UNDERSTANDING THE ECONOMIC OPPORTUNITY OF DEMAND DRIVEN MIGRATION FOR SOUTH AUSTRALIA

A Report for Migration Solutions

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Prepared by

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACIA	Aged Care Industry Association
AHA SA	Australian Hotels Association (South Australian Branch)
ANZSCO	Australian and New Zealand Standard Classification of Occupations
ANZSIC	Australian and New Zealand Standard Industrial Classification
APSSL	Acute and Persistent Skills Shortage List
ATO	Australian Tax Office
DAMA	Designated Area Migration Agreements
DESE	Department of Education, Skills and Employment
DHA	Department of Home Affairs
FTE	Full time equivalent
GRP	Gross Regional Product
GSP	Gross State Product
ILA	Industry Labour Agreement
IVI	Internet Vacancy Index
LMT	Labour Market Testing
MLTSSL	Medium and Long-term Strategic Skills List
MRIO	Multi-region Input-Output
NCVER	National Centre for Vocational Education Research
NSC	National Skills Commission
RDA	Regional Development Australia
RDAEP	Regional Development Australia Eyre Peninsula
RDAMR	Regional Development Australia Murraylands and Riverland
RDAYMN	Regional Development Australia Yorke and Mid North
ROL	Regional Occupation List
RISE-MR	Regional industry Structure and Employment – Multi-region
SA4	Statistical Area Level 4
SACES	South Australian Centre for Economic Studies
SOL	Skilled Occupation List
STSOL	Short-term Skilled Occupations List
STN	state/territory nominated
TSMIT	Temporary Skilled Migration Income Threshold
TSS	Temporary Skills Shortage
VET	Vocational Education Training
WHM	Working Holiday Maker

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- Zerella Fresh
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- Aged Care Industry Association (ACIA)
- Restaurant and Catering Industry Association of Australia
- Motor Trade Association SA/NT
- Max Cranes
- National Disability Services SA
- Primary Industries Skills Council SA
- Caledonia Group
- AusVeg SA
- Novita
- Sundrop Farms
- AHA SA
- Mitolo Family Farms
- Regional Development Australia Murraylands & Riverland (RDAMR)
- Regional Development Australia Yorke & Mid North (RDAYMN)
- Regional Development Australia Eyre Peninsula (RDAEP)

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EXECUTIVE SUMMARY

Analyses of the impact of different migration policies on Australia tend to conclude that high-skilled, high-paid, young migrants are best for Australia *most of the time*. This report focuses on the *rest of the time*. It articulates an economic modelling approach to quantifying the opportunity cost of policy that excludes these exceptions, rather than building in effective ways to handle them, and makes a preliminary estimate of the opportunity cost in the case of South Australia in terms of economic activity.

The objectives of this study are to:

1. Investigate and make appropriate recommendations for future research regarding the economic impact of migration policy on South Australia.
2. Produce a preliminary estimate of the economic impact of meeting South Australia's workforce shortfall through demand driven migration where appropriate, accounting for interregional effects within South Australia.
3. Produce an economic impact case study based on the horticulture industry.

Background

Australia takes a two-pronged approach to skilled immigration, combining a skills accumulation program with a demand driven program to help address demographic imbalances and labour market needs while also addressing skills shortages. Although Australia's labour migration system is highly effective at achieving national goals, its singular application across the nation means that some states have found it more fit for purpose than others. There is a mismatch between the semi-and low skill needs of many regional businesses in South Australia and Australia's focus on bringing in high-skilled labour. Even as some South Australian businesses, particularly in regional areas, become more reliant on migration for addressing chronic skills shortages, the barriers to accessing lower skilled to medium skilled migrant labour have increased, meaning that many South Australian regional businesses simply cannot meet the workforce needs required to grow and thrive. The currently unknown economic cost of these barriers are, anecdotally, significant. This means that understanding the real impacts is important for making appropriate decisions about migration policy settings for the South Australian economy.

Demand driven migration is where a migrant arrives in Australia with employment already arranged. From the business perspective, it is where an employer hires a foreign worker who is appropriately qualified and suitable for the role and who intends to remain in the role indefinitely. This might be as a permanent resident or a temporary migrant with a realistic pathway to permanent residency that involves them remaining in their role.

Migrants who come to South Australia on Employer Sponsored visas tend to have better short and long-term labour market outcomes and lower interstate mobility than State and Territory Nominated Independent migrants. However, in South Australia employer sponsored visa grants have been declining in South Australia since 2012-2013. This decrease occurred despite measures such as the classification of South Australia as regional, concessions such as a lower TSMIT under the DAMA and continuing workforce shortages in the state.

Demand driven migration was identified in a Rudd Government migration review as a means to ensure migrants are employed in industries that have the highest need. This contrasts with independent skilled migrants who have high human capital but no employment arranged in Australia prior to their arrival. The review took place following the global financial crisis in 2008-09 (Commonwealth of Australia 2010). While the challenges of COVID-19 are very different to those of the GFC, both involved large scale disruption to business in South Australia. The Rudd Government found that demand driven migration would play a useful role in recovery from the GFC. This report explains how it can also play a helpful role in Australia's economic recovery from COVID-19.

Recent Modelling and Data

Recent high-profile modelling has focused on the national scale impact of national scale policy settings with some limited state scale impacts reported (Productivity Commission 2016, Commonwealth of Australia 2018, Coates et. al. 2021). These studies have not considered more nuanced policy settings (such as region or industry differences), nor have they modelled the impact at a sub-state level as the terms of reference have typically focused on the national scale and modelling at the sub-state level is extremely complex in the dynamic general equilibrium framework required to address the national scale terms of reference. It is understandable for the effect of national scale policy to be modelled at the national scale, however a lack of analysis of distributional effects means that these analysis tend not to identify winners and losers.

The Australian Government publishes the Internet Vacancy Index (IVI) and Skills Priority List. Each may be used to understand labour and skills shortages to some extent. However their utility for identifying in-demand migrants is constrained by using the rigid ANZSCO occupation classification, timeliness of data and survey, high level geographical aggregation and imperfect data collection methodologies.

Consultation Findings

Our interviews with South Australian businesses and industry associations indicated that, across all of the industries we spoke with, labour shortages are the number one issue of concern. Many reasons for the shortages were given, though none could currently be addressed using local labour. We found that many businesses struggled to access migrant labour to deal with these shortages because of; the complexity of the application process, the cost of accessing migrant labour, processing times, the absence of pathways to permanent residency, restricting migrant workers to only one role, restrictive occupation lists based on ANZSCO definitions and difficulty retaining migrants longer-term.

Interviews included several horticulture businesses and associations. It was clear that horticulture has different needs to the general business community. In horticulture the biggest impediments to accessing migrant labour were: the cost of accessing the migration program, restricting migrant workers to only one role, the temporary skilled migration income threshold (TSMIT) being set too high, restrictive occupation lists based on ANZSCO definitions, the exclusion of low skilled occupations, and difficulty retaining migrants longer-term.

The effect of the TSMIT is important to understand given the recent recommendations to increase it. The TSMIT prevents businesses from accessing the migration program to fill roles where the award or market rate is below the threshold. This affects some industries more than others. For example, most interviewees from the horticulture industry suggested that a decrease in TSMIT would make them more likely to access

the migration program and it was suggested that the TSMIT would be too high for the migration program to be useful to the aged care sector if it were any higher.

A common theme from interviews in the horticulture sector was that the unmet workforce needs were causing underutilisation of assets such as glasshouses where planting has not occurred due to a lack of labour for harvest or produce being left unharvested. Further, opportunities for financed expansion of production are not being realised due to a lack of labour to facilitate production.

Exploratory Modelling

A multi-region input-output model of South Australia (known as RISE-MR) was developed for the 2019/20 financial year based on ABS SA4 geography to model the demand side regional and sectorial effects on South Australia's economy of using demand driven migration to address some of the workforce shortfall in horticulture as well as more broadly.

We estimate that in October 2021 horticulture businesses in South Australia had approximately 3,400 job vacancies and that approximately 850 (25 per cent) of these could appropriately be filled by demand driven migrants. If these 850 positions were to be filled by demand driven migrants then we would expect, in addition to the employment and production of the migrants themselves, approximately 1,000 fte jobs and $124.0 million of gross state product to be generated in the broader economy through flow-on effects.

Filling persistent workforce shortfalls in occupation and regions that South Australians choose not to work in creates opportunities in areas they do choose to work in. For example, we estimate that filling 100 horticulture vacancies in the South East with demand driven migrants would generate approximately 162 fte jobs and $20.2 million of gross state product in the South Australian economy through flow-on effects, including approximately $4.9m in gross regional product and *41 fte jobs in Adelaide* due to the inter-regional economic linkages to the South East. Most of the employment in Adelaide is expected in sectors that South Australians tend to choose to work in such as:

- Professional, Scientific and Technical Services (7 jobs)
- Administrative Support Services (5 fte jobs)
- Insurance (3 fte jobs)
- Personal and Other Services (3 fte jobs)
- Retail (2 fte jobs)
- Wholesale (2 fte jobs).

Conclusions about the impact of a state-wide demand driven migration program cannot be drawn from exploratory modelling due to the scale of the scenario to be modelled and the poor quality of available data on vacancies and suitability of demand driven migration to fill them.

Creating jobs as a benefit of filling labour shortages may appear to be an undesirable outcome as the new jobs would also then need to be filled. There are two points that need to be considered here. First, the industry and region jobs are created in should be considered. Second, the results from input-output analysis (used in the exploratory modelling) necessarily include a positive 'multiplier effect' on employment. Equilibrating market forces must be considered for scenarios of large scale change. The exploratory modelling in this report can therefore be used to understand the economic impact of the first few hundred

demand driven migrants. Therefore, modelling larger scale migration scenarios would require a general equilibrium approach.

Modelling the economic impact of demand driven migration presents a similar challenge to designing a migration program with the intention to address skill shortages. That is, each requires a detailed understanding of labour shortages and the appropriateness of migration to address them. Designing such policy involves identifying how many migrants are needed for each occupation. Modelling the impact and efficacy of the policy requires the same information as well as information about the gap remaining between the labour shortage and the migrants that have been mobilised to address the shortage. The Skills Priority List represents the Australian Government's effort to generate this information, yet it has been ineffective as a tool for directing the migration program towards filling labour shortages. A demand driven approach that identifies positions to be filled and migrants to fill them removes this burden of information from migration policy makers, relying on the market to provide it instead. A market driven approach would require constraints to address societal values about migrant labour such as providing fair pay for fair work and prioritising Australian workers but these constraints may be specified, such as through labour market testing and fair work requirements, without selecting specific occupations.

Recommendations for Future Modelling

In context of our aim to understand the economic opportunity of demand driven migration for South Australia and our findings from background research, consultation with South Australian businesses and exploratory demand side multi-region modelling, we make the below recommendations for modelling the economic impact of demand driven migration scenarios.

1. Models should include sub-state regions to make explicit the trade-offs between metropolitan and rural areas.
2. Demand driven scenarios should be represented by a set of rules that determine when a business would seek to hire a migrant.
3. Demand driven scenarios should not be based on skills lists.
4. Modelling results should include an optimised mix of demand driven and skill accumulation migrants.
5. Modelled scenarios should include sensitivity testing of a wage threshold.

1. INTRODUCTION

Analyses of the impact of different migration policies on Australia tend to conclude that high-skilled, high-paid, young migrants are best for Australia *most of the time*. This report focuses on the *rest of the time*. It articulates an economic modelling approach to quantifying the opportunity cost of policy that excludes these exceptions, rather than building in effective ways to handle them, and makes a preliminary estimate of the opportunity cost in the case of South Australia in terms of economic activity.

The purpose of this report is to provide evidence to better understand the implications of migration policy on the economy of South Australia. It was motivated by the observation that businesses are struggling to meet their current and future workforce needs due to long-term labour market trends which are now being exacerbated by the lack of temporary migrants attributable to COVID-19, and that current migration policy prevents some migrants from being an effective part of the solution.

