

RESPONDING TO NEGATIVE PUBLIC ATTITUDES TOWARDS IMMIGRATION THROUGH ANALYSIS AND POLICY: REGIONAL AND UNEMPLOYMENT DIMENSIONS

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ABSTRACT

This paper examines two key dimensions of the impact of immigration for Australia and related policy aspects. One is sub-national and the other is national. They are, first, the regional location aspects of immigration and second, the aggregate unemployment implications of immigration. These are chosen so as to focus on two important issues that condition public attitudes towards immigration. In relation to the first, there is a common positive view that channelling migration towards regional areas assists regional development and reduces pressure on metropolitan areas. The paper reviews regional concepts embodied in Australian immigration policy and the ways in which visa arrangements have implemented policies geared towards the regional dispersal of immigrants. Using official data, it discusses the demographic and economic impacts of these policies, and in particular, considers the extent to which immigrants to regional Australia remain there over the longer-term. In relation to unemployment, a common concern is that immigrants take jobs from local workers. The paper examines – using statistical regression methodology – the relationship between immigration and national aggregate unemployment in Australia. It evaluates the net consequences of immigration for both existing residents and new arrivals together. The paper concludes that, with good policy design in each case, regional location encouragement can be effective for immigrants and that immigrants need not take more jobs than they create. The analysis demonstrates that mixed methods approaches to important social science issues can be productive, and helpful also for policy. Evidence, such as that presented in this paper, offers a powerful basis from which to counter negative public and political discourses surrounding immigration in contemporary Australia.

[265 words]

KEYWORDS

Immigration, regions, policy design, skilled migration, unemployment

Introduction

Within the wide ambit of Graeme Hugo's work, immigration had a prominent place. This paper examines two key dimensions of the impact of immigration for Australia. One is sub-national and the other is national. They are, first, the regional location aspects of immigration and, second, the aggregate unemployment implications of immigration. These are chosen so

as to focus on two important issues that help condition public attitudes to the phenomenon of immigration.

Markus (2011) concluded that majority opinion – within the Australian population – typically supports the view that immigration unduly pressures provision of city infrastructure. There is thus a common positive view that if more immigration towards regional areas of Australia can be enabled, it assists regional development and reduces pressure on metropolitan areas. Markus (2011) also found that attitudes to immigration are closely correlated with the unemployment rate. A common concern relating to Australia’s immigration intake is that immigrants take jobs from local workers (see also Davis and Deole 2015; Goot and Watson 2011; and Markus 2016). This paper addresses both of these issues in two main parts.

The first half of the paper reviews regional concepts embodied in Australian immigration policy and the ways in which visa arrangements have influenced the dispersal of immigrants to regional locations. Using official data, we examine evidence of the impacts of these dispersal efforts and find that such policy can have some significant redistribution effects. In the second part we analyse the relationship between immigration and national aggregate unemployment in Australia, using statistical regression methodology based on causality and co-integration. This provides insights into the net consequences of immigration for both existing residents and for new arrivals. We show that Australia’s large scale immigration program has *not* been significantly associated with any overall increase in unemployment rates.

Immigration to regional Australia

Regional immigration policy: background and evolution

In Australia, immigration matters are the constitutional responsibility of the Commonwealth Government. However, the Commonwealth can be conscious of regional matters in its policy formulation and work with States and Territories at its discretion. In recent decades, formal regional immigration policy for Australia has centred on the State-Specific and Regional Migration (SSRM) Scheme, which was instituted by the Commonwealth in 1996-97. This scheme includes a suite of skilled and business visas for individuals interested in settling and working outside Australia’s major cities.

The SSRM Scheme is intended as one mechanism to support population growth in slower growing and stagnant regions, alleviate environmental pressures resulting from sustained immigration flows to major cities, and respond to skills shortages outside these cities (Hugo 2008a,b; Withers and Powall 2003). Former New South Wales (NSW) Premier, Bob Carr, put the issue of population pressure around Australia's major cities starkly:

Right down the east coast of Australia, you'd see the end between the coast and the mountain range, you'd see the end of any farming. You'd see the end of any conservation, open space. You'd have cities...a totally urbanised east coast (Carr 2000).

Specific regional visas have been the vehicle chosen to address some of these concerns, short of reductions in total immigration levels. In the case of the SSRM Scheme, in order for these visas to be granted, prospective migrants must be explicitly supported by a State/Territory Government, an employer, or a family member living in a regional area.

The State/Territory role operates under ideas of 'co-operative federalism'. This consultative process is on-going. State and Territory Governments are interested in increasing skilled and business immigration to their respective jurisdictions and to distribute these migrants where they can best contribute to the labour market. Each Government has a skilled and business migration unit that promotes and facilitates such migration. Some local Councils also have operational roles: they are gazetted as 'regional certifying bodies' to assist with the administration of the Regional Sponsored Migration Scheme (RSMS) visas. RSMS visas are one of a number of visas that fall under the broader SSRM scheme – as shown in Table 1.

Since the inception of the SSRM Scheme 20 years ago, the regional immigration visa structure has been modified and the visa criteria revised. The main visa categories and characteristics are outlined in Table 1. Regardless of these modifications, as Federal immigration visas they do have universal criteria relating to age, English language proficiency, skill levels and relevant work (or business/investment) experience. Differences in criteria then relate to the skilled occupations in demand, which may vary between State and Territory labour markets, and

between large and smaller area labour markets within States and Territories. The skilled occupations in demand are determined and periodically reviewed by the State and Territory Governments. While the universal criteria are generally identical to those adhered to in the independent skilled immigration program, regional visa applicants can avail themselves of bonus points¹ for a family or State/Territory Government nomination.

