Labour force outcomes for Australian Muslims

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Abstract: Evidence from multiple sources suggests that discrimination against Muslims exists in the Australian labour market. Compared to the non-Muslim labour force, employment outcomes may also be constrained due to lower levels of English language proficiency, difficulty obtaining recognition of overseas qualifications, cultural and religious issues, lack of familiarity with the Australian labour market, limited local work experience, job search skills and references.

This paper uses 2006 Census data to provide insights into the labour force experience of Australian Muslims. The formal econometric modelling explores the characteristics associated with labour force participation and employment to determine whether the labour force experience of Australian Muslims differs from that of the entire population, after controlling for a range of individual and personal characteristics (supply-side) and regional factors (demand-side). The regression results demonstrate that Muslims are less likely to participate in the labour force and experience reduced employment prospects compared to the remainder of the population. This phenomenon may be associated with unobserved characteristics of individuals or may point to other explanations such as discrimination.

1. Introduction

Migration has been integral to development in Australia and continues to be a major source of population and workforce growth. The Muslim population is a small but increasing proportion of the Australian population, growing from 22,300 in 1971 to 340,393 by 2006. The largest cohort is Australian–born (38 per cent), and the highest proportion of Muslims born overseas came from Lebanon (9 per cent), followed by Turkey (7 per cent), Afghanistan (5 per cent), Pakistan and Bangladesh (4 per cent) (ABS, 2006). The population is highly concentrated in the Sydney and Melbourne metropolitan areas, where 78 per cent of the Muslim population reside, compared to only 39 per cent of the total Australian population. The age profile of the Muslim population is significantly younger than the total population (30 per cent are aged under 15 years, compared to 20 per cent for the total population) and only 3 per cent are over 65 compared to 13 per cent for the total population.

The Muslim population has higher educational attainment than the Australian population as a whole. At the 2006 Census, a higher proportion had a bachelor degree (18.5 per cent compared to only 15.6 per cent for the total population) and Year 12 (27.5 per cent compared to 17.8 per cent) (DIAC, 2007). Those with less than a Year 12 education comprised 31 per cent of the Australian population but only 26.1 per cent of the Muslim population (DIAC, 2007).

Despite government services, support and legislation designed to improve the social inclusion of ethnic communities; the marginalisation of Muslims has persisted for decades. The labour market experience of Muslims in Australia reflects the diversity of ethnic groups, educational

attainment, length of time in Australia and differences between first generation migrants and later generations born and educated in Australia, and between migrants and refugees who are particularly disadvantaged in the labour market. The disadvantaged labour market position of Australian Muslims is reflected in higher rates of unemployment, lower participation rates and lower earnings (DIMIA, 2003). In 2006, the participation rate for Muslims aged 15 years or older was 52 per cent compared to the national rate of 65 per cent (ABS, 2006). The unemployment rate for Muslims was more than two and a half times the national rate (13.4 per cent compared to 5.2 per cent). Refugees in Australia have very high unemployment rates of 71 per cent after 6 months and 43 per cent after 18 months (Torezani, Colic-Peisker, and Fozdar, 2008).

Observed differences in the labour market outcomes for migrants and refugees compared to Australian-born workers may simply reflect differences in human capital and personal attributes. However, variations in outcomes that remain after controlling for differences in human capital and personal attributes require further investigation. One possible explanation is that employers discriminate against particular groups that are viewed as different in relation to ethnicity, religion or culture due to their prejudice and that the greatest degree of discrimination occurs toward those most "socially distant" from the native population (Evans and Kelley, 1991; Forrest and Johnston, 1999).

This paper uses the *ABS Census of Population and Housing – Household Sample File*, a 1 per cent sample from the 2006 Census to provide insights into the labour force experience of Australian Muslims. We estimate two Probit models to determine the characteristics associated with the probability of: 1) being in the labour force; and, 2) the probability that those who have made the decision to participate in the labour force will be employed. The formal econometric modelling explores the characteristics associated with labour force participation and employment to determine whether outcomes for Muslims differ from those of the entire population after controlling for a range of individual and personal characteristics (supply-side) and regional factors (demand-side).

The paper is organised as follows. A conceptual model is elaborated in Section 2 along with a discussion of the factors identified in the literature as impacting on labour market outcomes. Section 3 describes the data sources used in the analysis. The Probit models are detailed Section 4 and the results are reported in Section 5. Section 6 discusses limitations of the models and conclusions are presented in Section 7.