The objectives of this study are to:

1. Investigate and make appropriate recommendations for future research regarding:
    - **1.1.** quantifying, by region and industry, unmet labour demand in South Australia that could appropriately be satisfied through demand driven migration, separately considering acute and chronic unmet labour demand
    - **1.2.** quantifying the potential economic impact on regional and metropolitan areas of South Australia from meeting this demand
    - **1.3.** quantifying the economic impact in metropolitan areas attributable to meeting labour demand in regional areas
    - **1.4.** quantifying the creation of jobs in industries that South Australians typically choose to work in of meeting persistent unmet labour demand in roles that they typically do not
    - **1.5.** augmenting recent national scale economic modelling of migration policy by including sub-state regions and industry targeting.
2. Produce a preliminary estimate of the economic impact of meeting unmet demand for labour by South Australian businesses through demand driven migration where appropriate, accounting for interregional effects within South Australia.
3. Produce an economic impact case study base on the horticulture industry.

BDO EconSearch was contracted by Migration Solutions, a migration agency in Adelaide, to undertake this research. The intention is for the discussion and recommendations to inform future research into the economic impact of migration program settings. Specifically, to enable future research to include demand driven migration scenarios and to produce results that are relevant to South Australia.

BDO EconSearch undertook extensive background research and consulted with South Australian businesses, associations and regional organisations as part of the research. Consultation included industry associations, RDAs and key employers reporting workforce shortfalls. Our preliminary estimates of the economic opportunity of a demand driven migration program are based on the review, consultation findings and our multi-region model of the South Australian economy (RISE-MR). Economic impact is quantified in terms of employment, gross regional and state product (GRP and GSP) and household income. Results are reported by region and industry where possible with particular focus on the horticulture industry as a case study.

Demand driven migration is reviewed in Section 2 in context of the various types of migration and migration programs. In short, it is where a migrant arrives in Australia with employment already arranged. From the business perspective, it is where an employer hires a foreign worker who is appropriately qualified and suitable for the role and who intends to remain in the role indefinitely. This might be as a permanent resident or a temporary migrant with a realistic pathway to permanent residency that involves them remaining in their role. For example, prior to immigration reforms in 2017, an international student was able to study and work in Australia for 2 years on a student visa, then work for 2 to 3 years on a 457 visa and become a permanent resident on a 187 visa, all the while working in their area of specialty (see Section 2).

Demand driven migration was identified in a Rudd Government migration review as a means to ensure migrants are employed in industries that have the highest need. This contrasts with independent skilled migrants who have high human capital but no employment arranged in Australia prior to their arrival. The review took place following the global financial crisis in 2008-09 (Commonwealth of Australia 2010). While the challenges of COVID-19 are very different to those of the GFC, both involved large scale disruption to business in South Australia. The Rudd Government found that demand driven migration would play a useful role in recovery from the GFC. This report explains how it can also play a helpful role in Australia's economic recovery from COVID-19.

The remainder of the report is structured as an investigative process. It begins with background research (Section 2), summarises the findings from consultation (Section 3), describes the method and results from exploratory modelling (Section 4) and concludes with a set of recommendations for future research informed by the research objectives (Section 5).

2. BACKGROUND

2.1. Australia's combined skills accumulation and demand driven immigration system

Australia takes a two-pronged approach to skilled immigration, combining a skills accumulation program with a demand driven program to help address demographic imbalances and labour market needs while also addressing skills shortages (OECD 2018). Historically, Australia used it's immigration policies to reach objectives of nation building and addressing demographic issues, however in recent decades objectives have shifted towards 'attracting a diverse range of immigrants with the attributes to make a significant contribution to the Australian economy and society' (Productivity Commission 2016, p. 55). This shift has coincided with a pivot from favouring direct permanent migration towards facilitating temporary migration of employer-sponsored skilled migrants, working holiday makers, and students with pathways to permanent migration and eventually citizenship (Rizvi 2020).

The Permanent Skilled Migration Program is essentially a skills accumulation program that is designed to enhance the human capital available in Australia. The composition of permanent skilled immigration is determined using the points-based system which allocates points according to age, English language skills, skilled employment experience, Australian skilled employment and education (DHA 2020). In the past, Australia's points system emphasised family ties, occupation, education, and language skills. More recently, however, the focus has shifted to attracting a diverse range of immigrants with the attributes to make a significant contribution to the Australian economy and society at a national scale, specifically higher skilled and higher wage (Productivity Commission 2016). This suggests a shift towards migration to where higher skilled and higher wage people tend to live in Australia, and away from meeting the workforce needs of the employers who require lower skilled workers in regional areas.

Although a points-based system is effective at attracting high-skilled migrants, Legrain (2020) suggests that they do not select them well because governments do not know how many people to admit or whom. Instead, he claims that businesses are best placed to identify which employees they need and whether an applicant is qualified for a vacancy. This is because the business will suffer the consequences if they select the wrong people. Allowing businesses to select immigrants also means that migrants are guaranteed a job as soon as they arrive. The Productivity Commission (2011) noted that this is a significant disadvantage of the points based system as an applicant may be awarded a sufficient number of points for a visa but may not ever work in a high-skilled occupation or work at all.

In contrast, the Temporary Migration Program can be thought of as being a demand driven program that seeks to assist businesses in Australia address labour shortages (Scanlon Institute 2021). The intake of temporary immigrants is typically subject to fewer criteria, it is uncapped and is comprised mostly of international students, temporary skilled workers and working holiday makers.

Criticisms of demand driven systems include; that employers have too much power over foreign employees on temporary work visas, the potential for lowering wages for all workers in similar jobs and that employers may favour foreign workers as a cheaper and more reliable option than local workers (Papademetrious and Hooper 2019). Perhaps more importantly, reliance on foreign workers may reduce pressure on government to make long-term investments in technology or training and education of local workers to address skills shortages. These concerns were at the heart of the abolition of the 457 Temporary Work (Skilled) visa and its replacement with the 482 Temporary Skill Shortage visa that put measures in place to prevent these

pernicious outcomes. Although employer-sponsored programs are effective at addressing market labour shortages, they do not address the longer-term needs of the labour market and broader economy (Papademetrious and Hooper 2019). Demand driven systems are also often criticised for enabling foreign workers to take local jobs. However, immigrants often occupy jobs that locals either can't or won't do such as fruit and vegetable picking or jobs that are located in less desirable, regional locations (Legrain 2020). Labour shortages in industries with these characteristics have continued even throughout periods of high unemployment in the UK, US and Australia (Legrain 2020).

The Australian system places a strong focus on granting visas to skilled migrants to address labour market needs, with measures in place to prevent businesses from sourcing low-skilled labour and to ensure that Australian workers are given first priority for jobs. These measures include;

- The Temporary Skilled Migration Income Threshold (TSMIT) which serves two purposes, firstly acting as a 'proxy for a skilled occupation and second as a reasonable minimum salary for migrant workers to support themselves in the absence of eligibility for government benefits and assistance" (OECD 2018, pp. 103)
- Skilled occupation lists, including the;
  - The Short-term Skilled Occupations List (STSOL), containing occupations to address short-term labour market needs;
  - The Medium and Long-term Strategic Skills List (MLTSSL), designed to fill high value occupations over the long-term; and
  - The Regional Occupation List (ROL), comprising additional occupations available to regional employers (Commonwealth of Australia 2021)
- Compulsory Labour Market Testing (LMT) for Temporary Skills Shortage visas (482)
- Minimum English Language requirements.

The differing strengths and weaknesses of the demand driven and points-based systems has led Australia to combine the two approaches to meet both long and short-term goals. Assessments of Australia's labour migration system are generally positive, indicating that it functions well to achieve its goals at the national level (OECD 2018, Joint Departmental Submission 2019). However, this report highlights that the outcomes have varied across states and industries.

2.1.1. The Permanent Migration Program

There are two distinct programs that migrants wishing to enter Australia on a permanent basis can pursue. These are the Permanent Migration Program, which includes both a skill stream and a family stream, and the Refugee and Humanitarian Program. Migrants may also arrive on a temporary visa and later apply for permanent residence. Of the two permanent streams, the Permanent Skilled Migration Program is the primary avenue for migration and in 2018/19, almost 70 per cent of permanent migrants to Australia were skilled migrants and their families (Commonwealth of Australia 2018). Rizvi (2020) suggests that employer sponsored permanent migration has traditionally been treated as high priority in the skill stream, with demand for these places resulting in changes in the number of places. Between 2012 to 2018 the Migration Program cap was 190,000, however migrant numbers were well below the ceiling figure in 2017-18 at 162,417, providing justification for a reduction of the ceiling to 160,000 (Sherrell, H. 2019). For 2021-22 the total number of places available is set at 160,000. However, some migration and demography experts have suggested that the waning migration numbers seen since 2017 were not a result of lower demand for places

in the program, but were actually a result of increasing processing times, evidenced by escalating numbers of people in Australia on bridging visas (Allen 2020, Rizvi 2020). For instance, Rizvi (2020, p. 32) notes that the number of people on bridging visas has grown from 110,894 in December 2011 to 216,141 in December 2019.

Recently the Grattan Institute undertook modelling which suggests that the permanent skilled migration program should be refocussed away from addressing skills shortages and instead it should aim to prioritise younger, higher-skilled workers (Coates et. al. 2021). This would ensure that migrants who are granted these visas would have the characteristics necessary to be successful in Australia. Implementing this shift would include abolishing occupation lists as well as removing the allocation of points for migrant characteristics that do not specifically generate positive labour market outcomes.

The Permanent Migration Program is comprised of a skill stream, a family stream, a special eligibility stream and the child program. Each of these streams has a number of capped places, except for the child program which is filled on an on-demand basis, with the number of places required estimated for each year. The number of places available for each stream in 2021/2022 is outlined in Table 2-1.

Table 2-1 Permanent Migration Program streams and places available in 2021/22

Stream	Description	21/22
Skill	This stream is designed to improve the productive capacity of the economy and fill skill shortages in the labour market, including those in regional Australia.	79,600
Family	This stream is predominantly made up of Partner visas, enabling Australians to reunite with family members from overseas and provide them with pathways to citizenship.	77,300
Special eligibility	This stream covers visas for those in special circumstances, including permanent residents returning to Australia after a period overseas.	100
Child places	This stream is managed outside the Migration Program as it is demand driven and not subject to a ceiling.	3,000

Source: DHA 2021b

Migrants entering Australia through the Humanitarian Program are permanent residents and free to live anywhere in Australia (Economic and Finance Committee 2019). The purpose of the Humanitarian Program is to resettle people in need, rather than to meet Australia's social and economic goals. In 2020/21 there were 13,750 places allocated in the Refugee and Humanitarian Program (DHA 2020a). This was reduced from the 2019/20 allocated places of 18,750, though as a result of government efforts to stem the spread of COVID-19 only 13,171 places were filled (DHA 2020a). South Australia's share of humanitarian migrants is small at around 6 per cent in 2017 (Economic and Finance Committee 2019).

2.1.2. The Temporary Migration Program

The temporary visa program in Australia is largely uncapped and the number of places available in a given year changes in response to business demand for temporary overseas labour. However, policy settings such as minimum salary thresholds, minimum work experience, and potential for permanent residency influence the number of migrants coming to Australia. In 2018 there were nearly 1.6 million temporary migrants in Australia (Commonwealth of Australia 2018). These migrants included students, working holiday makers, temporary skilled migrants and New Zealanders living in Australia. Around 90 per cent of temporary migrants have visas that enable them to work. New Zealanders make up around 40 per cent of temporary migrants, while another quarter are international students (Commonwealth of Australia 2018).

The current temporary skilled visa system consists primarily of four different visa types:

- Temporary Work (Short Stay Specialist) (subclass 400) visa.
- Temporary Work (International Relations) (subclass 403) visa.
- Temporary Activity (subclass 408) visa.
- Temporary Skill Shortage (TSS) visa (subclass 482), which replaced the Temporary Work (Skilled) (subclass 457) visa in March 2018. (Commonwealth of Australia 2019).

Almost half of the individuals granted permanent residency are already in Australia on a temporary visa (Commonwealth of Australia 2018). This indicates that temporary visas are used as a pathway to permanent residency and can play a significant part in deciding who becomes a permanent resident and where they are likely to settle. However, one of the key pathways, via the 457 visa was removed in 2018.