Table 1 summarises the characteristics of the core SSRM skilled visas, including those that were available until the first major immigration policy reform in 2007. The reason for including the now ceased visas is that some of them were in operation for a decade and contributed to the regional immigration policy outcomes that are considered in this paper. The holders of those visas were surveyed (by the Department of Immigration and by State and Territory Governments), and results of some of these surveys led to policy modifications discussed later in this paper.

[Insert Table 1 about here]

There are also regional dimensions to temporary visas such as the Working Holiday Maker visa, including as part of the recent Northern Australia Development Agenda (Hugo 2008b; DIBP 2015). Further, since 2009, Australia has been operating the Pacific Seasonal Workers Scheme (PSWS). This Scheme has permitted employers in horticulture – and since 2016 agriculture more broadly and the tourism sector in northern Australia² to recruit temporary, low-skilled and unskilled labour from Pacific Island countries and Timor Leste. The PSWS and the Working Holiday Maker visa are separate from the SSRM Scheme.

The visas offered under the SSRM Scheme started off from a small base. They represented just 4 per cent of Australia’s annual skilled migration stream in 1996-97 (Golebiowska 2007), but grew to account for 38.8 per cent of this stream by 2013-14 (Department of Immigration

¹ Permanent skilled and business migration to Australia operates on a points-based system. Prospective migrants must reach a minimum number of points to become eligible to apply for a visa.

²Including the Northern Territory (NT), in its entirety, as well as Western Australia (WA) and Queensland (QLD) above the Tropic of the Capricorn.

and Border Protection (DIBP) 2014). Region-linked international immigration has therefore become a major element of Australian immigration.

Regional immigration policy: operation, definitions and transition

In the development of regional policy for Australian immigration under the SSRM Scheme, two key issues emerge as crucial to the operation of the visa programs: how regions are defined for regional visa purposes and access to permanent residency.

With regards to the former, Australia has adopted a flexible and substantially delegated approach. Areas eligible for regional settlement vary between visas and not all areas eligible would be intuitively considered 'regions' by many. This is partly because State/Territory Governments were given authority, by the Commonwealth, to determine where within their jurisdictions regional immigrants could settle (Parliament of Australia 2001). Initially under the SSRM Scheme, 'regional' Australia covered (a) areas with less than 200,000 residents and (b) low population growth metropolitan areas. The latter were those that, in the last intercensal period (preceding the launch of the policy), had posted an average population growth rate below 50 per cent of the national average population growth rate (Department of Immigration and Multicultural and Indigenous Affairs (DIMIA) 2005c). Under these criteria all non-metropolitan and some metropolitan areas, including certain capital cities, were included in the definition of 'regions'. Sydney, Brisbane and Perth were excluded, but Adelaide, Hobart and Darwin were included. Indeed, applying the above criteria meant that the entire states of South Australia and Tasmania, and the Northern Territory, became eligible locations. Adelaide and Hobart qualified because of their trends of net out-migration and low population growth rates. Darwin qualified mainly due to its population being below 200,000 and due to its geographic isolation from the rest of Australia. Even Melbourne has been eligible for some regional visas under the SSRM Scheme. This situation arose from its low average population growth in the first part of the 1990s, preceding the launch of the policy. Its eligibility has been contested (Parliament of Australia 2001) but as Hugo (2008b: 555) observed, the strong pro-immigration stance of the Victorian Government has been critical in retaining eligibility.

Switching to the present, a combination of demographic, economic and political factors can explain why some areas remain eligible for regional immigrant settlement and others do not. Specifically, the average intercensal population growth rates (2001-2006, 2006-2011) have exceeded the 50 per cent benchmark in Adelaide, Hobart and Melbourne (Australian Bureau of Statistics (ABS) 2012; Golebiowska 2012) and, technically speaking, these cities have ceased to meet the low growth metropolitan area criterion of the SSRM Scheme. However, if Adelaide and Hobart were excluded accordingly, South Australia and Tasmania would lose one key mechanism by which they can support their small and stagnant populations. In the south-west, lobbying by the Western Australian Government and industry has resulted in re-classifying Perth as an eligible city for some regional skilled visas, despite it not meeting the aforementioned criteria. The primary motivation was acute skills shortages in Perth (DIBP n.d. b, Trenwith 2011).

The second key issue that is crucial to the operation of the SSRM Scheme is permanency. In Australia, most regional skilled and business visas are now two-step visas whereby meeting the temporary (usually two years) residency and employment (or business in case of business immigrants) requirements in the area for which an immigrant is nominated permits a subsequent application for a permanent residence visa. The two-step process is intended as a retention measure, aimed at supporting population and economic growth in areas of initial settlement. It is anticipated that after a period of working and living in a regional area, immigrants may be less prone to relocate to a major city upon attaining permanent residence. Families, especially, acquire accommodation, have schooling arrangements, build social networks, acquire employment and so on (DIMIA 2005a,b; Wulff and Dharmalingham 2008).

