations

The test for including Accountants on the Skilled Occupation List is whether the occupation is likely to benefit from skilled independent migrants in the medium to long term.

This paper has explored the issue in two ways. Firstly, by examining indicators of skills imbalance that provide evidence of pressures on Accountants in the medium term. Secondly, by using scenarios developed by AWPA—for the purposes of workforce planning—to consider the skills balance for Accountants in the long term.

The findings include the following:

- The indicators of skills imbalance are mixed. However, overall they provide a picture of a workforce that is relatively flexible on both the demand and supply side at the national level. This flexibility suggests that an over or undersupply of Accountants is unlikely in the medium term in the presence of existing levels of migration, but that a ‘crowding out’ effect is possible.
- With regard to skills balance over the longer term, historical data and demographic trends suggest that domestic supply will be insufficient to meet demand for Accountants in all AWPA scenarios. While the migration requirement is likely to be below historical intakes it remains substantial, and suggests a continuing need for skilled independent migrants.

This paper therefore finds that the supply of Accountants will benefit from skilled independent migrants in the medium to long term. Accordingly, it is appropriate that Accountants be included on the 2014 SOL.

Recommendation 1

That AWPA recommend to the Minister for Immigration and Border Protection that Accountants be included on the 2014 SOL.

Although Accountants will benefit from skilled independent migration in the medium to long term, the number required is likely to be less than recent levels of migration. Over the five years to 2012–13 the skilled migration intake of Accountants has averaged around 8,100 per annum (excluding the result of 2010–11, which, if included, would increase the average to around 9,400), of which on average 6,500 per annum has been from skilled independent migration. At current levels there is an increased risk of skilled migrants ‘crowding out’ domestic workers in the future.

Given the size of Australia’s skilled independent migrant intake of Accountants (compared to other sources of Accountants), it would be less disruptive to the workforce and training system for imbalances to be addressed by adjusting the intake of skilled independent migrant Accountants rather than by the removal of Accountants from the SOL. The skilled independent migration program presently includes a mechanism—an annual limit on permanent visa grants per occupation—that can enable the migration intake of Accountants to be reduced without removing Accountants from the SOL.³⁰

³⁰ The annual limit for Accountants is currently 6.0 per cent of the domestic workforce or around 9,980 migrants per annum. This is above the current level of visas issued to migrant Accountants.

Currently the occupational ceiling is set at 6.0 per cent of the domestic workforce for all occupations, which equates to around 10,000 permanent skilled independent migrants per annum for Accountants. The evidence considered by this paper suggests a ceiling of 3.0 per cent per annum (which is currently around 5,000 skilled independent migrants per annum) would be more appropriate. The ceiling only applies to permanent skilled independent migration, and not to any other visa stream such as employer sponsored visa categories (including 457 visas) and state/territory nominated visas, that provide additional flexibility for employers and the economy to respond to skill shortages.

Recommendation 2

That AWPA recommend to the Minister for Immigration and Border Protection that the occupational limit on the number of permanent skilled independent migrant accountants be reduced from 6.0 per cent to 3.0 per cent per annum.

An occupation is 'flagged' on the SOL if its inclusion on the SOL is borderline. As noted above, this paper finds that Accountants will benefit from skilled independent migration in the medium to long term, albeit at lower levels than in recent years. Accordingly, it would be more appropriate for the ceiling on permanent skilled independent migration levels to be adjusted than for Accountants to be removed from the SOL.

Recommendation 3

Subject to the adoption of Recommendation 2 of this paper—that Accountants not be 'flagged' as being borderline for inclusion on the 2014 SOL.

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the 1990s, the incidence of *S. flexneri* infections has increased in the United Kingdom [10]. In the United States, *S. flexneri* has been reported as the most common serotype of *S. flexneri* in the 1990s [11]. In the United Kingdom, *S. flexneri* serotype 3 has been reported as the most common serotype in the 1990s [12].

There is a need to monitor the incidence of *S. flexneri* infections in the United Kingdom. The purpose of this study was to determine the incidence of *S. flexneri* infections in the United Kingdom in the 1990s. The study was conducted in the United Kingdom, where the incidence of *S. flexneri* infections has increased in the 1990s [10].

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