Until 2018 the 457 was Australia's main temporary skilled migration pathway. The OECD (2018) noted that 37 per cent of permanent labour migration flows in 2015/16 were holders of 457 visas. This suggests that the 457 visa was attractive to migrants as a pathway to permanent residency. However, allegations of exploitation and abuse led to the abolition of the 457, replacing it with the 482 visa. The 482 visa differs in several ways but one of the most significant has been the removal of that pathway for most applicants. There is also the introduction of two streams within the 482 visa, the Short Term Stream which is granted for up to two years, with the possibility of onshore renewal just once, and the Medium Term Stream which enables onshore renewal multiple times after three years and pathways for permanent residency (Commonwealth of Australia 2019). This is in contrast to the 457 visas which were granted for up to four years if the occupation was listed on the Medium and Long-term Strategic Skills List (MLTSSL).

The 482 visa differs from the 457 in the following ways;

- Strengthened English language requirements.
- A requirement for visa applicants to have two years' work experience in their skilled occupation.
- Mandatory labour market testing (LMT), unless an international trade obligation applies, or the occupation or position is considered 'select'.
- Capacity for only one onshore visa renewal under the Short-Term stream.
- Capacity for visa renewal onshore and permanent residence eligibility after three years under the Medium-term stream.
- A non-discriminatory workforce test to ensure employers are not actively discriminating against Australian workers.

- A requirement for all sponsoring employers to pay a contribution to the Skilling Australians Fund (the Fund - administered by Education and Training) by way of a SAF levy (collected by DHA) (Joint Departmental Submission 2019),
- Caveats that exclude selected occupations in certain circumstances.
- A requirement that the applicant be considered a genuine temporary entrant if the applicant's occupation is on the STSOL.

Between 2010/2011 and 2013/2014 holders of 457 temporary visa holders represented two thirds of all employer-sponsored permanent visa grants, 59 per cent received an employer-sponsored permanent visa and an additional 10 per cent received a skilled independent permanent visa (OECD 2018). This suggests that the program was quite effective in attracting migrants with the right skills who addressed specific skills needs. Moreover, the OECD (2018) analysis indicated that the lower skill levels of the 457 visa holders were not associated with weaker labour market outcomes relative to others because they entered Australia with a job already organised. Longer-term labour market outcomes were, however, not assessed in the analysis.

Working Holiday Makers

In addition to the temporary labour migration visas outlined above, working holiday makers (WHM) also contribute significantly to Australia's migrant labour force. The WHM program includes the Working Holiday visa (subclass 417) and Work and Holiday (subclass 462). Its main purpose is to 'foster people-to people links between Australia and partner countries, with particular emphasis on young adults' (DHA 2019c, p. 3). As at 30 June 2019 there were 42 partner countries and regions with bilateral agreements enabling citizens to come to Australia under the WHM program. Of these, 19 were Working Holiday (subclass 417) visa arrangements and 23 were Work and Holiday (subclass 462) visa arrangements. The key differences between the two visas are that Work and Holiday visas have caps on the number of visas granted annually and have additional eligibility requirements such as English requirements, successful completion of at least two years of post-secondary study and a letter of home government support (DHA 2019c). Conditions that apply to all WHM applicants include that they must:

- be aged 18-30 (inclusive) at time of application, or 18-35 for citizens of Canada and Ireland
- hold a passport from an eligible partner country or region
- not be accompanied by dependent children during their stay in Australia
- meet financial, health and character requirements

Working holiday makers can work for the full duration of their 12 month stay in Australia, though they are not able to remain with a single employer for longer than six months except under certain conditions. First-time 417 visa holders who complete three months of work in the agriculture, mining or construction industries in regional Australia may also apply for a second WHM visa. This includes working anywhere in South Australia in one of the specified industries. First time 462 visa holders who complete three months' work in the agriculture, tourism or hospitality industries in northern, remote or very remote Australia can also apply for a second WHM visa. A third WHM visa is also available to visa holders who carry out six months of the specified work for their respective visas.

Working holiday makers make a particularly significant contribution to the agriculture and tourism sectors in Australia. They primarily contribute to responding to the low-skilled, seasonal vacancies in these sectors.

Table 2-2 shows that of the 83,659 WHMs who lodged a tax return in 2017-18, 19 per cent worked in agriculture, while 14 per cent worked in hospitality.

Table 2-2 Top 10 self-identified occupation groups for WHMs who lodged a 2017-18 tax return

Occupation group	%
Farm, forestry and garden workers	19%
Hospitality workers	14%
Factory process workers	11%
Other labourers	10%
Construction and mining labourers	4%
Food preparation assistants	3%
Food trades workers	3%
Cleaners and laundry workers	3%
Business, human resource and marketing professionals	3%
Sales assistants and salespersons	2%

Source: ATO 2019

Following the announcement of an 'in principle' Australia-UK Free Trade Agreement in June 2021, concerns have been raised about the continuity of supply of WHMs from the UK to agricultural businesses. These concerns stem from the intended extension of visas to UK nationals under 35 to stay and work in Australia for up to 3 years without a requirement to undertake specified regional work, such as work on a farm (DFAT 2021a). The UK is the main source of both first and second WHM visa grants (DHA 2019c).

International students

International students are another significant contributor to the Australian migrant labour force. The OECD (2018) found that between 2010/11-2015/16 students and holders of graduate visas (485 visa holders) accounted for 37 per cent of new permanent skilled independent visas (excluding skilled, employer sponsored and State/Territory nominated).

International students who visit Australia on a Student Visa (subclass 500) can work up to 40 hours per fortnight while their course is in session, or for an unlimited number of hours during course breaks. The student program is demand driven, with no cap on the number of student visas available (OECD 2018). There are different constraints on spouses and partners undertaking work, which depend on the level of course being studied.

Following graduation from at least 2 years full-time study an international student can also apply for a Temporary Graduate Visa (subclass 485). There are no restrictions on the type of work a Temporary Graduate visa holder can do and visa holders may work or study in any field, regardless of their study and qualifications. However, if a 485 visa holder wishes to apply for permanent residency they are incentivised by the additional points they can earn by gaining work experience in their field of study. There are three streams to this visa, including:

- Graduate Work stream - for international students who have recently graduated with the skills and qualifications that relate to an occupation on the Medium and Long-term Strategic Skills List. Applicants

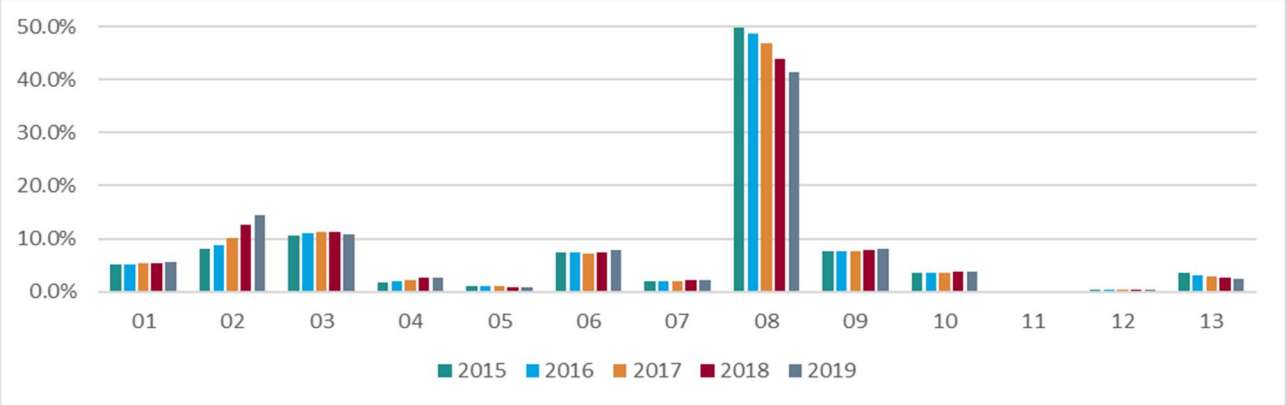
in this stream must have completed a trade qualification, diploma or degree. A positive skill assessment is also required at the time of decision. Successful applicants are granted a visa of 18 months validity.

- Post-Study Work stream - for international students who have recently graduated with an Australian Bachelor degree, Masters degree or Doctorate from an Australian educational institution. This stream is only available to international students who applied for, and were granted, their first student visa on or after 5 November 2011. Successful applicants are granted a visa of two, three or four years duration, depending on the highest educational qualification they have obtained.
- Second Post-Study Work stream - for holders of a first Temporary Graduate visa in the post-study work stream who graduated with a degree from an Australian institution located in a regional area. It allows successful applicants to live, work and study in Australia for between 1 and 2 years.

Since December 2016 the proportion of international students in Australia who were studying in the Higher Education sector averaged around 57 per cent. An average of 30 per cent were studying in the Vocational Education and training sector over the same period (DHA 2018a & 2020a). Figure 2-1 and Figure 2-2 show that management and commerce is the field most commonly studied by international students in both the Higher Education and Vocational Education sectors. In Higher Education this is followed by information technology, which has been growing in popularity and then engineering and related technologies. By contrast, in the vocational education sector the second most popular field of study amongst overseas students is food, hospitality and personal services, followed by society and culture.

Being able to work during and after the completion of study is an important factor in international students' decision to study in Australia rather than another destination (Tran et. al. 2019). A 2019 survey found that the pathway to permanent residence was the most important feature of the 485 visa for respondents (Tran et. al. 2019). However, only 36 per cent of 485 holders who remained in Australia worked in their field of study compared to almost 50 per cent for those returning to their home country. The most common sectors that 485 visa holders worked in that were not related to their field of study were retail (23 per cent, restaurant and cafes (14 per cent) and the education and training sector (15 per cent) (Tran et. al. 2019).

Figure 2-1 International students[a] who undertook study in the Higher Education sector in Australia between 2015-2019 by field of study

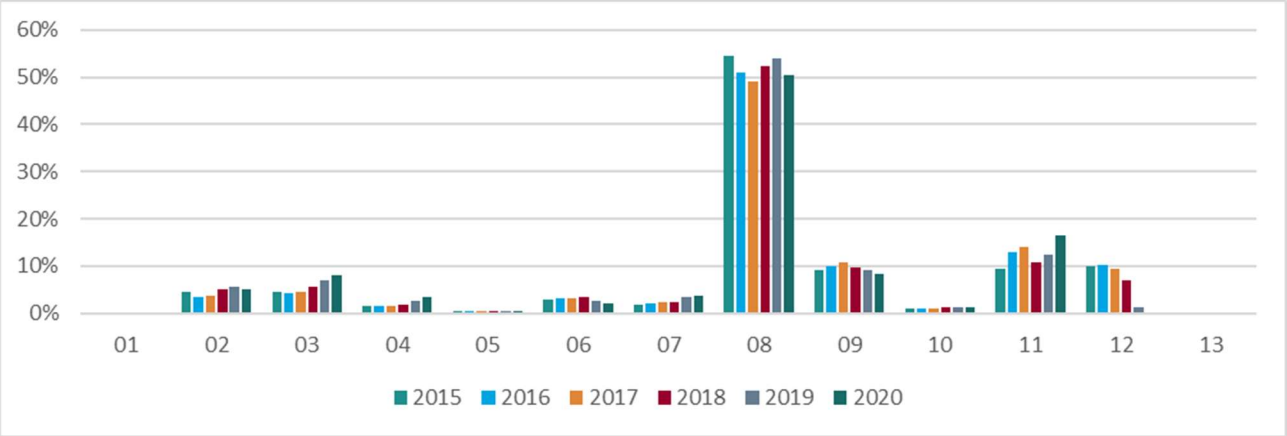


01 Natural and physical sciences, 02 Information technology, 03 Engineering and related technologies, 04 Architecture and building, 05 Agriculture, environment and related studies, 06 Health, 07 Education, 08 Management and commerce, 09 Society and culture, 10 Creative arts, 11 Food, hospitality and personal services, 12 Mixed field programmes, 13 No field of education

[a] International students includes students who have temporary entry visas, or are diplomats or a dependent of a diplomat (except New Zealand) and reside in Australia during the unit of study, and non-domestic students residing outside Australia during the unit of study.