For the regional temporary visa holders, common routes to permanent residency include applying for other visas under the SSRM Scheme. For example, holders of the temporary Skilled Regional visa can apply for a permanent Skilled Regional visa. This visa does not require a State/Territory Government nomination but operates on the premises that immigrants may be interested in staying in the original area of settlement after they have lived there for the minimum two years required by their temporary Skilled Regional visa. Holders of the temporary 457 visas who are working in regional areas can apply for the RSMS visa through their employer. The RSMS visa requires a minimum two-year stay with the nominating

employer, meaning effectively at least two additional years' stay in a regional area. RSMS visas may be cancelled if migrants do not see through the two-year employment period with their employers (DIBP 2016). A further example of a permanent visa which also carries a minimum two-year stay condition in the nominating State/Territory is the Skilled-Nominated visa (see Table 1). Holders of this visa may relocate to another jurisdiction if they advise the original nominating State/Territory Government (Migration Western Australia n.d.).

In relation to the question of permanency, the history of the Skilled-Designated Area Sponsored (SDAS) visa provides an excellent example of how documentation and analysis of immigrant settlement behaviours can lead to constructive policy change. SDAS was initially a permanent visa (see Table 1). However, in the early 2000s a survey conducted by DIMIA (2005b) revealed that SDAS migrants were not settling in the Designated Areas where their nominators lived and were choosing to live in major cities instead. This was contrary to the objectives of this visa (Parliament of Australia 2001) and, with a view to assist retention, in 2006 SDAS became a two-step visa (Phillips and Spinks 2012). This case illustrates how demographic and geographical research can provide insights into immigrant behaviours and outcomes and be an important tool for informing policy development. Likewise, the Skilled-Independent Regional (SIR) transitional visa (Birrell et al. 2006), was introduced following a new research analysis of regional migration and associated visa policy reform suggestions (Withers and Powall 2003). Policy measures that could ensure more sustained regional residence by immigrants, such as transitional visas, were therefore a partial antidote for then NSW Premier Carr's criticisms of high Commonwealth immigration intake levels.

Given the broad objectives of the SSRM Scheme – to support population growth in regional areas and to alleviate population pressures in major cities – it seems clear that transitional conditional visas are crucial to ensuring that internal mobility does not undermine, from the beginning, any strong regional settlement experience and outcomes.

Assessing the benefits of regional immigration: a review of the literature

Given this history and the importance of regional immigration growth, it is appropriate that significant research has been conducted on regional immigration matters. In the initial years of the SSRM Scheme, the Federal and State/Territory Governments routinely commissioned

or conducted surveys to understand how regional visa holders were settling and performing economically and if there were grounds therein for policy adjustments (Cully and Goodes 2000; DIMIA 2005a,b). There has also been complementary literature such as parliamentary reports and reviews of regional immigration (Parliament of Australia 2001; 2015) and commissioned reports and research written by academics (Institute for Social Science Research 2010; Hugo 2008a,b; Khoo et al. 2005; Withers and Powall 2003; Hugo 1999) or consultants (Piper and Associates 2009).

As a phenomenon, international migration to regions also happens in other countries. Hugo and Morén-Alegret (2008) argued that international migration to regional areas of high-income countries has recently become an integral element of the economic, demographic and social change in these areas and has been an outcome of longer-term trends affecting them (e.g. out-migration of youth and labour shortages). Argent and Tonts (2015) similarly adopted an international perspective and placed their considerations of regional immigration in Australia in the context of 'the global countryside', a concept developed by Woods (2007), which refers to rural spaces engaging with globalisation in multiple ways and undergoing a transformation as a result.

To date, scholarly analyses of regional immigration policy in Australia have looked at the governance of the policy, and its economic and demographic impacts, in particular retention rates and labour market participation (Hugo 2008a,b; Golebiowska 2012,2015; Cameron et al. 2012; Massey and Parr 2012). They have generally documented good participation in the labour market and noted that retention of immigrants in regional areas depends on a combination of factors, including job satisfaction and career prospects, quality of the local services and infrastructure (e.g. schooling, health, transport, and recreation) and attachment to the local community. Social adaptation of immigrants in regional Australia has been more specifically studied for example by Wulff and Dharmalingham (2008) and Krivokapic-Skoko and Collins (2016). These studies have found that social connectedness in regional centres is strong for those immigrants who have lived in Australia for longer periods, for families with children and for immigrants from certain countries. They found that South African, Zimbabwean and the Filipino-born develop particularly strong local connections. Krivokapic-Skoko and Collins (2016) have also observed that the existence of 'meeting places' that

cultural groups can use, plays a role in developing a sense of belonging locally and attracts immigrants to specific regional centres.

Understanding, and in turn influencing, immigrants' mobility motivations is clearly important for the success of regional immigration policies. In addition to some of the directly related works mentioned above, these motivations have been considered for example by Hugo et al. (2006), Goel and Goel (2009) and Taylor et al. (2014). Broadly speaking, these studies have found that economic, lifestyle and social factors are reasons both for moving into, and out of, a regional area. An emerging stream of research has looked specifically at immigrant settlement in remote and peripheral regions of Australia (Golebiowska et al. forthcoming; Taylor et al. 2014; Institute for Social Science Research 2010). It has found that immigrant mobility to and away from these regions is motivated by the same set of factors as above, and that sufficient stock of quality, accessible and affordable housing is one of the critical facilitators of longer-term settlement in remote and peripheral regions (perhaps even more so than in larger regional urban centres).