2. Conceptual model of factors influencing labour market outcomes

The conceptual model for this analysis was developed by Baum and Mitchell (2008) and is presented in Figure 1. The model facilitates an understanding of the range of factors that impact on the labour market opportunities and outcomes of Australian Muslims that include individual factors along with local, regional and national factors:

- Individual characteristics and personal circumstances such as age, gender, ethnicity, human capital, health and family responsibilities directly impact on labour market outcomes;

- Local labour market factors influence employment outcomes for Australian Muslims through the strength of labour demand, the degree of match between jobseekers and employment opportunities, local delivery of employment services, and employer attitudes; and

- National and regional level factors include: monetary and fiscal policy; overall economic growth; regional industry composition; immigration policy and resettlement assistance; employment services; income support policies; and the regulatory regime relating to industrial relations, anti-discrimination and EEO legislation.

Factors that impact on employment outcomes belong to four major categories: personal and household characteristics; human capital; area-based factors; and employer attitudes. The literature identifies barriers to employment that relate to family and personal attributes that can be broadly categorised as either malleable or indelible (Baum and Mitchell, 2008). Individuals are incapable of altering indelible characteristics such as age, gender, disability and ethnicity. Therefore, where these characteristics are identified as employment barriers due to custom or discrimination it is necessary to attempt to address these issues at a wider social level through education or legislation such as the *Sex Discrimination Act* 1984, the *Racial Discrimination Act* 1974, the *Disability Discrimination Act* 1992, and the *Age Discrimination Act* 2004.

Malleable characteristics identified in the literature commonly include human capital characteristics such as educational attainment, formal qualifications and previous work experience. Policy interventions to enhance human capital stocks include both short-term and long-term strategies relating to educational outcomes of school pupils as well as opportunities for participation in post-school education and training.

## 2.1. Personal and household characteristics

There are a range of personal and household characteristics that impact on labour market participation and the ability to obtain and maintain suitable employment.

<u>Age</u>

Research findings confirm that older workers encounter greater difficulty in obtaining employment than prime-age counterparts with similar qualifications and experience (Tackey et al., 2006; Goldstone, 2008). Research findings from the UK and Australia indicate that older Muslim workers may encounter additional difficulties due to the decline of manufacturing and an inability to transition to growth industries due to low English language proficiency, outdated job specific skills and lack of information technology and other transferable skills (Forrest and Johnston, 1999; Tackey et al., 2006). By measuring the ratio of unemployed Muslims and non-Muslims across different age groups, Hassan (2008) demonstrated that the labour market disadvantage for Australian Muslims increases over the lifecycle.

Young people can also face significant labour market disadvantage, especially in the transition from school to work. Tackey et al. (2006) point to wider social issues that impact on labour market success of young Muslim men in the UK. In line with what Sanders (2002) refers to as "oppositional youth culture" in migrant communities, Tackey et al. (2006) indicate that peer pressure can produce an anti school attitude resulting in poor educational attainment, restricting work choices and participation in training schemes.