Source: DESE 2020

Figure 2-2 International students[a] who undertook study in the Vocational Education sector in Australia between 2015-2020 by field of study



01 Natural and physical sciences, 02 Information technology, 03 Engineering and related technologies, 04 Architecture and building, 05 Agriculture, environment and related studies, 06 Health, 07 Education, 08 Management and commerce, 09 Society and culture, 10 Creative arts, 11 Food, hospitality and personal services, 12 Mixed field programmes, 13 No field of education

[a] International students refers in this case to students who hold a student visa or temporary residency permit of who reside in an overseas country for the purpose of undertaking education and training and who only received training in Australia during the collection period

Source: NCVER 2021

2.2. Labour migration in South Australia

Although Australia's labour migration system is highly effective at achieving national goals, its singular application across the nation means that some states have found it more fit for purpose than others (Economic and Finance Committee 2019). Immigration laws in Australia are centrally administered at the Federal level through DHA and are largely applied uniformly across the whole country, with some provisions for areas classified as 'regional and low population growth' (Category 2 or 3). For the purpose of immigration, the whole of South Australia, including metropolitan Adelaide, is classified as regional to encourage migration to the state. In Adelaide, this Category 2 regional status means that it has access to the following regional incentives:

- Priority processing of regional visas
- Access to the Regional Occupations List – more jobs compared to non-regional lists
- International graduates with a bachelor or higher qualification from a regional campus of a registered institution will be eligible to access an additional 1 year in Australia on a post-study work visa.

The rest of South Australia is classified as Category 3 and receives the additional incentives:

- International graduates with a bachelor or higher qualification from a regional campus of a registered institution are eligible to access an additional 2 years in Australia on a post-study work visa
- Priority in negotiating region-specific Designated Area Migration Agreements (DAMAs).

The South Australian Government has entered into two DAMAs:

- The Adelaide Technology and Innovation Advancement Agreement:
  This agreement focuses on Adelaide's high-tech growth industries including defence, space, technology and advanced manufacturing industries. This DAMA covers metropolitan Adelaide and includes

concessions such as increasing the age eligibility from under 45 to under 50 years old for the temporary visa and permanent residence pathway (Economic and Finance Committee 2019).

- South Australian Regional Workforce Agreement:
  This agreement focuses on South Australia's regional high growth industries including agribusiness, forestry, health and social services, tourism and hospitality, construction and mining. This DAMA covers the entire state of South Australia and includes the following concessions:
  - providing access to additional occupations that are not listed on the standard 482 occupation lists;
  - up to a 10 per cent reduction in the TSMIT and other TSMIT concessions;
  - reducing the English language requirement;
  - concession in the skills assessment;
  - increasing the age limit from under 45 to under 50 years old for the temporary visa and permanent residence pathway (Economic and Finance Committee 2019).

These two agreements make it possible for South Australian businesses to sponsor skilled and semi-skilled overseas workers for positions they cannot fill with local workers.

There are also Industry Labour Agreements (ILA) that South Australian businesses can benefit from. These agreements are industry specific and allow businesses to sponsor skilled overseas workers in specific occupations for up to 4 years and, usually have provisions for pathways to permanent residence.

Existing ILAs include:

- The Dairy Industry Labour Agreement
- The Fishing Industry Labour Agreement
- The Meat Industry Labour Agreement
- The Minister of Religion Labour Agreement
- The On-hire Industry Labour Agreement
- The Pork Industry Labour Agreement
- The Restaurant (fine dining) Industry Labour Agreement
- The Advertising Industry Labour Agreement
- The Horticulture Industry Labour Agreement

In South Australia, there is a preference amongst employers to recruit local workers, however they are finding it increasingly difficult to do so as local people out-migrate for study and better employment opportunities (Economic and Finance Committee 2019). This means that, in some industries, regional employers are becoming increasingly dependent on migrant workers to fill gaps in their operations and opportunities for growth and expansion are hampered by the lack of a readily available workforce.

Table 2-3 shows that South Australia has consistently had lower levels of permanent employer sponsored visas in comparison to high numbers of state/territory nominated independent (STNI) migrants. Numbers of employer sponsored visa grants in South Australia have been declining since 2012-13 and in 2019-20 these numbers dropped significantly. This balance of visas may be problematic for South Australia because the OECD (2018) has found that STNI migrants tend to have poorer labour market outcomes in comparison to employer sponsored migrants and they have higher interstate mobility. This is consistent with the findings of a survey of State-sponsored/nominated skilled migrants in South Australia under the General Skilled

Migration programme during 2010-2014 which found that 58 per cent of respondents were dissatisfied with the employment opportunities available in South Australia and that 37 per cent intended to migrate or had already migrated out of South Australia (Tan et. al. 2019). Of those respondents intending to move, 82 per cent attributed this to a lack of employment opportunities, or better career opportunities being available elsewhere (Tan et. al. 2018).

Table 2-3 South Australia, Skilled Migration Program Outcomes by Visa Category, Program Years 2012-13 to 2020-21

Skilled visa category	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Business Innovation and Investment	294	240	272	319	665	759	1,004	551	1,317
Distinguished Talent*	1	0	0	0	0	9	0	89	13
Employer Sponsored	2,814	2,332	1,614	1,801	1,805	1,130	1,740	522	405
Skilled Independent	946	1,483	1,671	1,539	1,207	1,111	657	298	99
Skilled Regional	447	196	163	228	136	208	92	6,080	2,289
State/Territory Nominated Visa Classes	4,432	3,729	6,981	5,617	4,425	6,205	4,249	2,429	1,716
Total	8,934	7,980	10,701	9,504	8,238	9,422	7,742	9,969	6,260

Note: Includes primary and secondary applicants.
*In 2019-20 the Distinguished Talent visa was replaced by the Global Talent (independent) visa
Source: DHA 2019a, DHA 2019b, DHA 2020a, DHA 2021a.

Table 2-4 also shows that South Australia takes in a comparatively small, and decreasing, proportion of temporary skilled migrants nationally. Importantly, following the abolition of the 457 visa and its replacement with the 482 visa in 2018, South Australia's share of temporary skilled migrants dropped to its lowest level since 2012-13 at just 2.1 per cent. This decrease occurred despite measures such as the classification of South Australia as 'regional and low population growth', concessions such as a lower TSMIT and access to additional occupations under the DAMA, and continuing workforce shortages in the state.

Table 2-4 Employer-sponsored temporary skilled migrants, Program Years 2012-13 to 2018-19

State/Territory	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
NSW	24,158	19,693	20,389	19,706	21,423	15,488	19,331
VIC	14,395	12,261	12,664	11,546	11,724	9,351	11,562
QLD	10,945	7,547	6,384	5,378	5,203	3,792	4,360
WA	14,655	8,605	8,238	5,963	5,241	3,353	4,019
SA	**2,025**	**1,658**	**1,529**	**1,157**	**1,035**	**1,066**	**872**
ACT	938	840	823	672	709	571	469
NT	913	1,031	830	716	846	552	368
TAS	374	264	248	252	216	226	235
Not Specified	83	40	20	5	83	47	5
Total	68,486	51,939	51,125	45,395	46,480	34,446	41,221

Source: DHA 2019a, DHA 2019b

2.2.1. Specific issues with the current migration system for regional South Australian businesses

The problems that businesses in regional South Australia face when trying to access temporary migrants to address labour shortages are well-established, with several reports in recent years outlining the specific barriers (South Australian Centre for Economic Studies [SACES] 2017, Commonwealth of Australia 2019, Economic and Finance Committee 2019, Business SA 2020). The central issue stems from the current immigration system being controlled at the national level, with its primary aim to achieve long-term national outcomes. However, this focus does little to address regional South Australia's chronic labour shortages. There is a mismatch between the semi-and low skill needs of many regional businesses in SA and Australia's focus on bringing in high-skilled labour (SACES 2017).

Although the measures outlined in the previous section, such as DAMAs, ILAs and South Australia's classification as regional, there is evidence that these are doing little to alleviate skills and labour shortages in regional South Australia. For instance, the 2020 Business SA Regional Voices survey found that skills availability was the top issue facing both individual businesses and regions overall. Yet this has occurred within the context of a *decreasing* number of employer-sponsored temporary skilled migrants entering South Australia (see Table 2-4). Businesses indicated that their two biggest issues in regards to skills shortages were 'finding appropriately skilled people willing to move to their region (16 per cent), and attracting high skilled trade or professionals even when offering competitive rates (15 per cent)' (Business SA 2020, p. 14).

Regions that considered skills availability to be the number one issue facing their businesses included; Yorke Peninsula, Mid-North and Port Pirie, The Riverland, South East and Limestone Coast, Adelaide Hills, Murraylands, Mount Barker and Strathalbyn, the Eyre Peninsula, Whyalla, Port Augusta and Far North, Kangaroo Island and Barossa, Gawler and Light and Adelaide Plains.

Only the Fleurieu Peninsula, McLaren Vale and Victor Harbor did not consider skills availability to be a top concern, with electricity costs the top rated issue. Whyalla, Port Augusta and Far North also gave an equal rating of importance to COVID-19 restrictions as its top issue in addition to skills shortages.

In 2017 SACES undertook research that involved interviewing South Australian businesses about the issues they faced when attempting to access labour through immigration. They identified the following seven main ways that the current migration system did not meet the needs of the South Australian economy or South Australian firms:

- the use of a single level for the TSMIT makes visas which are required to meet it much less useful in lower wage regions, which is most of South Australia;
- the use of ANZSCO definitions to classify jobs to occupations and skill levels can disadvantage employers in sectors where ANZSCO no longer reflects contemporary usage;
- the skills gaps identified by many regional South Australian employers are often for occupations that require Certificate III or equivalent, but such occupations are not typically eligible for skilled worker visas;
- the lack of regional flexibility on the occupations listed, and the fact that such lists do not take into account that in rural areas an employee will often be required to cover aspects of several jobs, means that the occupation lists do not do a good job of reflecting the needs of regional SA (or indeed regional employers elsewhere);
- South Australian owner/managers of small businesses have a high average age, making identifying potential purchases for their businesses important. In theory, the BIIP visa could allow South Australia to draw on the savings and business experience of potential migrants to meet some of this need. However, the value of investment required for the Business Innovation stream of the BIIP visa is high relative to the typical value of South Australian small and medium enterprises, making most of them ineligible for purchase by someone entering on such a visa;
- South Australia's educational institutions currently recruit a large share of their students (and a larger share than other jurisdictions) from countries which are treated by the Department of Immigration and Border Protection as higher risk under the new Simplified Student Visa Framework. Visa applicants from these countries must meet particularly stringent evidentiary requirements to demonstrate that they are a genuine temporary entrant, and can complete their course. If this discourages such students from applying, and/or results in student visa refusals, then South Australia's share of international VET students (already disproportionately low) may fall further; and
- it was felt that BIIP visas generally do a poor job of increasing the number of entrepreneurs in Australia, or in assisting retiring business owners find potential purchasers, and that the local business environment, and the national investment levels set for key streams of this visa made it even less suitable for South Australia's needs (SACES 2017).

2.2.2. South Australian industry case study: Horticulture

Labour supply in the horticulture industry is an ongoing problem nationally with a well-established reliance on migrant workers that stems from rapid growth since the 1980s when the industry began supplying export markets (Howe et. al. 2017). What sets horticulture, and to some extent, agriculture more broadly, apart from other industries that rely on migrants is the low-skill, low-wage nature of the work. Given that Australia's migration program is strongly focussed on bringing in high-skilled workers, the horticulture industry must rely on specific programs that enables it to utilise low-skilled migrants. The main sources of labour that the horticulture industry uses nationally are:

- Working Holiday Makers (described in detail in Section 2.1.2)
- The Pacific Australia Labour Mobility scheme, which includes two streams:
  - The Seasonal Worker Program – for jobs up to 9 months
  - The Pacific Labour Scheme – for jobs between one and three years
- Australian workers who are citizens or permanent residents, many of whom are recent migrants to Australia (Howe et. al. 2017).