The studies reviewed above have analysed the demographic, economic and social contributions regional immigrants make, identified the conditions that should be in place to support retention and what factors contribute to mobility. The next section enhances this knowledge base by analysing, in chronological order, the results of selected surveys of regional immigrants. This makes it possible to explore the demographic outcomes of regional immigration policy at different 'touchpoints'. It reveals variations in the rates of actual and intended continued residence (retention) in the areas of original settlement depending on the visa type and visa conditions at the time of the survey.

Appraisal of Australia's regional immigration policy: immigrant retention in regional areas

Full formal evaluation of the demographic and economic or other impacts of Australia's regional migration policy is not straightforward. This is due especially to modifications of the visa criteria over the years, visa amalgamations in recent years, imperfect comparability of statistical data across years and some large capital cities such as Melbourne or Adelaide being eligible locations for settlement. Also, with the recently 'refreshed' DIBP website, not all surveys of regional visa holders previously available on the website are accessible now. With

these limitations in mind, in terms of the demographic impacts of regional immigration, there is greater knowledge of what happens when immigrants arrive, where they intend to settle and do settle, than of what happens *after* they have fulfilled their minimum residency and work visa obligations.

However, useful findings are available from the results of surveys that the Department of Immigration commissioned, conducted or otherwise supported and also, as a case study, from the results of a survey commissioned by the Northern Territory Government (Taylor et al. 2014). The specific surveys discussed in the remainder of this paper include: the Cully and Goodes survey of the RSMS migrants (2000) commissioned by the (then) Department of Immigration and Multicultural Affairs (DIMA) and held in 2000, the DIMIA surveys of RSMS (2005a) and SDAS (2005b) migrants held in 2004 and involving migrants residing in all States and Territories; and Taylor et al.'s (2014) survey of RSMS and State and Territory Nominated migrants in the Northern Territory in 2012.

Starting with the issue of retention, the DIMIA (2005b) survey of SDAS migrants was conducted prior to SDAS becoming a two-step visa. It was revealed then that retention outside metropolitan areas ranged between less than 50 per cent for NSW and Queensland, and 36 per cent for Victoria. Melbourne was a strong magnet: 9 per cent of all SDAS migrants with a sponsor from outside Melbourne lived there in addition to 58% of SDAS migrants who had a sponsor from Melbourne and lived in the city. On arrival in Australia, 10 per cent of all SDAS migrants by-passed Designated Areas and settled directly in non-Designated Areas. Furthermore, 16 per cent of SDAS migrants who had resided in Australia for more than three years (at the time of the 2004 survey), lived in non-Designated Areas such as Sydney or Brisbane. These 16 per cent included most of the 10 per cent of all SDAS migrants, who had never resided in a Designated Area. These retention and dispersal outcomes were poor and the introduction of a two-step visa process was thus intended to assist with reversal of such findings. However, no later surveys of SDAS or SRS visa (which replaced SDAS and SIR) holders are available to ascertain the exact extent of improvements.³

³ There is one later survey of regional immigrants (Institute for Social Science Research 2010) but it contains only a minuscule number of the SRS immigrants, which does not permit evaluating how much retention has improved.

Conversely, assuming little change of intentions, the RSMS visa (which now requires a minimum two-year stay in a regional area) may have delivered good retention rates. The overall retention rates of the RSMS migrants (that is, for those settled and working in an eligible metropolitan area such as Adelaide, as well as in non-metropolitan areas) have fluctuated over the years. In 2000, Cully and Goodes reported a 70 per cent retention rate. Meanwhile, in 2005, DIMIA reported an 85 per cent retention rate for those who had spent the minimum two years in their original location, and 91 per cent for those still on the original two-year contracts (DIMIA 2005a). In the Northern Territory, Taylor et al. (2014) reported an 84 per cent retention rate for those past their original two-year contracts. These fluctuations are partially affected by the fact that the minimum two-year stay with the original employer (or else a visa cancellation) was introduced after Cully and Goodes's (2000) survey, which found a 30 per cent separation rate from the original employer, before the conclusion of the initial contract.

In Taylor et al.'s survey (2014) conducted in 2012, 93 per cent of the RSMS respondents (all of whom arrived in 2008-2011) were still in the Northern Territory, and 78 per cent intended to continue living there because of employment opportunities, a liking for the lifestyle and the climate. The dominant region of origin was South-East Asia and it is likely that familiarity of these South-East Asians with the tropical lifestyle and climate has contributed to this outcome. The seven per cent of RSMS visa holders who left the Northern Territory had nevertheless stayed for a median period of 38 months. Another 22 per cent intended leaving, thus resulting in a likely overall leakage of around 30 per cent of RSMS migrants from the Northern Territory.

Looking briefly to the economic contributions of regional migrants, the surveys above have reported high rates of employment of the principal visa holders (DIMIA 2005a;b; Taylor et al. 2014). The effects of regional migrants' employment will naturally vary between States and Territories. In the early 2000s, employment of regional visa holders either supported additional annual State/Territory labour force growth or was helping to offset a more general

pattern of labour force decline (Golebiowska 2007). The contributions were between 0.23 per cent and 10 per cent of annual labour force growth in large States, but larger still in the less populous jurisdictions with smaller labour forces like South Australia, the ACT, Tasmania and the NT (Golebiowska 2007).