Figure 1 Heuristic model of individual underutilisation risk
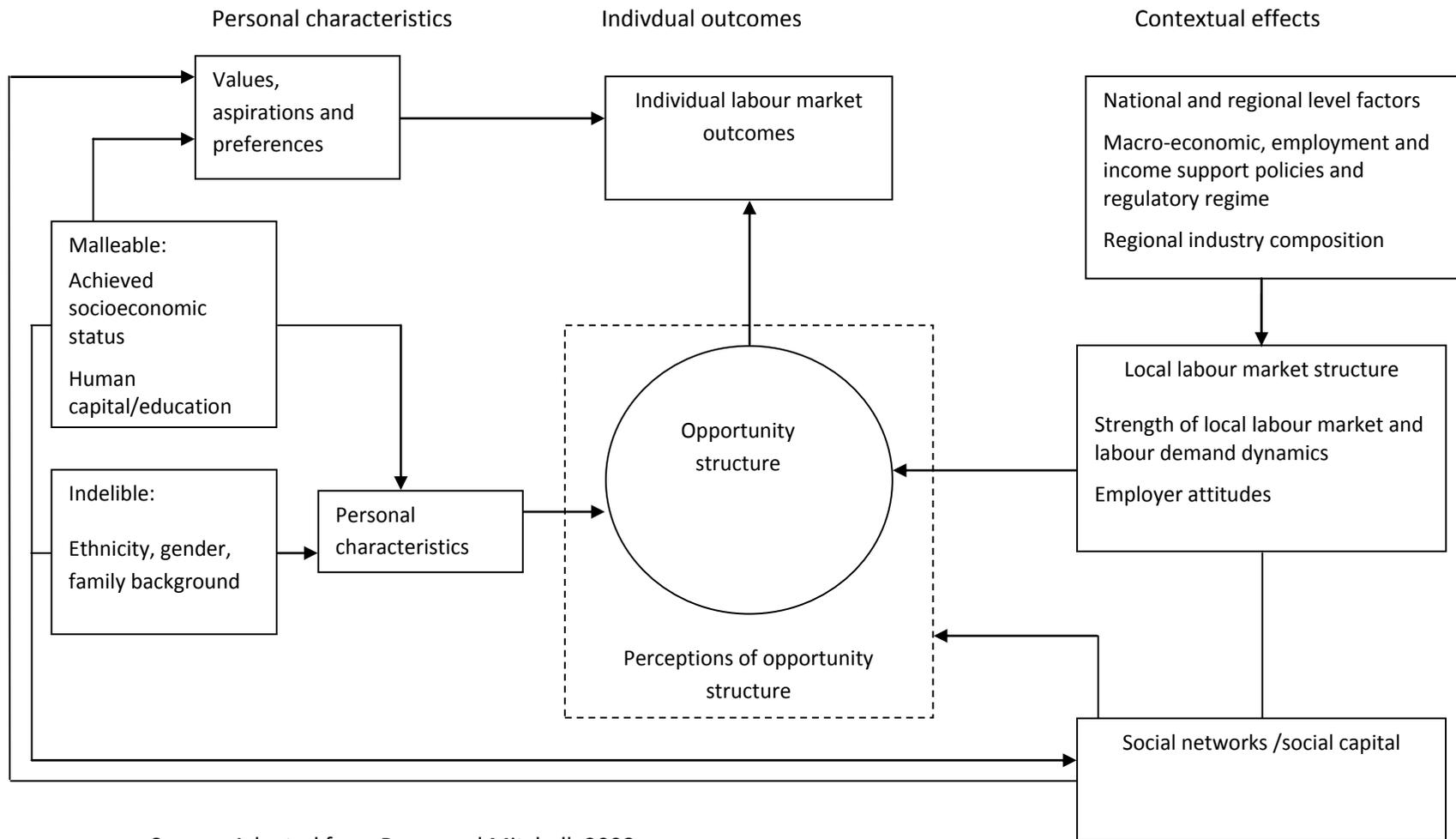
Source: Adapted from Baum and Mitchell, 2008

Health

Health conditions or disabilities reduce the likelihood of obtaining and retaining employment due to limitations on the type or work that individuals can perform or the duration of daily or weekly employment. In many countries, including Australia, migrants with low education levels and qualifications have limited employment opportunities if they become ill, sustain workplace injuries, or in the event of structural change in the labour market.

Previous work in physically demanding jobs contributed to the prevalence of health problems and disabilities particularly for those over 50 years of age. In a UK study of Muslims from Pakistan and Bangladesh, one third of men reported health problems, often multiple health problems, that constituted a barrier to employment and limited the type of work they could do (Tackey et al., 2006). Similarly, older Australian Muslim workers who have worked in heavy industry have a range of health conditions and disabilities that impinge on their employment prospects.

Religion and cultural factors

Religious beliefs may have a significant impact on the employment prospects of Muslims living in Western countries. A 2005 UK study of the barriers to employment for Pakistani and Bangladeshi jobseekers (almost all of whom were Muslim) found that half of the men and the two thirds of women said that employment options were limited for religious reasons. They indicated that they were not prepared to work in some or all of the following situations: places where alcohol is sold, gambling establishments or places where the accrual of interest was promoted, where they are required to handle non-halal meat, or where there was no time or a suitable place to pray (Tackey et al., 2006). For some women there are further restrictions relating to observing hijab, wanting to work in an exclusively female workplace, not being prepared to work at night or in jobs that involved meeting the public. Islamic rituals may not be understood or even tolerated by employers and non-Muslim colleagues; among these are daily and Friday prayers (DIAC, 2008), ablution, fasting, observing Muslim holidays, and restrictions on shaking hands (Tackey et al., 2006).