The horticulture industry can also source labour through the Horticulture Industry Labour Agreement, though this only came into effect in January 2020 so has not yet proven to be a primary source.

Nationally, WHMs are the primary source of labour supply for the horticulture industry and are generally an effective solution for growers with crops with short or stop-start seasons (Howe 2019). Tan et. al. (2009) suggests that WHMs consistently make up between 50 per cent and 85 per cent of the national low skilled seasonal workforce in horticulture.

The introduction of border closures in March 2020 in response to the COVID-19 pandemic restricted the availability of WHMs to the horticulture industry, causing an estimated 36-59 per cent labour supply shortage over November 20 to June 21 (Ernst & Young 2020b). This means that only 67-80 out of every 100 casual roles would be filled (Ernst & Young 2020b).

Fruit growers in the Riverland are particularly dependent on WHMs (Howe 2017). Analysis conducted by Ernst & Young (2020a) estimated that the region was short around 3,215 roles between April and December 2020, following the COVID-19 closure of borders.

Despite high unemployment rates and an unsuccessful push from the State Government to encourage unemployed locals to take up fruit picking, these labour shortages persisted. This suggests that a solution that involves local labour is unlikely. To address this, a dedicated quarantine facility was established to enable Pacific Island seasonal workers, as part of the Commonwealth Seasonal Worker Programme and Pacific Labour Scheme to cover critical worker shortages in agriculture and horticulture (Premier of South Australia 2021). The intention was to bring in 1200 seasonal workers across three months.

In contrast, vegetable growers in Virginia are largely reliant on local workers who are either refugees or recently settled skilled permanent migrants who were unable to find work in their chosen field (Howe 2017). Although the Virginia region has a high level of unemployment among people from Anglo-Celtic backgrounds in the region, they do not take up employment in the low-skilled positions in the vegetable industry (Howe 2017). As such, rather than the sudden acute shortages faced in the Riverland, shortages experienced in Virginia pre-date COVID-19.

2.2.3. Recent developments in migration policy and COVID-19

Since the border closures were introduced in South Australia in March 2020 in response to the COVID-19 pandemic, flows of migrants have been restricted, creating even more acute labour shortages in regional South Australia. Several measures have been introduced to address the crisis, some of which could have long lasting benefits. The measures introduced included:

- Introduction of the Temporary Activity visa (subclass 408) aka 408 COVID-19 Pandemic Event Visa – this visa was introduced to allow migrants working in a critical sector (agriculture, food processing, health care, aged care, disability care, child care, or tourism and hospitality) for up to 12 months (Hawke 2021).
- Removal of work caps for Student Visa holders employed in the tourism and hospitality sector (Hawke 2021) - the 40 hour per fortnight cap on working hours during study periods was removed for students working in these critical sectors.
- Increasing the number of migrants in Australia through the PALM Scheme to address workforce shortages in the primary industries sector – as at 30th September 2021 there are 15,600 Pacific and Timorese workers in Australia, with a further 12,500 Pacific workers expected to arrive by March 2022 (DFAT 2021b).
- Announcement of the Ag Visa - in June 2021 an Ag Visa was announced by the Federal Minister for Agriculture and Northern Australia (Littleproud 2021). Few details have been provided about the visa including eligibility requirements (DFAT 2021b). The intention is for the visa to involve bi-lateral agreements with ASEAN partner countries which are yet to be established. There are also expectations that the visa will provide pathways to permanent residency, that workers will be able to move between employers and that there will be no cap on numbers.

Recommendations of the Joint Standing Committee on Migration

In August 2021 the Joint Standing Committee on Migration released an Inquiry into Australia's Skilled Migration Program with reference to whether the migration program is meeting its intended objectives. It made eighteen recommendations for changes to the migration program, some of which could address concerns raised in our consultation findings in Section 3. The recommendations are summarised below:

1. A dynamic national workforce plan should be developed that addresses Australia's persistent skills shortages and future workforce needs through Australia's higher and vocational education systems, employment services and the skilled migration program.
2. ANZSCO should be replaced with a more flexible system that adapts to emerging labour market needs in consultation with industry.
3. Develop accepted definitions of acute skills shortages and persistent skills shortages; and, provide employers looking to fill jobs on the PMSOL with more streamlined processes.
4. Consolidate the Medium and Long Term Strategic Skills List and the Short Term Skilled Occupation List into one list: the Skilled Occupation List (SOL).
5. The Priority Migration Skilled Occupation List (PMSOL) should be replaced by an Acute and Persistent Skills Shortage List (APSSL).
6. The skills lists should be regularly reviewed.
7. DHA should change the visa conditions for the 482 visa to provide a pathway to permanent residency. All employer nominated visas should provide the option of a pathway to permanency. Conditions for permanency should continue to include competent English language ability and be restricted to people aged under 45.

8. The following concessions should be made for temporary regional visas: LMT can occur up to 12 months before nomination application lodgement, the age limit should be raised to 50, English language requirements should be at vocational English, prior experience required should be reduced to 2 years, priority visa processing should be implemented.
9. The TSMIT should be increased in accordance with the Review of the TSMIT (2017), with consideration of exemptions or different rates for regional areas.
10. High performing international student graduates who meet certain criteria should be: made eligible for a discount (from 3 to 2 years) on the work experience component for permanent residency under the employer nominated scheme, awarded additional points for a points-based visa, considered for longer (3 year) temporary graduate visas.
11. Enable intra-company transfer of executive employees of multinational companies to Australia for these companies to expand their operations in Australia, including an exemption from labour market testing.
12. The DHA visa processing system should be updated to ensure a more streamlined visa application process.
13. DHA should establish industry liaison officers to assist businesses in navigating the skilled migration program and provide feedback on emerging conditions in industry; and, provide a specialist triage system to provide advice on complex visa applications that makes officials available to discuss visa applications over the phone and allows skilled visa applicants and employers the opportunity to correct minor discrepancies.
14. Extend the timeframe for employers to undertake LMT prior to nomination from 4 to 6 months during the pandemic recovery.
15. Exempt businesses from LMT when a 457 or 482 visa holder has been employed in the position on a full-time basis for 12 months or more prior to lodgement of a subsequent application or permanent residence application.
16. Employers should be exempt from paying the Skilling Australia Fund levy twice for the same applicant.
17. Universities should be exempt from the Skilling Australia Fund levy.
18. The Skilling Australia Fund levy should be refunded where a visa application is unsuccessful.

2.3. Recent research on the economic impacts of migration

Recent high-profile modelling has focused on the national scale impact of national scale policy settings with some limited state scale impacts reported (Productivity Commission 2016, Commonwealth of Australia 2018, Coates et. al. 2021). These studies have not considered more nuanced policy settings (such as region or industry differences), nor have they modelled the impact at a sub-state level. This appears to be for two key reasons: terms of reference have typically focused on the national scale and modelling at the sub-state level is extremely complex in the dynamic general equilibrium framework required to address the national scale terms of reference. It is appropriate for the effect of national scale policy to be modelled at the national scale, however a lack of analysis of distributional effects means that these analysis tend not to identify winners and losers. The terms of reference, modelling method and findings from the Productivity Commission's Inquiry into the impacts of immigration in 2016 is described below as an example of this approach.

The Productivity Commission undertook an inquiry into the impacts of immigration in 2016 on request of the Australian Government. Broadly, the terms of reference asked the Commission to examine:

- the costs and benefits of temporary and permanent immigration
- options for determining the intake of migrants with a greater focus on charges
- the interaction between temporary and permanent immigration (Productivity Commission 2016).

To model the economic impact of migration, the Commission applied dynamic general equilibrium modelling and adjusted net overseas migration in the model to see how an increase in overseas immigration may impact Australia's economy in terms of key economic indicators including, most importantly, gross domestic product per capita. The Commission presented results nationally and at state level, but not at a sub-state level. A lower skill immigration scenario was also modelled but results were presented only at the national level. The key results from the modelling were that increasing net overseas migration would, for each state and territory, lead to:

- larger population
- larger labour force
- greater gross state product
- greater gross state product per person (except Western Australia).

The separate modelling of changing the makeup of net overseas migration towards relatively lower pay, lower skilled migrants found that this would lead to lower gross domestic product per person nationally. However, the scenario was run as a national policy i.e. the result was driven by lower skilled migration to cities.

The Commission concluded that '[this] modelling highlights that, over the long term, selecting migrants with higher rates of workforce engagement and employment in skilled and high-demand occupations is likely to deliver improved economic outcomes' (Productivity Commission 2016).

2.4. Labour shortage data in Australia

Relevant datasets are those that describe the workforce needs of businesses that could be appropriately satisfied by migrants. These datasets may enable estimation of the number of migrants required to fill current labour market needs.

The **Internet Vacancy Index (IVI)** published by Department of Education, Skills and Employment (2021) is a monthly dataset of internet advertised job vacancies in Australia. Listings are aggregated from job advertisement websites, all other channels of job advertisement are excluded such as word of mouth, community notice boards and employer websites. Each advertisement is counted once so the dataset does not include multiple positions on one advertisement. As a consequence, it is difficult to estimate the true number of vacant positions based on the IVI (see consultation findings in Section 3.1). At a national scale, datasets are available at the detailed 4-digit ANZSCO occupation classification or separately by skill level. At the regional scale, datasets are available at the less detailed 2-digit ANZSCO occupation classification. At both the national and regional scales, datasets are published as a 3 month moving average and monthly index.

The **Skills Priority List** is an annual publication produced by the National Skills Commission (NSC 2021a) to review the skills needs of Australia. It produces a detailed list of occupations (ANZSCO 6-digit) for each state and territory as well as Australia and rates each as one of: shortage, metropolitan shortage, regional shortage or no shortage. It also rates future demand for each at a national level as one of: strong, moderate

or soft. The list is based on a model that uses survey data from peak bodies and industry associations to determine whether positions have been unusually difficult to fill for each industry over the previous year. While the list is based on reasonable methodology and data (NSC 2021b), its utility for identifying in-demand migrants has some key constraints:

- occupations are described using ANZSCO, which may not represent some occupations in shortage
- job listings are historical so do not represent the current state when published
- the model is driven by survey data of associations so is one step removed from employers and includes error as with all surveys
- datasets are published at state level so relative shortages of regional areas are not reported.

For these data sources to be utilised for setting migration policy, data needs to be collected, analysed, published and incorporated into policy. Further, the data must be collected and analysed using an occupation specification that reflects the reality of skills shortages. As suggested in Section 2.2.3, this may not be the case.

3. CONSULTATION FINDINGS

Published data and statistics go some way to describing the labour situation of businesses in South Australia but to understand the factors that underlie businesses' persistent struggle to meet their workforce needs and the practical considerations for using migration to address some of this need, semi-structured interviews were undertaken with a cross section of businesses, industry associations and regional organisations across South Australia. This section presents the findings from this consultation.

3.1. Labour shortages in regional SA

The research confirmed that many industries and businesses in regional South Australia are experiencing prolonged labour shortages that cannot be addressed with local recruitment. Although many participants mentioned the additional challenges that COVID-19 border closures have presented, in all cases the labour shortages pre-date those restrictions.

We found that there were ongoing shortages across both skilled and unskilled positions. Table 3-1 outlines the reasons identified for ongoing labour shortages in the industries represented in the research. Some shortages were a result of insufficient numbers of locals choosing to train in a particular area, while others were a result of the undesirability of the positions because of location, seasonal variations in demand for workers and limited scope for career progression or the tasks involved in the job. Table 3-2 outlines the various positions identified by participants for which there remains ongoing shortages.

The research also indicated that across all of the industries we spoke with, labour shortages were the number one issue they face. Table 3-3 outlines the other issues faced in each of the industries covered in the consultation, noting that in all cases, the shortage of labour remained the most pressing issue.

We found that the number of advertisements indicated in the IVI (Section 2.4) is likely a poor indicator of the number of vacancies. Interviews with RDA organisations suggested that there may be between approximately 2 and 7 vacant positions for every position advertised online. This was supported by interviews with larger businesses that tended to have just a few active job advertisements online while being ready to fill tens of positions.