Overall, between 1996-97 and 2013-14, the regional skilled and business immigrant intake has grown nearly ten-fold as a share of Australia's annual skilled migration program (from 4% to 38.8%). Given this expanded share, alongside evidence of improved immigrant retention and strong economic contributions in regional areas found in the reviewed surveys, the policy of encouraging regional settlement of immigrants can be considered effective. These surveys suggest that even with the unavoidable secondary mobility of some regional immigrants, the overall positive population effects from their settlement in Australia (on non-metropolitan areas, and on smaller and/or slower growth capital cities like Darwin, Hobart or Adelaide) are now strong, certainly for the short to medium-term. This applies because of policy design, in particular the role of the two-year visa condition. Such evidence, particularly of improved retention rates, can serve to counter negative public attitudes and discourses about immigration to Australia. The evidence presented here shows that, with well-designed policy mechanisms, immigrants can be channelled into, and then retained in, regional areas – rather than adding to the populations of Australia's largest metropolitan areas. In the remainder of this paper, we use statistical evidence to counter another prominent argument that is regularly used to foster anti-immigration sentiment: the idea that immigration creates unemployment for the Australian-born.

Immigration and unemployment in Australia

As discussed above, the capacity of Australian (Local, State, Territory, and Federal) Governments to ensure that immigration flows can help meet regional development objectives can be said to enhance public support for immigration policy (Markus and Arnup 2010). Likewise, an ability of government to convincingly reassure electors that immigration

will not be taking jobs from 'locals', will also likely improve immigration support (Markus and Arnup 2010). At the very least, if it can be maintained that immigrants create as many jobs (or more jobs) than they fill, that will be an important political and economic proposition.

To an average citizen it may seem obvious that immigrants add to labour supply and hence take jobs. And in a direct sense this is true. What is also true is that immigrants can also cause the demand for labour to increase – both through their own spending (many bring financial assets with them from sale of businesses or property and investment funds and savings), and through others' spending in response to their arrival. The latter includes businesses and governments, community organisations and local communities and family networks, with all of them increasing outlays in response to the settlement and living needs of new arrivals. What matters is the balance of these contending supply and demand influences. Determining their precise balance is an empirical issue. Conveying the findings and facts from the empirical evidence – on the balance between jobs taken and created by immigrants – is a political leadership and communication issue. The remainder of this paper focusses on the empirical economic analysis of how immigration impacts employment. Such analysis can underpin the capacity for governments to communicate effectively to the public regarding the employment effects of immigration. The empirical evidence presented in this paper provides a solid basis from which to allay public concerns, since it affirms that overall the modern Australian immigration experience is such that new arrivals create at least as many jobs as they take.

For Australia, among a large number of studies which have examined the impact of immigration on Australian unemployment, the earliest was Withers and Pope (1985), later extended to cover a much longer time period in Pope and Withers (1993). More recent studies using different definitions, data periods and statistical techniques have found similar results, as for example with Shan et al. (1999), Kónya (2000) and Boubtane et al. (2013). There is in fact a clear consensus across these studies, and from Australian immigration research more broadly, that increases and decreases in immigration have *not* been associated with net increases or decreases in the aggregate unemployment rate. Here, this consensus is tested further so as to include the latest immigration experience and to test the earlier findings using more advanced statistical methodology. The finding is to affirm the previous conclusions. An

accumulation of such findings, tested rigorously, provides a strong basis for the aspiration to evidence-based policy in this publicly contentious field.

The force of this conclusion can be seen descriptively by a simple graphical investigation in which a measure of the unemployment rate is plotted against the immigration rate, using data for 1960 to 2013 (Figure 1).

[Insert Figure 1 around here]

Figure 1 shows that the Australian unemployment rate was relatively high during the mid-1980s and early 1990s. However, it recorded a consistent decline through the middle and towards the end of the 1990s, and throughout the early 2000s. Starting from 2008, the unemployment rate began to increase again until the end of the period (2013). On the other hand, the immigration rate shows considerable variation during this period. As shown in Figure 1, it was relatively high during the mid-1960s, end of the 1970s and end of the 1980s. However, during the 1990s and the early 2000s it recorded lower levels, but then increased substantially in the middle of the first decade of the 21st century, reaching the highest level of all over the entire sample period in 2008. Afterwards, there was a sharp fall over 2009 and 2010. A slight increase is observed toward the end of the period.

By comparing the trend of the two series together, Figure 1 indicates that there is no co-movement between immigration and unemployment. In particular, movement in the Australian immigration rate appears to be inconsistent with observed movement in the unemployment rate during most of the last five decades. That said, this straightforward graphical analysis is not sufficient to draw conclusive evidence about the nature of the relationship. In the following sections we report on new formal investigations conducted using the so-called 'Granger causality' test designed for examining such relationships. These tests are named after Clive Granger, who received the Nobel Prize for this work in economics. Full technical details of data and procedures are available in Elnasri (2015).

Co-integration analysis: methods

The relevant co-integration analysis is presented here through two stages. Such analysis seeks to ensure that any relationship found is not co-incidental or ‘spurious’ i.e. the variables of interest are ‘causally’ related and hence truly closely linked or ‘co-integrated’. This is accomplished here, first, by implementing a simple bivariate framework and, second, by then applying a multivariate framework. In the two frameworks, we test the hypothesis as to whether changes in the Australia immigration rate, M_t , cause changes in Australia’s unemployment rate, U_t , or vice versa. Table 2 presents the results of Chi-squared statistics and the corresponding P-values of the test.