Cultural norms also exert a major influence on labour market participation. In the UK caring responsibilities severely limit employment for some Muslim women (Tackey et al., 2006; Aston et al., 2007; Aston et al., 2009). Young women were expected to care for elderly relatives and women with young children frequently chose not to work or did not work because they did not have family members to look after their children and were not prepared to use formal childcare services. The majority of women 'viewed their primary responsibility as looking after their children, with working as a secondary priority' (Tackey et al., 2006: 271). Many women who wanted to work were only prepared to work part-time and wanted to work locally (Tackey et al., 2006; Aston et al., 2007).

Australian Muslim women have expressed a preference for Muslim run childcare services (McCue, 2008) and some have also experienced pressure from family members to remain at home rather than participate in the labour market (DIAC, 2008). In Australia, second generation Muslim women, who are predominantly from Turkish or Lebanese backgrounds, were only half as likely to be employed as the Australian female population and only 14 per cent of Lebanese Muslim women were employed (Foroutan, 2008). Foroutan (2008: 233) contends that the 'low employment level of second-generation Muslim migrants is mainly explained by cultural circumstances' due to 'incomplete cultural assimilation'.

English language proficiency

One of the major problems encountered by migrants from non English speaking backgrounds is lack of English language proficiency. Research from the UK found that English language proficiency and literacy were the primary employment barriers for refugees (Block, 2002) and English language problems persisted with sections of the first generation (Tackey et al., 2006), and very few women without good English language skills were employed (Aston et al., 2007). Similarly, an Australian study involving Muslim refugee women found that lack of English language proficiency resulted in social isolation and difficulties accessing services and employment (Casimiro, Hancock and Northcote, 2007).

Teicher, Shah and Griffin (2002: 233) found that labour market disadvantage is concentrated among migrants from non English-speaking backgrounds who experience multiple barriers to employment, including: lack of English language skills; lack of appropriate educational qualifications; reduced employment opportunities due to deindustrialisation and labour market deregulation and 'there is some evidence of ongoing but subtle discrimination'.

Formal education and qualifications

For migrants the returns to education are frequently lower than human capital theory suggests. The difficulty of having overseas qualifications recognised is a long-standing problem for Australian migrants that impacts on their ability to obtain suitable employment (Torezani, Colic-Peisker and Fozdar, 2008).

Employment of skilled workers in less skilled jobs is a significant issue because it reduces income and job satisfaction and is inefficient, both in terms of economic output and exacerbating skill shortages in the labour market. Liebig (2007) found that 47 per cent of highly qualified migrants in Australia were in low or medium skilled jobs two years after arrival and 40 per cent after five years.

Educational experiences can impact on future labour market outcomes due to underperformance, or students may drop out due to problems or dissatisfaction with treatment by the institution, teachers or other students (Casimiro, Hancock and Northcote, 2007). Australian Muslim school students report that bullying and harassment are endemic in schools (DIAC, 2008), that teachers were not interested in them, were racist, and had low expectations of their achievements (Mansouri and Kamp, 2007).

Employability skills

In addition to formal education and qualifications there are a range of employability skills that are important in obtaining and retaining employment. Poor performance at job interviews can be a barrier to employment. Roberts and Campbell (2006: 1) found that in the UK there was a "linguistic penalty" for first generation ethnic minority job seekers in job interviews due to 'a mismatch of implicit cultural expectations, evidenced by mutual misunderstandings, protracted attempts to resolve them and negative judgements by interviewers'. Muslim youth and men have identified a need for training in job seeking skills such as writing job applications and training in interview skills (Chafic, 2008; DIAC, 2008).

Several authors have identified lack of confidence and low self-esteem as barriers to employment including McCue (2008) in Australia and Aston et al. (2009) in the UK.

2.2 Area-based factors and social capital

A number of factors related to area of residence are important in determining opportunities and achievements of residents, including labour market outcomes. The level of local labour demand is one of the most important area-based factors that influence employment outcomes is the level of local labour demand. Some of the areas with the highest concentration of Muslims in Australian are also characterised by lower than average employment rates and relatively high unemployment rates, which is indicative of a large amount of slack in the labour market.