Table 3-1 Reasons identified for ongoing labour shortages

Reasons	Description	Affected industries
Undesirability of relocating to a regional town	Low service availability, lack of infrastructure, few options for schools, poor transportation infrastructure.	All regional
Outmigration	Better opportunities in the city or other states, education opportunities are better elsewhere.	All regional
Insufficient numbers of locals choosing to train in the industry	Negative perceptions about industries and the types of work involved, often perpetuated by parents, peers and school career advisors can lead potential students to choose alternative career paths.	Automotive industry, hospitality, horticulture
Specific training needs are not available in Australia	No scaffolding trade is offered in Australia.	Construction
Poor quality candidates	Changing industry needs do not match school career advisor perceptions about the skill requirements for some industries.	Automotive industry
Low wages and competition from other industries for candidates	Mining, building and construction pays better than the automotive industry. Aged care and retail pay better than disability care, working in a hospital attracts better pay than working in aged care in regional locations.	Automotive industry, aged and disability care.
Seasonal work	Low-skill seasonal work is unappealing to the local population who seek stability.	Horticulture
Undesirable work	Meat processing, late night service station work and cookery all involve hard, or inconvenient working conditions.	Meat processing, retail, hospitality

Source: BDO EconSearch analysis

Table 3-2 Occupations available by industry

Industries	Occupations available
Hospitality	Qualified chefs, cooks, food and beverage attendants.
Aged and disability care	GPs and Allied Health workers and professionals (e.g. psychologists), direct care nurses (RN, EN and care workers), personal support workers (daily living and support needs).
Automotive	Mechanics, panel beaters, vehicle spray painters, automotive electricians, vehicle detailers, engine re-conditioners, automotive glaziers, salespersons, tyre fitters, vehicle body builders.
Primary production	Boat drivers, fish filleters, mechanics, harvester operators, farmers, forklift drivers, truck drivers, maintenance, quality manager, processing, maintenance, crew, livestock (handlers, farmhands).
Retail	Service station attendants.
Construction	Crane operators (semi-skilled), mechanics, truck drivers, scaffolders, sheet metal, finance and accounting, managers.

Source: BDO EconSearch analysis

Table 3-3 Other important issues faced by industry

Industries	Other issues identified
Hospitality	Rising rent, wages, utilities, cost of goods sold, COVID-19 restrictions and lost revenue and general levels of compliance. A flow-on effect of the labour shortage in the industry that was identified by one participant was that it causes upward pressure on wages without commensurate increases in prices.
Aged care	Reform and uncertainty, ensuring financial sustainability in highly regulated sectors, changing expectations of consumers and society.
Automotive	Changing technology, emerging technology with electric vehicles and how to adapt industry (training, purchase equipment).
Disability	Pricing (capped pricing under the NDIS), other NDIS issues (adjustment to a competitive market).
Primary production	Cost of farm inputs, competition issues with supermarkets etc.
All regional	Housing and transport infrastructure.

Source: BDO EconSearch analysis

3.2. Barriers and proposed changes to facilitate access to migrant labour

The specific barriers to using the immigration system to address labour shortages vary across different industries. This is because of the differing requirements and characteristics of each of the industries included and is further explored in the analysis below. Table 3-4 outlines the specific barriers identified by each of the industries included in the consultation.

Table 3-4 Specific barriers to using the current immigration system to meet workforce needs in South Australia

Industries	Barriers to using migrants
Hospitality	• Costs (sponsorship, recruitment, migration agent) • Complexity and uncertainty, particularly for small businesses • Processing time • LMT.
Aged and disability care	• Without the DAMA the TSMIT would be too high for personal care workers, prioritisation of Commonwealth countries, even though English speaking Filipinos would be more suitable • Complexity of applications • Requirement to guarantee 2 years full time employment with a single employer under the DAMA is inappropriate for the sector • Strict requirements of the NDIS and DAMA are difficult to meet.
Automotive	• Migrants must be suitably skilled • Cost and risk for smaller businesses is often too great, the cost of the training levy and the migration agent • Occupations list is not comprehensive enough under the DAMA • Uncertainty of the process • LMT requirements
Primary production	• ANZSCO is not fit for purpose in primary production • English requirements are too high for low-skilled workers.

Source: BDO EconSearch analysis

Changes to the current system that would facilitate easier access

We asked nine businesses what changes to the current immigration system would make their business more likely to sponsor international migrants to address labour shortages. Eight of the nine businesses responded to the question. The results indicated that there are many changes that would make it easier for businesses to engage with the immigration system. With a small sample of just eight businesses, no reliable conclusions can be made from this survey, though it provides a starting point for wider consultations.

Importantly, there were distinct differences across industries. For example, although 'broadening the migration program to include lower skilled occupations" was only rated as important by 38 per cent of the total surveyed businesses, amongst the horticulture industry it was rated as one of the most important barriers. Similarly, only 38 per cent of the total sample of businesses indicated that lowering the TSMIT was a change that would definitely make them more likely to sponsor international migrants. Yet, 75 per cent of horticulture businesses indicated that it would. This is because of the variation in skill needs across industries. For example, the TSMIT does not pose a barrier to the construction industry because they require skilled migrants who would be paid above the TSMIT rate regardless of its existence.

The effect of the TSMIT is important to understand given the recent recommendations to increase it (Section 2.2.3). The TSMIT prevents businesses from accessing the migration program to fill roles where the award or market rate is below the threshold. This affects some industries more than others. For example, most interviewees from the horticulture industry suggested that a decrease in TSMIT would make them more likely to access the migration program and it was suggested that the TSMIT would be too high for the migration program to be useful to the aged care sector if it were any higher.

Table 3-5 shows the proportion of the total surveyed businesses that responded that each change would 'definitely' make their business more likely to sponsor international migrants. The proportion of horticulture businesses is reported separately because half of the respondents were from this industry and they demonstrate divergent needs to other industries.

The responses we received indicate that a varied response across industries is necessary to find optimal adjustments to the current immigration system in South Australia. This could ensure that migrant labour is accessible to businesses that find their growth restricted as a result of labour shortages.

Table 3-5 Specific changes to the current immigration system that would facilitate greater utilisation from South Australian businesses

Suggested change	% total[a]	% horticulture[b]
Simplify the application process	75%	50%
Reduce the cost to access the migration program	63%	75%
Reduce processing times	63%	50%
Simplify the labour market testing (LMT) requirements	38%	50%
Allow pathways to permanent residency for temporary visa holders	63%	50%
Allow a business to employ a migrant worker in a regional area to do more than one role only	63%	75%
Increase the age eligibility to under 50, allowing older applicants to get a waiver of the age limitation in certain situations (currently under 45)	50%	50%
Lowering the current Temporary Skilled Migration Income Threshold (TSMIT) ($53,900)	38%	75%
Removing the TSMIT and allowing a business to pay wages based on the higher of the relevant award or market salary rates	50%	75%
Broadening the number of jobs/occupations available	63%	75%
Broadening the migration program to include lower skilled occupations	38%	75%
Broadening of the skill definitions beyond those used in ANZSCO	63%	75%
Broadening of occupation definitions to include jobs that may span several classifications	50%	50%
Design programs that make it easier for businesses to retain migrants longer-term	63%	75%

a % of surveyed businesses that responded that this change would "definitely" make their business more likely to sponsor international migrants

b % of surveyed horticulture businesses that responded that this change would "definitely" make their business more likely to sponsor international migrants

3.3. Broader impacts of the current system

Participants also identified a range of benefits that could eventuate if they were able to access migrant labour more easily, some of which would extend to the wider community. Particularly, several participants noted how difficult it was to improve their business when they are constantly needing to deal with labour shortages. A sustainable migrant labour solution could allow business owners to work on management systems to improve productivity and, importantly, give them the confidence to invest in their business, knowing that they have the labour force to meet increased demand.

Participants identified a range of benefits to the wider community, including;

- Reducing the need to travel for services by maintaining essential services (such as disability and aged care) in regional locations

- Population retention in regions by allowing people who need to access such services the option to remain in their community
- Maintaining diversity of population, for example making it possible for people with disabilities to remain in regions by providing the services they need
- The ability to invest in upskilling the rest of the workforce, for example, if migrants fill supervisory positions it would be possible to take on trainees and apprentices
- Additional spending in regional communities and SA generally, such as on rent, goods and services.

A common theme from interviews in the horticulture sector was that the unmet workforce needs were causing underutilisation of assets such as glasshouses where planting has not occurred due to a lack of labour for harvest or produce being left unharvested. Further, opportunities for financed expansion of production are not being realised due to a lack of labour to facilitate production.

3.4. Factors important to matching workers with roles

Interviews revealed key factors that determine whether a temporary migrant or a permanent migrant worker is a better match for specific roles. The relevant factors identified were:

- Skill specificity – employers tended to favour permanent migrants where specific skill prerequisites are expected of migrants.
- Salary level – income thresholds in migration policy determine whether a given role with associated salary can possibly be filled through the temporary or permanent migration programs.
- Location (accommodation, lifestyle etc.) – whether temporary or permanent, businesses are aware of the lifestyle and practicalities of living in rural locations. Some businesses play an active role in community building to support permanent migration.
- On-boarding cost – roles with a significant up-front investment by the employer in training and on the job productivity improvement tend to me more suitable to permanent or longer-term (1 year or more) temporary migration.
- Seasonality – permanent migration is unsuitable for seasonal roles in isolation.
- Proportion of fte – permanent migrants can be more suitable for full-time work commitments, while temporary migrants such as international students may be more appropriate for part-time roles.
- Size of business – smaller businesses expressed hesitancy with sponsoring migrants as they are unable to absorb the risk and cost of workers leaving if they find the role unsuitable. Temporary migrants already in Australia were considered more appropriate by these businesses.

4. EXPLORATORY MODELLING

4.1. Method and Data

A long-run trend of declining access to labour being exacerbated by short-run effects of COVID-19 was a recurring theme in interviews across sectors and regions. Considering each of these time horizons highlights different causes, effects and opportunities. Many of which can be drawn out from published information and our interview data. While there is significant variation across businesses, sectors and regions, the aggregate effect of the workforce shortfall on the state is substantial. The relevant observations over the two time horizons are drawn out below as well as the implications for modelling the economic impact of addressing the shortfall.

4.1.1. Long-run observations

- Interviews suggested that horticulture, meat processing and hospitality sectors have continually relied on temporary migrants for low-skilled and semi-skilled labour.
- Interviews revealed that transient labour tends to be more suitable to sectors and roles that require little training and low skill such as fruit picking, meat processing and hospitality. While it tends to be less suitable where more training and skill is involved, such as care workers, farm managers, mechanics, skilled construction workers and irrigation technicians. Sometimes temporary workers with the appropriate skills can be found by chance as they may be studying or holidaying in Australia.
- Where transient labour is unsuitable, roles would ideally be filled by local labour or longer-term or permanent migrants. Survey participants described that it has been difficult to fill many such roles over the last decade due to a lack of appropriate local labour and a complex, costly and risky migration program. Participants suggested that this has become more difficult in recent years and has been exacerbated by COVID-19.
- Some businesses have been able to 'get by' using transient labour for these roles, others have sponsored international migrants but have reported that this has become less viable since changes to the migration program over the past decade that made it more difficult to retain sponsored workers in the long-run. The complexity, cost and risk of the migration program tends to discourage small businesses from sponsoring workers to fill these roles, leaving them unfilled and production foregone.
- Decreased production has different implications in different sectors. For example, a decrease in production of tradable goods and services such as the production of horticulture and meat processing businesses can be replaced with imports from the next best source. However, a decrease in production of non-tradable services such as aged and disability care, commercial cookery and automotive mechanics, not only reduces economic activity and choice for consumers, but also leads to outcomes that conflict with societal values such as caring for people in need and maintaining safety standards for motor vehicles.
- In both the transient and more permanent role categories, surveyed businesses reported that there are some roles that South Australians simply 'choose not to do' and are continually filled by migrant labour after businesses are unable to recruit from the local labour market.