It is well recognised that the results from such causality testing may be sensitive to the lag structure, especially the length of time allowed for the effects to flow through. Accordingly, results are presented for several lag lengths (i.e., 1 - 5 lags). In the upper half of Table 2, the null hypothesis tested is whether M_t (changes in Australia’s immigration rate) does *not* Granger-cause U_t (changes in Australia’s unemployment rate). In the lower half of the table, the null hypothesis tests whether U_t does not Granger-cause M_t .

[Insert Table 2 around here]

As can be seen from Table 2, the above stated null hypotheses are not rejected, and accordingly we can conclude that, within such a bivariate framework, there is no causality running from immigration to unemployment, or vice versa.

However, there is argument in the previous literature commencing with Pope and Withers (1993) that the simple causality method undertaken above can suffer from an omitted variable problem. Thus, to check the robustness of the results from the bivariate model, a more general model is specified to represent the relationship between immigration and unemployment, by including further explanatory variables. This is stage two of the analysis. In particular, we have adopted the model of Pope & Withers (1993), which is based on a general disequilibrium framework of unemployment. More specifically, a four dimensional vector autoregressive model is represented by the following equation:

$$z_t = \alpha_0 + \sum_{i=1}^k \beta_i z_{t-i} + \epsilon_t,$$

where z_t is a vector consisting of four non-stationary variables beyond the variables looked at in the bivariate analysis: per capita real wages (W_t), real per capita GDP (Y), change in industrial structure of employment measured by the Stoikov index, (STO_t), and unemployment benefits proxied by the number of persons receiving unemployment benefits (BR_t). These join the unemployment rate (U_t) and immigration rate (M_t), for the wider stage two analysis.

More discussion on this disequilibrium model is provided in Pope and Withers (1993) and Shan et al. (1999). But in line with more recent literature (e.g., Islam 2007), the present study can further analyse the Pope-Withers model itself within the more advanced co-integration framework proposed by Johansen and Juselius (1990; 1994). This is therefore the full wider test sought to re-examine the immigration-unemployment relationship even more authoritatively and with more up-to-date statistics.

Before testing for the co-integration relationship between immigration and unemployment in this further way, it is important to determine whether all variables of interest are integrated of order one, $I(1)$, so that it can be affirmed that the results are not biased. Thus, Augmented Dickey-Fuller (ADF) tests were carried out on the time-series in levels and differences. Three lags were chosen to determine the stationarity of the variables. As shown in Table 3, the tests suggest that the series are indeed integrated of order 1.

[Insert Table 3 around here]

Co-integration analysis: findings

First, the Johansen tests for co-integration were applied. The trace statistic at rank = 0 is found to be 207.74 which exceeds the critical value 94.15. Thus, the null hypothesis of no co-integrating equations is rejected. The evidence of co-integration between variables in the VAR model tests the possibility of Granger non-causality. However, this does not provide information on what the co-integration equation or the direction of the causal relationship

could be. To examine this issue, the vector error correction model (VECM) was applied. VECM has two advantages: it reveals the direction of causality, and it distinguishes between the short-run and long-run Granger causality. A VECM was estimated for time series covering the period 1985-2013. Following the estimation, short-run and long-run Granger causality tests were performed and their results are reported in Table 4. As seen in the table, the results indicate that the null hypotheses of Granger non-causality from immigration to unemployment, and Granger non-causality from unemployment to immigration, cannot be rejected at conventional significance levels.

[Insert Table 4 around here]

Because the time series available for BR_t (the number of persons receiving unemployment benefits) and STO_t (change in industrial structure of employment measured by the Stoikov index) start only from 1982 and 1985 respectively, while the series of other variables start from 1960, it is of interest to explore the information available in the longer time series. Thus another specification of VECM, which excludes STO_t and BR_t , is estimated to cover the period 1960-2013. Results of the subsequent short-run and long-run Granger causality tests are reported in Table 5. Similar to the previous models there is no evidence here either that immigration causes Australia's unemployment. There is no co-integration. The results are sustained even with alternative additional variables included and different time periods of analysis.

[Insert Table 5 around here]

These results overall confirm that there is no causal relationship, in either direction, between immigration rates and unemployment rates in Australia. Therefore, this empirical evidence does not support any belief that, in aggregate, immigrants rob jobs – at least across the last three decades in Australia. The migration policy settings in place in Australia have therefore allowed significant immigration intakes to be received, without substantial aggregate adverse impacts for Australian unemployment rates resulting. This is in spite of Australia having one of the higher shares of overseas-born in its population across the OECD (Organisation for Economic Co-operation and Development) countries. Similar findings exist in relation to

female workforce participation. Australia's labour market has expanded enormously through increased female workforce participation over recent decades, without related changes in aggregate unemployment.