The possession of social capital is an important asset in regard to seeking employment. The lack of effective social networks has been identified as a barrier to employment for migrants (Kyle et al., 2004; Torezani, Colic-Peisker and Fozdar, 2008). Torezani, Colic-Peisker and Fozdar (2008: 147) contend that Australian migrants, and especially refugees, have special needs in terms of developing social capital since they have left behind their 'formal and informal, weak and strong ties' that can be very important for employment success. They note that bridging social capital or weak ties has been found to be of particular importance in the labour market, particularly in respect of facilitating occupational mobility.

2.3 Employer attitudes and discrimination

Evidence from multiple sources attests to the existence of discrimination against Muslims and other migrants in the Australian labour market. Evans and Kelley (1991) reported that one third of Australian employers would prefer to hire Australians rather than migrants and a similar proportion of the workforce were similarly prejudiced. Australian research suggests that employers may be loath to employ Muslims due to fear of offending customers or co-workers (DIAC, 2008; McCue, 2008) or the fear that religious observance may impinge on productivity. While racism may not always be intentional it impacts negatively on the victim in terms of employment opportunities, social interaction or life chances more generally (Imtoual, 2006).

The literature points to discrimination linked to overt or visible characteristics of minority groups. In the case of Australian Muslims the most obvious identifiers are the wearing of the hijab by women, Muslim names, skin colour and accents. A study involving NESB Australian residents reported difficulties in finding work due to 'their accents and visible differences such a skin colour and the wearing of a hijab' (Berman and the Victorian Equal Opportunity & Human Rights Commission, 2008: 19). There have been many instances documented where women attending job interviews have been asked about wearing the hijab, and suspect that it contributed to their not being successful in getting the job (Imtoual, 2006; McCue, 2008; DIAC, 2008).

Discrimination on the basis of foreign sounding names has been strongly suggested as a barrier to employment in Australia (Berman and the Victorian Equal Opportunity & Human Rights Commission, 2008; HREOC 2003; Booth, Leigh and Varganova, 2009; Chafic, 2008). An Australian audit discrimination study found that those with Anglo-Saxon names were more likely to be contacted for an interview and that a person from the Middle East would need to submit 64 per cent more applications to obtain the same number of interviews. The research established that a high quality CV increased the call back rate for Anglo-Saxons by 14 percentage points but Middle Eastern supplicants 'gain no apparent benefit from having a high-quality CV' (Booth, Leigh and Varganova, 2009:13).

3. Data sources and description

This analysis uses the *ABS Census of Population and Housing – Household Sample File.* The sample file is a Confidentialised Unit Record File (CURF) comprised of a 1 per cent sample from the 2006 Census containing information on 199,406 individuals, 87,071 families and 81,221 dwellings. The 48 geographical areas for which data are provided are Statistical Regions or aggregates of Statistical Regions which can be aggregated to the state level. Data includes a range of variables related to dwellings, family information, and information on individuals such as ancestry, country of birth, religion, education and qualifications, labour force status, occupation and industry.

Census CData Online was used to obtain the unemployment rate (labour demand) at the time of the 2006 Census for the 48 Statistical Regions included in the CURF. The individual data from the CURF was then matched to the unemployment rate data to match individuals to their local labour market so that the labour demand variable could be included in the analysis.

The research focuses on two labour force outcomes: 1) whether people participate in the labour force; and 2) whether those who participate are employed or unemployed. We developed two samples from the *ABS Census of Population and Housing – Household Sample File.* For the first sample, which we refer to as the "Labour Force Participation" sample, we selected the working age population, aged 15-64 years which consists of 91,080 observations. This sample was used in the Probit regression to ascertain the characteristics associated with the likelihood of being in the labour force.

The second sample was constructed by restricting the sample to those in the labour force (employed and unemployed), resulting in a total of 70,534 observations. We refer to this sample as the "Employment" sample and used it to investigate labour market outcomes by identifying the characteristics associated with being employed.

4. Regression Analysis

The econometric analysis uses Probit limited dependent variable models using multiple regression modelling techniques to develop a rich profile to determine how individual and personal characteristics (supply-side) and broader labour market factors (demand-side) influence labour market experience. This includes the characteristics of individual jobseekers that increase or reduce the probability of being in the labour force or, once the decision to participate has been made, the probability of being employed. Two separate Probit models are estimated.

We adopted a general to specific modelling approach by including all variables. After estimation any variables that were not significant at the 10 per cent level were removed and the models were re-estimated so that the final models included only variables that were significant at the 10 per cent level.