4.1.2. Observations since March 2020

Surveyed businesses suggested that the long-term trends have been getting worse, but they were not in a state of crisis until the disruption to the availability of labour associated with COVID-19 since March 2020. The relevant observations since include:

- Population growth in South Australia has decreased due to a large decrease in net overseas migration, despite a small increase in net interstate migration (ABS 2021c).
- Surveyed businesses reported that they are struggling to hire the workers they need and the Internet Vacancy Index (DESE 2021) shows a strong increase in job vacancies in South Australia.
- Surveyed businesses reported an increase in 'poaching' of workers through wage increases and an increase in the use of incentives to retain staff such as a bonus if the worker remains until an agreed future date.
- Some surveyed businesses are failing to fulfil demand for their production due to a lack of labour such as by being unable to bid for contracts and by underutilising protecting cropping assets.
- The number of employed persons in South Australia is higher than ever and the unemployment rate is low (below 5% since July 2021) (ABS 2021b).

4.1.3. Implications for modelling

The long-run and more recent observations suggest two different opportunity costs for the South Australian economy in terms of production. First, the production foregone by filling persistent labour demand gaps most suitable to permanent residents with transient labour, or leaving them unfilled, rather than operating an effective migration program to fill them with demand driven migrants. Second, the production foregone due to reduced access to labour in the short-run, and the opportunity provided by the disruption of COVID-19 to establish a program to fulfil this labour demand with a more suitable mix of local, temporary migrants and permanent migrants through a demand driven program.

There are other opportunities associated with demand driven migration that can be modelled with existing techniques such as the effect on demographics of destination locations, the impact of increased demand for goods and services associated with the increase in population and the increased tax revenue associated with the increased production and demand.

Each new migrant is a new player in multiple markets. Migration increases supply in the labour market which may put downward pressure on wages, but also increases demand in other markets which may put upward pressure on wages. The result is an ambiguous effect on wages (Productivity Commission 2016). All of these effects are linked through markets for labour and goods and services where market forces can be expected to adjust prices and wages to reconcile the associated changes to demand and supply. When prices and wages change, so do optimal investment, consumption and production choices and the path of economic growth is altered.

This implies that a dynamic general equilibrium modelling approach is most appropriate to modelling the net economic impacts of alternative migration programs, which has been the approach taken in recent years (see Section 2.3). However, these analyses have focused on the national effects of broad national policy settings. They have not modelled local effects of national policies or any effects of policy that address key labour shortages effectively (demand driven migration policy). This means that the economic impact on regional South Australia of current policy settings is unknown, as is the likely economic impact on South Australia and Australia of effectively filling key persistent labour shortages with the migration program.

Modelling the regional economic impact of a demand driven migration policy would ideally be undertaken using a multi-region dynamic general equilibrium model such as the Victoria University Regional Model (VURM) calibrated for sub-state regional analysis, running the model for two scenarios (status-quo and a demand driven scenario), and comparing the results. The model would need to be calibrated to include

labour shortages in year 0 and assumptions applied to the hiring behaviour of firms for the demand driven migration scenario about how the selection of migrants is shaped by regional and sectorial shortages. This describes a complex model that would require the expertise of a specialised computable general equilibrium modeller to develop and operate.

However, at this point it is useful to explore the relevant regional and sectorial demand-side effects on South Australia with a comparatively simple model. The objective of doing so is to explore whether the effects are substantial enough to recommend their inclusion in modelling of the economic impacts of migration policy.

A multi-region input-output (MRIO) model of South Australia (known as RISE-MR) was developed for this purpose for the 2019/20 financial year based on ABS SA4 geography (ABS 2021a). This geography divides the state into 7 regions:

- Adelaide - Central and Hills
- Adelaide - North
- Adelaide - South
- Adelaide - West
- Barossa - Yorke - Mid North
- South Australia - Outback
- South Australia - South East.

This model is capable of estimating the net economic impact on any sector in any region, of some activity occurring in a given sector and region in terms of employment, gross regional product and generation of household income (see Section 4.1.4).

While this demand-side approach is helpful to demonstrate the types of regional and sectorial effects discussed above, it likely overestimates the economic impact as input-output analysis does not incorporate the equilibrating changes in wages and prices also discussed above with respect to general equilibrium modelling.

Three questions were posed and a scenario was developed to be modelled using the RISE-MR model for each. Each scenario was developed using a combination of interview data, published data and data from the RISE-MR model itself. In each scenario, demand driven migrants were assumed to migrate with their families in the same proportions as have skilled migrants in recent years, contributing to the demand for goods and services in the regions the families migrate to. They are also assumed to be seeking permanent residence though the modelling undertaken here consider only the first year of effects.

4.1.4. Indicators of economic activity

The results from exploratory modelling are presented using the indicators of economic activity defined in this section.

- Employment: Employment numbers are reported in either full time equivalent (fte) units or total job units defined as follows:
  - Fte jobs: is a way to measure a worker's involvement in a project or industry activity. An fte of 1.0 means that the person is equivalent to a full-time worker, while an fte of 0.5 signals that the

worker is only half-time. Typically, different scales are used to calibrate this number, depending on the type of industry and scope of the analysis but the basic calculation is the total hours worked divided by average annual hours worked in full-time jobs. In our analysis, 1 fte is equivalent to 37.5 hour weeks. In some industries, the average week is longer than 37.5 hours so there are more fte jobs than total jobs.

  - Total jobs: is used to refer to the number of workers employed in an industry at any point in time.

- Gross Regional Product (GRP): is a measure of the contribution of an activity to the economy. GRP is measured as value of gross output (business revenue) less the cost of goods and services (including imports) used in producing the output. In other words, it can be measured as the sum of household income, gross operating surplus and gross mixed income net of payments to owner managers and taxes less subsidies on products and production. It represents payments to the primary inputs of production (labour, capital and land). Using GRP as a measure of economic impact avoids the problem of double counting that may arise from using value of output for this purpose. GRP is referred to as gross state product (GSP) at the state scale and gross domestic product (GDP) at the national scale.
- Household Income: is a measure of the wages and salaries of employees and the drawings of owner operators. Household income is a component of GRP and is included in the GRP values in this report but is also reported separately to provide an understanding of how much of the value represented by GRP is received on households.

4.2. Research Questions and Results

Each research question, the associated scenario development process and data, and associated results are presented below. Horticulture was selected as a starting point for modelling as the workforce shortfall in this sector is well publicised. The scope then moves to the whole South Australian economy in Question 3.

4.2.1. Question 1

Question

If current horticulture industry vacancies thought by businesses to be appropriately filled by demand driven migrants were filled by new demand driven migrants, what would be the likely economic impact on each region of South Australia?

Scenario development process and data

1. Estimate the current number of job vacancies in horticulture[1] in the South East (1,500 vacancies), Outback (150 vacancies) and Adelaide – North (750 vacancies) using interview data.
2. Assume the horticulture labour shortage (as a proportion of horticulture workforce) in the rest of South Australia is equal to the minimum of the three surveyed regions.
3. Estimate the proportion of current job vacancies that could appropriately be filled with new international demand driven migrants based on interview data (25% across all regions) and multiply by estimated current job vacancies from 1.
4. Express the result from 2 as a proportion of the current horticulture workforce in the South East (17 per cent), Outback (13 per cent), Adelaide North (7 per cent), using estimated workforce data from

[1] Defined as fruit and nut growing, vegetable growing, and fruit and vegetable processing.

MRIO model development. Assume the minimum proportion (7 per cent) applies to the remaining SA4 regions.

5. Assume that filling the vacancies described in 2 will increase industry output by the proportions calculated in 3. Surveyed businesses suggested that current vacancies are largely in 'production areas' meaning that a proportional relationship between employment and production is reasonable.
6. Based on permanent migrant outcomes between 2015-16 and 2019-20 (DHA 2019a, DHA 2019b, DHA 2020a), assume that for each 100 primary applicants, there are 28 secondary applicants.
7. Assume a 65% participation rate for the 28 secondary applications (implying that 18 will be employed) and that they undertake similar work to the primary migrant.
8. Apply an increase in output of 18% (based on 6) to include the productive activity and demand for goods and services associated with secondary migrants.
9. Shock the RISE-MR model with the multi-region shock to industry production described in 7.

Results

From our interviews with horticulture businesses and associations in October 2021, we estimate that horticulture businesses in South Australia have approximately 3,400 job vacancies and that approximately 850 (25 per cent) of these could appropriately be filled by demand driven migrants.

The demand side economic effects of doing so are presented in Table 4-1. The results are from a static ('day after') perspective which does not consider dynamic or equilibrating effects. From this perspective and in addition to the employment and production of the migrants themselves, we expect approximately 1,000 fte jobs and $124.0 million of gross state product to be generated in the broader economy through flow-on effects. Just over half of the gross state product would consist of household income.

Most of the flow-on employment is expected to occur in the top 7 impacted sectors:

- Services to Agriculture Forestry and Fishing (113 fte jobs)
- Retail (101 fte jobs)
- Health (67 fte jobs)
- Wholesale (67 fte jobs)
- Administrative Support Services (67 fte jobs)
- Education and Training (62 fte jobs)
- Road Transport (61 fte jobs).

Flow-on employment effects are largely expected to occur in the South East where most of the migrants would reside but a significant amount of flow-on activity is expected in regions where fewer migrants would reside due to inter-regional economic linkages. For example, around 65 fte jobs are expected in Adelaide's Central and Hills region due directly to migration to the region, but an additional 237 fte jobs are expected due to the economic effects of migration across all regions and associated inter-regional linkages.

Table 4-1 Demand side economic effects on selected regional macroeconomic indicators of filling 25 per cent of current horticulture vacancies with demand driven migrants, 2019/20

	Adelaide - Central and Hills	Adelaide - North	Adelaide - South	Adelaide - West	Barossa - Yorke - Mid North	South Australia - Outback	South Australia - South East	South Australia Total
GRP ($m)								
Direct	9.8	17.4	1.0	1.2	1.4	2.8	100.5	**134.1**
Flow-on	29.2	17.1	1.7	6.5	2.1	2.5	64.9	**124.0**
Total	39.0	34.5	2.8	7.7	3.4	5.3	165.4	**258.1**
Household income ($m)								
Direct	4.0	14.3	0.7	0.9	1.0	1.6	35.1	**57.5**
Flow-on	17.3	10.4	1.2	3.8	0.8	1.0	32.5	**66.9**
Total	21.2	24.7	1.8	4.7	1.8	2.6	67.6	**124.5**
Employment (total)								
Direct	59	259	9	15	9	22	477	**850**
Flow-on	249	156	16	57	12	15	506	**1,011**
Total	309	415	25	71	21	37	983	**1,861**
Employment (fte)								
Direct	65	299	11	16	10	25	536	**962**
Flow-on	237	155	16	56	15	16	512	**1,006**
Total	302	454	27	72	25	40	1,048	**1,968**

Source: BDO EconSearch analysis

4.2.2. Question 2

The results from Question 1 suggest that the inter-regional economic linkages from horticulture activity in the South East to the rest of South Australia are significant. Question 2 focuses exclusively on this effect by modelling it on a 'per 100 vacancies filled' basis.

Question

If 100 persistent vacancies in horticulture were filled in the South East of South Australia by new demand driven international migrants, what would be the likely economic impact on the South East, on metropolitan Adelaide, and on the state as a whole?

Scenario development process and data

1. Express 100 horticulture jobs as a proportion of the current horticulture workforce in the South East (4.5%), using estimated workforce data from MRIO model development.
2. Assume that filling the vacancies described in 1 will increase industry output by the proportion calculated in 1.
3. Based on permanent migrant outcomes between 2015-16 and 2019-20 (DHA 2019a, DHA 2019b, DHA 2020a), assume that for the 100 primary applicants, there are 28 secondary applicants.
4. Assume a 65% participation rate for the 28 secondary applications (implying that 18 will be employed) and that they undertake similar work to the primary migrant.
5. Apply an increase in output of 18% (based on 4) to include the productive activity and demand for goods and services associated with secondary migrants.
6. Shock the MRIO model with the single-region shock to industry production in the South East described in 5 and analyse the multi-region effects.