Factors in Australia's migration policy settings that may have assisted with these positive employment outcomes are not directly examined in the statistical analysis here. But they could include such factors as the high skill share that typifies Australian immigration program management, relative to other countries. The predominant roles accorded to the points-selection process for independent migrants, plus the employer nomination and State/Territory nomination schemes for permanent visa entry, both provide selection mechanisms that favour entry of immigrants with skills. There are also strong skill, or human capital, elements embedded explicitly or implicitly for temporary entry through the 457 and the Working Holiday Maker visa schemes, as well as for student visa entry with associated (capped) work rights. These entry administration arrangements are especially possible to enforce for an island continent such as Australia. Together they ensure that regulated visa entry (except for visa-free entry from New Zealand, which is itself a high wage country) can re-assure the Australian public that working opportunities for the least skilled are *not* unduly disadvantaged by the immigration numbers experienced.

Conclusions

This paper has examined two key dimensions of the impact of immigration for Australia. One was sub-national and the other was national. We have argued that policy design – particularly the two-step visa process for regional migrants – has allowed substantial and effective regional location encouragement for immigrants over the past decade. Equally, the Australian immigration program's emphasis on skilled migration has helped to ensure that there have been no net job losses for the Australian economy as a consequence of the overall immigration program. Putting the two together, the job creation dimensions of immigration may mean that regional policies seeking greater population growth away from the metropolitan locus of much Australian demography can be benefitted by the use of targeted migration visa entry conditions. If there are economies of scale and scope in such regional areas, as will often be the case, then, in economic terms, this may be a net advantage economically compared to metropolitan settlement. Skill requirements for entry can also

ensure that immigrants do not disadvantage less-skilled resident workers and indeed, combined with the regional encouragement element, can productively up-skill regional workforces.

However, whether this potential has been fully realised to its optimum under the Australian immigration model, with the growth over time of both a 'skilled worker' and 'regional location' emphasis, remains as a future research project that looks for an analyst with the multi-disciplinary capabilities and ceaseless intellectual curiosity of a Graeme Hugo. Further, more detailed research is needed, as ever. Key research questions remain, including whether the skills that are prioritised are the right ones for Australian labour market needs, whether regional areas are selected well in allowing for critical minimum mass in retaining and benefitting from immigrant skills, whether wage and income effects diverge from employment impacts, and more. But the potential seems clear from the cases examined here, for carefully focussed social science research to inform policy advance for the national benefit, even in somewhat contested areas where seemingly self-evident propositions can be shown to require more nuanced understanding. Widely understood benefits can be enhanced and seeming negatives can be shown to be otherwise, or mitigated with well-designed policy. The public discourse around immigration can become better informed accordingly.

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Table 1. Key characteristics of the SSRM Scheme skilled visas

Visa name	Stay	Points test	Nomination	Job offer	Concessional criteria	Areas eligible
Regional Sponsored Migration Scheme (RSMS) ¹	Permanent, minimum 2-year stay with the nominating employer	No	Employer	No	Concessions are available for age, skills and English language ability (also for the non-regional version of this visa, the Employer-Nominated Scheme (ENS) visa) ²	Regional or low population growth areas excluding: Sydney, Wollongong, Newcastle, Melbourne, Brisbane and Gold Coast ³
Skilled-Designated Area Sponsored (SDAS). Ceased in 2007.	Permanent till 2006 then a two-step visa (temporary to permanent)	No	Eligible family member residing in a Designated Area who provided an assurance of support	No, but occupation from the Skilled Occupation List (SOL)	Concessional minimum period of work experience and lower English language standards than under the non-regional family-nominated visa	All Australia was Designated except: Sydney, Newcastle, Wollongong, Brisbane, Sunshine Coast, Gold Coast and Perth
State/Territory-Nominated Independent (STNI). Ceased in 2007.	Permanent, minimum 2-year stay in the nominating State/Territory	Yes	State/Territory Government	No, but occupation from a State/Territory List of Occupations in Demand (some occupations may be in demand only in some regions of a State/Territory)	Concessional points to qualify (pool mark not pass mark)	Jurisdictions were joining STNI progressively. Initially, this visa was offered in Tasmania, Victoria, South Australia, from 2005 Western Australia, then followed by other jurisdictions
Skilled-Independent Regional (SIR) introduced in 2004 and ceased in 2007.	Temporary leading to permanent after meeting minimum residency and work conditions in the jurisdiction/Designated Area for which the nomination was made. e.g. for SIR 2 years of residence and 1 year of employment before applying for permanent residence	Yes	State/Territory Government which attracted bonus points		Concessional points to qualify (SIR pass mark)	Regional or low population growth areas excluding: Sydney, Newcastle, Wollongong, NSW Central Coast, Brisbane, Gold Coast, Perth, Melbourne and ACT
Skilled-Regional, prior to 2012-13 known as Skilled-Regional Sponsored (SRS). The SRS was an amalgamation of SDAS and SIR visas.		Yes	State/Territory Government or eligible family member – both nominations attract bonus points	States/Territories determine if job offer required. In any case, occupation from a State/Territory List of Occupations in	Competent English (i.e. score of 6 in each of the four components of IELTS) acceptable but attracts no points	For State/Territory Government nomination regional or low population growth areas excluding: Sydney, Newcastle, Wollongong, NSW Central Coast, Brisbane, Gold Coast, Melbourne and ACT. For nomination by a family member Designated Areas that is all Australia

				Demand (some occupations may be in demand only in some regions of a State/Territory)		excluding: Sydney, Newcastle, Wollongong and Brisbane
Skilled Nominated, prior to 2012-13 known as Skilled-Sponsored, which was an amalgamation of STNI and Skilled-Australian Sponsored visas. Both were ceased in 2007.	Permanent, minimum 2-year residency and work in the jurisdiction for which the nomination was made	Yes	State/Territory Government which attracts bonus points			All States and Territories

Notes:

1. The RSMS was the first explicit regional visa piloted in 1995 and expanded in 1996 (Parliament of Australia 2001).
2. Prior to 1 July 2012 the RSMS visa required lower English level ability than the Employer-Nomination Scheme (ENS) visa and had more generous concessions for skill levels than currently available.
3. In September 2011 Perth became an eligible location for the following visas: RSMS, Skilled-Regional Sponsored (SRS) temporary and Skilled-Regional permanent visas (DIBP n.d. b).