Dependent variables

- **Labour Force Participation**. The first model examines the characteristics associated with the decision to participate in the labour force. The dependent variable is labour force participation, represented by a dummy variable that is 1 if the person is either employed or unemployed and 0 if the person is not in the labour force; and

- **Employment.** The characteristics associated with being employed once the decision to participate in the labour force has been made. The dependent variable is a dummy variable that is 1 if the person is employed or 0 if the person is unemployed.

Independent variables

Following Baum and Mitchell (2008) the explanatory variables include individual and demographic supply-side variables and regional demand-side influences. Supply-side characteristics include: sex, age, family composition, English language proficiency, country of birth, year of arrival in Australia, religion, educational attainment, qualifications and disability. The demand-side is modelled using the local unemployment rate. The variables include:

- **Age** groups: 15-24, 25-34, 45-54 and 55-64. The reference category is the prime age group aged 35-44.

- **Gender:** 1 if female, 0 otherwise.

- **Household and family characteristics:** Sole parents (1 if sole parent, 0 otherwise); Marital status (1 if married, 0 otherwise); Children (1 if has dependent children, 0 otherwise); Domestic responsibilities (1 if the person spends 30 hours or more on unpaid domestic work, 0 otherwise).

- **Disability**: 1 if core activity need for assistance, 0 otherwise.

- **Educational attainment:** Low school education (1 if highest level of school completed is Year 10 or below, 0 otherwise); Post secondary education (1 if has a certificate or diploma, 0 otherwise), and degree qualifications (1 if bachelor degree or higher, 0 otherwise);

- **Current study:** studying full-time (1 if currently studying full-time, 0 otherwise); part-time study (1 if currently studying part-time, 0 otherwise).

- **English language proficiency:** (1 if person speaks a language other than English at home, 0 otherwise); (1 if English is spoken not well or not at all, 0 otherwise);

- **Country of birth:** Born overseas (1 if born overseas, 0 if born in Australia); Five dummy variables for region of birth - North Africa and the Middle East; Southern and Eastern Europe; South East Asia (excluding Viet Nam and the Philippines); Southern and Central Asia (excluding India); and Sub Saharan Africa.

- **Year of arrival** in Australia: Two variables (1 if arrived 1996-2000, 0 otherwise); (1 if arrived 2001-2006, 0 otherwise).

- **Second generation:** Two variables for Australian born children of migrants (1 if one parent is a migrant, 0 otherwise); (1 if both parents are migrants, 0 otherwise).

- **Muslim religious affiliation:** 1 if Muslim, 0 otherwise

- **Interactive variables** combining Muslim religious affiliation and the five country of birth variables

- **The unemployment rate** for each region is included to indicate the state of the local labour market or the demand-side influences.

5. Results

The results for the two Probit models are presented in Table 1. The first column displays the results for the Labour Force Participation model and the second column presents the results for the Employment model for those in the labour force.

5.1 Labour Force Participation model

The Labour Force Participation Model provides information on the characteristics associated with the decision to participate in the labour force. An understanding of the factors that influence these decisions is necessary to devise effective policies to encourage labour force participation and maximise opportunities for social inclusion.

Personal characteristics

- **Age**: All the age variables are negative and significant indicating that labour force participation is lower for all the age groups compared to the 35 to 44 age group.

- **Gender**: female labour force participation is significantly lower than male labour force participation.

- **Married** persons are more likely to participate in the labour force.

- Other household characteristics such as the presence of **dependent children, sole parents** and devoting more than 30 hours per week to **domestic duties** are all associated with a lower probability of being in the labour force.

- **People with disabilities** are far less likely to be in the labour force.

Human Capital

- All the human capital variables are significant. As expected having a higher level of education (**degree, certificate or diploma**) is associated with a greater probability of being in the labour force, while low levels of education (**Year 10 or below**) are associated with reduced likelihood of being in the labour force. **Full-time study** reduces the probability of labour force participation but **studying part-time** is associated with higher levels of participation.

Migrants

- Being a **migrant** is associated with lower labour force participation. This effect is higher for more recent residents and dissipates with the length of residency.

- The negative impact of migration is amplified by **speaking a language other than English** at home and having **poor English** language proficiency which are both negative and significant.

- Labour market participation is also lower for migrants from **North Africa or the Middle East, and South-East Asia.**

- Australian born **children of migrants** are less likely to participate in the labour force as shown by the negative coefficients for both variables and the impact is greater for those with both parents born overseas.