Results

The demand side economic effects are presented in Table 4-2. The results are from a static ('day after') perspective which does not consider dynamic or equilibrating effects. From this perspective and in addition to the employment and production of the migrants themselves, we expect that filling 100 vacancies in the South East with demand driven migrants would generate approximately 162 fte jobs and $20.2 million of gross state product in the South Australian economy through flow-on effects. Just over half of the gross state product would consist of household income.

In the South East region, approximately 119 fte jobs are expected from flow-on effects, mostly in the top 5 impacted sectors:

- Services to Agriculture Forestry and Fishing (19 fte jobs)
- Retail (14 fte jobs)
- Health (11 fte jobs)
- Food and Beverage Service (8 fte jobs)
- Wholesale (8 fte jobs).

While the scenario modelled includes no migration to Adelaide, approximately $4.9m in gross regional product and 41 fte jobs are expected to be generated in Adelaide due to the inter-regional economic linkages to the South East. Most of the employment is expected in the top 6 impacted sectors:

- Professional, Scientific and Technical Services (7 jobs)
- Administrative Support Services (5 fte jobs)
- Insurance (3 fte jobs)
- Personal and Other Services (3 fte jobs)
- Retail (2 fte jobs)
- Wholesale (2 fte jobs).

Table 4-2 Demand side economic effects on selected regional macroeconomic indicators of filling 25 per cent of current horticulture vacancies with demand driven migrants, 2019/20

	South Australia - South East	Adelaide (all metro SA4s)	Rest of SA	South Australia Total
GRP ($m)				
Direct	24.8	0.0	0.0	**24.8**
Flow-on	14.9	4.9	0.3	**20.2**
Total	39.7	4.9	0.3	**45.0**
Household income ($m)				
Direct	8.7	0.0	0.0	**8.7**
Flow-on	7.6	3.0	0.1	**10.7**
Total	16.3	3.0	0.1	**19.4**
Employment (total)				
Direct	118	0	0	**118**
Flow-on	119	42	1	**162**
Total	237	42	1	**280**
Employment (fte)				
Direct	132	0	0	**132**
Flow-on	119	41	2	**162**
Total	252	41	2	**294**

Source: BDO EconSearch analysis

4.2.3. Question 3

Question

If current vacancies thought by businesses to be appropriately filled by demand driven migrants were filled by new demand driven migrants, what would be the likely economic impact on each region of South Australia?

Scenario development process and data

1. Estimate the current number of job vacancies in each industry within each SA4 region of South Australia. This involved converting Internet Vacancy Index (IVI) regional vacancy counts from occupations to industries with a set of occupations (ANZSCO 2-Digit) by industry (ANZSIC 1-digit) matrices of employed persons across regions using 2016 Census data (ABS 2017). It also involved assuming that one internet advertised vacancy equals one job vacancy, many reasons were suggested by interviewed businesses for this to be an underestimate or an overestimate so we have adopted the simplifying one-to-one assumption for this analysis.
2. Transform the ANZCIS 1-digit (19 industries) estimates of regional vacancies to the RISE model 78 industry classification and express as a proportion of total employment in each industry in each region using estimated workforce data from MRIO model development.
3. Estimate the proportion of current job vacancies that could appropriately be filled with new international demand driven migrants based on interview data (25% across all regions) and multiply by estimated current job vacancies from 2.
4. Assume that filling the vacancies described in 3 will increase industry output by the proportions calculated in 3.
5. Based on permanent migrant outcomes between 2015-16 and 2019-20 (DHA 2019a, DHA 2019b, DHA 2020a), assume that for each 100 primary applicants, there are 28 secondary applicants.
6. Assume a 65% participation rate for the 28 secondary applications (implying that 18 will be employed) and that they undertake similar work to the primary migrant.
7. Apply an increase in output of 18% (based on 6) to include the productive activity and demand for goods and services associated with secondary migrants.
8. Shock the MRIO model with the multi-region shock to industry production described in 7.

Results

The Internet Vacancy Index data suggests that there were approximately 12,000 vacancies in South Australia in July 2021, assuming that 25 per cent of these could appropriately be filled by demand driven migrants (based on business interview data) we estimate that approximately 3,000 vacancies could appropriately be filled by demand driven migrants.

The demand side economic effects of doing so are presented in Table 4-3. The results are from a static ('day after') perspective which does not consider dynamic or equilibrating effects. From this perspective and in addition to the employment and production of the migrants themselves, we expect approximately 3,900 fte jobs and $460 million of gross state product to be generated in the broader economy through flow-on effects. Almost 60 per cent of the gross state product would consist of household income.

Flow-on employment effects are largely expected to occur where migration (direct employment) occurs. However there are exceptions where regions are over or under-represented in flow-on effects due to inter-

regional effects. For example, Adelaide – Central and Hills receives 35 per cent of direct fte jobs but 46 per cent of flow-on effects while Adelaide – South receives 13 per cent of direct fte jobs but just 7 per cent of flow-on effects.

Table 4-3 Demand side economic effects on selected regional macroeconomic indicators of filling 25 per cent of current vacancies with demand driven migrants, 2019/20

	Adelaide - Central and Hills	Adelaide - North	Adelaide - South	Adelaide - West	Barossa - Yorke - Mid North	South Australia - Outback	South Australia - South East	South Australia Total
GRP ($m)								
Direct	137.7	66.8	44.1	77.0	6.2	18.4	22.8	**373.0**
Flow-on	216.2	60.0	30.5	100.3	7.8	12.9	31.0	**458.6**
Total	353.9	126.8	74.5	177.3	14.1	31.3	53.7	**831.6**
Household income ($m)								
Direct	93.5	49.0	33.1	52.2	4.3	11.1	15.0	**258.2**
Flow-on	130.2	36.9	18.6	60.0	3.0	6.2	14.6	**269.6**
Total	223.7	86.0	51.7	112.2	7.3	17.2	29.6	**527.8**
Employment (total)								
Direct	1,276	683	491	721	63	153	223	**3,610**
Flow-on	1,921	558	291	906	49	94	230	**4,048**
Total	3,197	1,241	782	1,627	112	247	452	**7,658**
Employment (fte)								
Direct	1,220	670	461	713	61	153	216	**3,495**
Flow-on	1,796	546	277	874	55	92	238	**3,879**
Total	3,017	1,216	739	1,586	116	246	454	**7,374**

Source: BDO EconSearch analysis

4.3. Conclusions and Discussion

Using demand driven migration as part of the solution for the horticulture workforce shortfall in South Australia would bring benefits to the state. We estimate that in October 2021 horticulture businesses in South Australia had approximately 3,400 job vacancies and that approximately 850 (25 per cent) of these could appropriately be filled by demand driven migrants. If these 850 positions were to be filled by demand driven migrants then we would expect, in addition to the employment and production of the migrants themselves, approximately 1,000 fte jobs and $124.0 million of gross state product to be generated in the broader economy through flow-on effects.

Filling persistent workforce shortfalls in occupation and regions that South Australians choose not to work in creates opportunities in areas they do choose to work in. For example, we estimate that filling 100 horticulture vacancies in the South East with demand driven migrants would generate approximately 162 fte jobs and $20.2 million of gross state product in the South Australian economy through flow-on effects, including approximately $4.9m in gross regional product and *41 fte jobs in Adelaide* due to the inter-regional economic linkages to the South East. Most of the employment in Adelaide is expected in the top 6 impacted sectors which cover occupations that South Australians tend to choose to work in:

- Professional, Scientific and Technical Services (7 jobs)

- Administrative Support Services (5 fte jobs)
- Insurance (3 fte jobs)
- Personal and Other Services (3 fte jobs)
- Retail (2 fte jobs)
- Wholesale (2 fte jobs).

Conclusions about the impact of a state-wide demand driven migration program cannot be drawn from exploratory modelling due to the scale of the scenario to be modelled and the poor quality of available data on vacancies and suitability of demand driven migration to fill them. For this reason, the above state-wide results cannot be taken as conclusive but should provide an impetus for undertaking further research to better understand how current migration policy is impacting the South Australian economy.

Creating jobs as a benefit of filling labour shortages may appear to be an undesirable outcome as the new jobs would also then need to be filled. There are two points that need to be considered here. First, the industries and regions jobs are created in should be considered. For example, creating jobs in industries and locations that South Australians tend to choose to work (such as health in Adelaide) are more favourable than creating jobs in undesirable occupations in regions with difficult living conditions. Second, the results from input-output analysis (used in the exploratory modelling) necessarily include a positive 'multiplier effect' on employment. That is, more direct activity almost always leads to more flow-on activity so, when modelled with input-output, the net employment effect of migration will be positive and will increase linearly with the scale of migration. As discussed, equilibrating market forces must be considered for scenarios of large scale change. The exploratory modelling in this report can therefore be used to understand the economic impact of the first few hundred demand driven migrants. Modelling larger scale migration scenarios would require a general equilibrium approach where the net impact is not linearly related to direct activity and is not necessarily positive.

Modelling the economic impact of demand driven migration presents a similar challenge to designing a migration program with the intention to address skill shortages. That is, each requires a detailed understanding of labour shortages and the appropriateness of migration to address them. Designing such policy involves identifying how many migrants are needed for each occupation. Modelling the impact and efficacy of the policy requires the same information as well as information about the gap remaining between the labour shortage and the migrants that have been mobilised to address the shortage. The Skills Priority List represents the Australian Government's effort to generate this information, yet it has been ineffective as a tool for directing the migration program towards filling labour shortages. A demand driven approach that identifies positions to be filled and migrants to fill them removes this burden of information from migration policy makers, relying on the market to provide it instead. A market driven approach would require constraints to address societal values about migrant labour such as providing fair pay for fair work and prioritising Australian workers but these constraints may be specified, such as through labour market testing and fair work requirements, without selecting specific occupations.

5. RECOMMENDATIONS FOR FUTURE RESEARCH

In the context of our aim to understand the economic opportunity of demand driven migration for South Australia and our findings from background research, consultation with South Australian businesses and exploratory demand side multi-region modelling, we make the below recommendations for further research. These recommendations may also apply to other regional areas in Australia where the migration program has not provided a solution to persistent workforce shortfalls.

1. **Models should include sub-state regions to make explicit the trade-offs between metropolitan and rural areas.** Analyses of the economic impact of migration programs should make explicit the trade-offs between economic growth in different states and between metropolitan areas and rural areas. This can be achieved by constructing models using sufficient geographical resolution. The Australian Bureau of Statistics' Greater Capital City Statistical Area definition is appropriate for this purpose.
2. **Demand driven scenarios should be represented by a set of rules that determine when a business would seek to hire a migrant.** The efficacy of demand driven migration programs should be modelled using rule-based scenarios that define how migration reacts to regional labour market conditions within a dynamic multi-region general equilibrium model. Model results can then be used to identify and calibrate rules within demand driven policy.
3. **Demand driven scenarios should not be based on skills lists.** In line with Recommendation 2, demand driven scenarios should not be modelled using skills shortage lists or other business surveys as these are imperfect representations of businesses' needs.
4. **Modelling results should include an optimised mix of demand driven and skill accumulation migrants.** Marginal analysis should be undertaken to understand the optimal mix between demand driven and points-based migration. For example, by marginally switching one migrant position from the 'last' points-based position to the 'first' demand driven position and repeating until the marginal benefit of switching is zero.
5. **Modelled scenarios should include sensitivity testing of a wage threshold.** Interviewed businesses suggested that lowering the TSMIT would facilitate their use of the migration program but recommendations are being made from various parties to increase it. The effect of different threshold levels should be modelled within a demand driven scenario context to understand its implications for meeting workforce demand and for economic impact at a regional level.

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The nature and scope of work has been determined by agreement between BDO and the Client. This consulting engagement does not meet the definition of an assurance engagement as defined in the 'Framework for Assurance Engagements', issued by the Auditing and Assurances Standards Board, Section 10.

Except as otherwise noted in this report, we have not performed any testing on the information provided to confirm its completeness and accuracy. Accordingly, we do not express such an audit opinion and readers of the report should draw their own conclusions from the results of the review, based on the scope, agreed-upon procedures carried out and findings.

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