Sources: DIBP n.d.a; DIBP n.d. b; DIBP various websites; Golebiowska 2007; Parliament of Australia 2001.



Figure 1. Immigration and unemployment rates in Australia 1960- 2013

Source: Elnasri 2015

Table 2: Granger causality test results: Bivariate model

Dependent variable	Causal variable	Causal lag	chi2	P-values
U_t	M_t	1	1.125	0.289
U_t	M_t	2	0.001	0.974
U_t	M_t	3	0.062	0.804
U_t	M_t	4	0.083	0.773
U_t	M_t	5	0.055	0.814
M_t	U_t	1	0.197	0.657
M_t	U_t	2	0.033	0.856
M_t	U_t	3	0.065	0.799
M_t	U_t	4	0.069	0.794
M_t	U_t	5	0.019	0.888

Table 3: Unit root test

Variable	ADF test statistic	p-value
U_t	-1.367	0.5978
ΔU_t	-5.073	0.0000
M_t	-2.493	0.3314
ΔM_t	-4.785	0.0005
W_t	-1.052	0.7338
ΔW_t	-5.747	0.0000
Y_t	1.245	0.9963
ΔY_t	-5.501	0.0000
STO_t	-2.930	0.1528
ΔSTO_t	-4.153	0.0053
BR_t	-2.002	0.2856
ΔBR_t	-4.400	0.0003

Notes: ADF test the null hypothesis is that the variable contains a unit root, and the alternative is that the variable was generated by a stationary process. Δ is the first difference of a series.

Table 4: Granger causality test results from ECM Short run causation test, 1985- 2013

Equation	EC	U_t	M_t	W_t	Y_t	STO_t	BR_t
		Wald F-statistics ΔU_t lags	Wald F-statistics ΔM_t lags	Wald F-statistics ΔW_t lags	Wald F-statistics ΔY_t lags	Wald F-statistics ΔSTO_t lags	Wald F-statistics ΔBR_t lags
U_t	0.01 (0.9410)	1.33 (0.7227)	5.54 (0.1361)	0.38 (0.9443)	1.31 (0.7262)	4.34 (0.2270)	1.77 (0.6225)
M_t	10.91 (0.0010)* **	6.13 (0.1056)	10.69 (0.0135)* *	11.60 (0.0089) *	8.87 (0.0310)**	14.35 (0.0025)***	7.95 (0.0471)**
W_t	0.26 (0.6090)	0.13 (0.9883)	2.24 (0.5235)	4.19 (0.2416)	2.75 (0.4316)	2.23 0.5264	5.35 (0.1477)
Y_t	0.00 (0.9600)	0.97 (0.8089)	0.85 (0.8364)	0.42 (0.9358)	0.29 (0.9618)	0.49 (0.9203)	1.26 (0.7376)
STO_t	0.08 (0.7840)	6.40 (0.0937)	4.82 (0.1856)	2.70 (0.4398)	7.90 (0.0481)**	8.47 (0.0372)**	1.90 (0.5941)
BR_t	0.18 (0.6674)	0.81 (0.8467)	2.57 (0.4634)	0.09 (0.9925)	1.91 (0.5913)	2.96 (0.3982)	0.77 (0.8567)

Notes: The short-run causality tests are conducted by testing whether all the coefficients of the first difference of each variable are statistically different from zero as a group. The log run causality is tested by the significance of the error term EC.

Terms *, **, *** denote significance at the 10%, 5% and 1% levels respectively.

Table 5: Granger causality test results from VECM 1960–2013 short run causation test

	EC	U_t		M_t		W_t		Y_t	
Equation		Wald statistics lags	F- ΔU_t	Wald statistics lags	F- ΔM_t	Wald statistics lags	F- ΔW_t	Wald statistics lags	F- ΔY_t
U_t	1.25 (0.2638)	2.48 (0.4782)		2.21 (0.5301)		1.13 (0.7697)		2.50 (0.4745)	
M_t	0.12 (0.7300)	1.63 (0.6518)		6.75 (0.0802)		0.20 (0.9774)		0.34 (0.9522)	
W_t	3.14 (0.0764)	1.73 (0.6304)		0.56 0.9046		1.65 (0.6482)		2.61 (0.4552)	
Y_t	3.37 (0.0663)	0.51 (0.9161)		1.12 (0.7722)		0.38 (0.9444)		0.33 (0.9541)	

Notes: The short-run causality tests are conducted by testing whether all the coefficients of the first difference of each variable are statistically different from zero as a group. The long-run causality is tested by the significance of the error term EC.

*, **, *** denote significance at the 10%, 5% and 1% levels respectively.