Muslim Australians

- The coefficient for the **Muslim** variable is negative and significant.

Table 1 Results for Probit Regressions: Probability of Labour Force Participation and Probability of being employed, 2006

	LFP		Employed	
	Coefficient		Coefficient	
Age 15-24	-0.074	***	-0.268	***
Age 25-34	-0.119	***	-0.059	**
Age 45-54	-0.151	***	0.082	***
Age 55-64	-0.962	***		
Female	-0.316	***	0.102	***
Married	0.146	***	0.462	***
Resident children	-0.170	***	0.043	**
Sole parent	-0.183	***	-0.293	***
Domestic work >30 hours	-1.052	***	-0.732	***
Disability	-1.668	***	-0.411	***
Year10	-0.269	***	-0.239	***
Degree	0.431	***	0.332	***
Certificate or Diploma	0.347	***	0.189	***
Studying full-time	-1.066	***	-0.119	***
Studying part-time	0.062	**		
Born overseas	-0.066	***	-0.112	***
Speaks language other than English at home	-0.196	***	-0.212	***
Poor or no English proficiency	-0.428	***	-0.320	***
Arrived 1996-2000	-0.108	***	-0.120	**
Arrived 2001-2006	-0.222	***	-0.282	***
North Africa and Middle East	-0.171	***	-0.251	***
South-East Asia	-0.086	**		
Southern and Central Asia			-0.188	**
Second generation (one parent migrant)	-0.033	*	-0.082	***
Second generation (both parents migrants)	-0.069	***		
Muslim	-0.251	***	-0.275	***
Muslim* North Africa and Middle East	-0.258	***		
Unemployment rate in area	-0.040	***	-0.067	***
Constant	1.800	***	2.022	***
Number of observations	91080.000		70534.000	
Prob > chi2	0.000		0.000	
Log likelihood	-37018.796		-12334.937	
Pseudo R2	0.2387		0.108	

Note: * is 10 per cent level of significance, ** is 5 per cent and *** is 1 per cent.

- The interactive variable for **Muslims from North Africa or the Middle East** is negative and significant.

Labour Demand

- **Labour market conditions.** The coefficient on the unemployment rate is negative and significant indicating that there is a lower probability of labour force participation in areas with higher unemployment rates.

5.2 Employment Model

The Probit regression for employment was estimated from the sub sample of people who were in the labour force (employed or unemployed). The results for the employment model shown in Table 1 are similar to those for the labour force participation model.

Personal characteristics

- **Age.** Three of the four age groups have significantly results. Both the 15-24 and 25-34 groups have a lower probability of being employed while the 45-54 age group have a higher probability of being employed. There is no significant difference in the likelihood of employment for the 55-64 age group compared to the reference group.

- **Gender**. Females who have made the decision to participate in the labour force are more likely to be employed than males. This may be explained by a greater degree of marginal attachment to the labour market for females than males, so that females who are unable to find work may be more likely to leave the labour force.

- People who are **married** and those with **child**ren are more likely to be employed than single people or those without children.

- **Sole parents** and **people with disabilities** are less likely to be employed.

- The variable "**domestic work over 30 hours per week**" is strongly associated with a lower probability of employment.

Human capital

- All the human capital variables are significant and the signs are as expected. An education of **Year 10 or below** is associated with a reduced likelihood of being employed, as is current **full-time study**. Those with **certificates or diplomas** are more likely to be employed than those without post school qualifications. Having a university **degree** further increases the probability of employment.

Migrants

- **Migrants** are less likely to be employed than persons born in Australia.

- People who speak a **language other than English** at home and those with **poor English** language proficiency have a lower likelihood of being employed.

- There is a reduced employment effect for **recent migrants;** both those who arrived in Australia 1996-2000 and 2001-2006 have negative and significant coefficients.

- Those born in **North Africa and the Middle East** and migrants from **Southern and Central Asia** are less likely to be employed than the remainder of the population.

- For **Australian born people with one parent born overse**as there is a reduced likelihood of employment. However, for those with **both parents born overse**as there is no significant difference in the probability of employment.

Muslim Australians

- The regression results indicate that **Muslims** face reduced employment prospects compared to the remainder of the population. None of the interactive region of birth variables was significant.

Labour demand

- The **unemployment rate** variable indicates that persons living in areas with higher unemployment rates are less likely to be employed. This finding is important for Muslim Australians, since over 62 per cent of Muslims lived in areas with above average unemployment rates compared to less than half the total population (47.7 per cent). Therefore, the negative consequences of insufficient labour demand were likely to be more acute for Muslim Australians.

6. Limitations of the models

This analysis suffers from several limitations due to data restrictions. It is not possible to include underemployment in the model since the data does not establish whether part-time workers would like to work additional hours. We were also unable to investigate the relationship between labour force outcomes and a range of factors identified in the literature such as discrimination, social capital and social networks because there are no measures of these factors in the data.

The measure of disability in the data almost certainly underestimates the proportion of the working age population with a disability that impacts on employment. The Census data shows that 2.2 per cent of the population aged 15-64 had a core activity need for assistance. In contrast, the 2003 Disability, Ageing and Carers survey (ABS, 2003) indicated that 11.7 per cent of the working age population had an education or employment restriction due to disability.

Despite the evidence of discrimination in the Australian labour force we have not been able to include discrimination in the model. The impact of religious and cultural factors is not captured satisfactorily by the migrant and Muslim variables. These variables do not take into account the depth of religious or cultural adherence, or the ethnic or religious composition of the area of residence. We could expect that Muslims who observe hijab are more likely to encounter negative reactions from employers and co-workers. Those who limit employment choices due to religious convictions will have more limited employment options. The impact of these factors is likely to be greater in regions where Muslims comprise a smaller proportion of the population and there are few businesses owned by Muslims.

The unemployment rate for each region was included to indicate the state of the local labour market or the demand-side influences. The regions available in the data set are Statistical Regions or combinations of Statistical Regions with a minimum population of 250,000 (220,000 for the Northern Territory) and, in many instances, cover large geographical areas that span more than one functional labour market. This level of aggregations limits the value of this variable in the regression analysis since the intra-regional variation in labour demand is not captured in the analysis and the full impact of local labour market conditions may be masked.

7. Conclusion

This analysis has examined the supply and demand factors that influence labour force participation and the probability of being employed once the decision to participate in the labour force has been made.

In general the hypothesised relationships between the variables and labour force outcomes are confirmed by the regression results. Characteristics associated with better labour market outcomes include being married and having greater levels of human capital due to post-school education. There is a negative association between both labour force participation and employment for several variables: the youngest age group, people with disabilities, sole parents, those with below Year 10 education, and those currently studying full-time.

Some of the variables could not be included in the model or were not ideal for the analysis due to data restrictions. The disability and unemployment variables were not entirely adequate and we were not able to include variables for employability skills, social capital or the degree of religious observance for Muslims.

The results indicate that migrants are disadvantaged in the labour market and there is a further penalty for Muslims. There is a lower probability of labour force participation and employment for migrants and their children, those with poor English proficiency, people born in North Africa or the Middle East and for Muslims. In terms of labour force participation, there is an additional disadvantage for Muslims born in North Africa or the Middle East. However, once the decision to participate in the labour force has been made this labour market disadvantage is no longer evident.

Unexplained variation between the labour market experience of Muslims and the general population, after controlling for both supply-side and demand-side factors, may be attributable to differences in individual characteristics not included in the models such as attitudinal differences or variations in social capital, or may be indicative of some degree of discrimination. Future research is needed to explore these issues.

Notwithstanding the limitations of the unemployment variable, our modelling approach of including demand-side influences as well as supply-side characteristics of individuals provides greater understanding of labour market outcomes than models that are restricted to supply-side variables. Just as the human capital and attitudinal characteristics impact on the likelihood of success in the labour market, the demand for labour is a major determinant of whether individuals gain and retain employment.

The importance of place and unemployment differentials between regions is increasingly being emphasised in the literature (see for instance, Sunley, Martin and Nativel, 2006). It is important to include the demand-side of the labour market in order to determine appropriate employment policies. In particular, it is necessary to determine whether policy interventions need to address: issues relating to employment barriers and employability of individuals; labour market opportunities in particular geographical locations; or a combination of all of these.

Policies to address supply-side issues concentrate on addressing the barriers to employment faced by individuals such as low levels of education or skills, issues relating to attitudes and generic employability skills that have been identified by employers as important considerations in employment decisions. However, in the absence of sufficient labour demand, supply-side policies are an inadequate response. In demand constrained labour markets, specific policies must be developed to stimulate demand through employment creation.

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