Plan

- Introduction
- The data
- The index of labour market success
- The econometric analysis
- The results
- A comment or two
Previous research shows that immigrant labour market success depends, importantly, on (among other things) their being:

- Young
- Skilled /qualified
- Speak English
- From an English speaking background
But (1):

Long-term prospects for Australia’s continued success in attracting the most desirable immigrants is not promising:

- Increasing competition from English speaking destination countries (Canada, US, NZ)
- Growing completion (for English-speaking or not) from many other countries (including many OECD)
Introduction (3)

But (2):

- Significant Skilled Migrant Loss
  - On average overseas born make up about 50% of permanent departures
  - In 2001-02, 54% of skilled permanent departures were immigrants (up from 14% in 1987-88)
  - We encourage skilled UK immigrants but 23% of permanent departures were UK immigrants who had been here for less than 2 year
Introduction (4)

- But (3):
  - Some job-getting attributes of immigrants work counter-productively for unemployed immigrants (a point I will return to)
Introduction (5)

- In this work I consider the labour market outcomes for immigrants.
- Instead of a refinement to logistic regression of employment vs. unemployment,
- I analysis labour market outcome using an Index of labour market success.
- Results show that analysis of employed vs. unemployed misses important points.
Data: Longitudinal Survey of Immigrants to Australia (LSIA)

- **Cohort 1**
  - Arrived September 1993 to August 1995
  - Interviewed three times (waves 1 to 3) at:
    - 6 months
    - +12 months
    - +24 months

- **Cohort 2**
  - Arrived September 1999 to August 2000
  - Interviewed twice (waves 1 and 2) at
    - 6 months
    - +12 months
LSIA

- Data remains the most comprehensive data set for information about immigrants to Australia.
- Analysis is the labour market success of immigrants who were labour force participants in at least one wave in either cohort.
- Balanced sample – only those present in all waves in either cohort.
Labour market success is measured by the Index of labour market success (LMSI) which encompasses a variety of labour market experiences.

In contrast with the usual employed vs. unemployed, the LMSI is more inclusive, recognises that labour market success is a multi-dimensional concept—not just whether you have a job.
This LMSI is a “formative” index constructed as a linear combination of indicator variables (Zs) with equal weights \((w_1=w_2=\ldots=w_q)\):

\[
\text{LMSI} = w_1 Z_1 + w_2 Z_2 + \ldots + w_q Z_q
\]

Equal weights is a necessary constraint for the LSIA. Other data, e.g. HILDA, allow more sophisticated statistical methods—currently working on this for another NILS project.
The LMSI can be treated as a continuous variable and so linear, easily interpreted, robust, regression models can be used.

The analysis provides information about the progression of success for employed and unemployed immigrants, not just what changes the probability of being employed.
LMSI (4)

- It’s necessary to construct separate index for Employed and Unemployed immigrants
- Then combine these indexes to form a composite for all labour market participants
- I treat NLF as neutral, between employed and unemployed
Indicators for Employed

- Wage
- Job satisfaction
- Occupational status
- Not holding more than one job
- Not looking for a replacement job
Indicators for Unemployed

- Perceive difficulties in finding work
- Receive assistance in finding work
- Receive government unemployment benefit
- Looking for full-time vs. part-time work
- Income (government payments)
Employed: Income in top bracket, worked average of 40 hours per week, high occupation status (e.g. specialist medical practitioner), loved job, has only one job: $LMSI = +100$

Unemployed: Perceives difficulty in finding a job, not receiving help in finding a job, not receiving an unemployment benefit, zero income: $LMSI = -100$

NLF who participate in $\geq$ one wave: $LMSI = 0$ (assumes preference U-NLF-E)
# Descriptive Statistics—LMSI

<table>
<thead>
<tr>
<th>LSIA1</th>
<th>Mean</th>
<th>% Change</th>
<th>Median</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1W1</td>
<td>0.1755</td>
<td></td>
<td>0.4761</td>
<td></td>
</tr>
<tr>
<td>C1W2</td>
<td>0.3514</td>
<td>100.2</td>
<td>0.5553</td>
<td>16.6</td>
</tr>
<tr>
<td>C1W3</td>
<td>0.4312</td>
<td>22.7</td>
<td>0.5818</td>
<td>4.8</td>
</tr>
<tr>
<td>MU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1W1</td>
<td>0.0074</td>
<td></td>
<td>0.2759</td>
<td></td>
</tr>
<tr>
<td>C1W2</td>
<td>0.2917</td>
<td>&gt;&gt; 200</td>
<td>0.5333</td>
<td>93.3</td>
</tr>
<tr>
<td>C1W3</td>
<td>0.4183</td>
<td>43.4</td>
<td>0.5703</td>
<td>6.9</td>
</tr>
<tr>
<td>LSIA2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2W1</td>
<td>0.4363</td>
<td></td>
<td>0.605</td>
<td></td>
</tr>
<tr>
<td>C2W2</td>
<td>0.5276</td>
<td>20.9</td>
<td>0.6304</td>
<td>4.2</td>
</tr>
<tr>
<td>MU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2W1</td>
<td>0.3375</td>
<td></td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>C2W2</td>
<td>0.5142</td>
<td>52.4</td>
<td>0.6199</td>
<td>6.9</td>
</tr>
</tbody>
</table>
Distribution for Cohort 1
(Pooled Data Excluding NLF for clarity)
Change in LMSI
Cohort 1, Wave 1 to Wave 3

Mean = 0.2565
Std. Dev. = 0.52782
N = 3,732
### LM Transitions

**LMSI vs. Employed, Unemployed & NLF**

<table>
<thead>
<tr>
<th>LSIA1</th>
<th>LSIA2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF Status</td>
<td>LMSI</td>
</tr>
<tr>
<td>Any L/Force Interaction (1 or more waves)</td>
<td>W1-W2</td>
</tr>
<tr>
<td>Up</td>
<td>22.4</td>
</tr>
<tr>
<td>Down</td>
<td>27.3</td>
</tr>
<tr>
<td>No Change</td>
<td>50.3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

For LF Status Down = E → U & NLF → U, Up = U → E & NLF → E.

For LMSI Up = higher LMSI score which includes U → E, NLF → E, and improvements
Econometric Method (1)

Underlying econometric model is linear:

LMSI is a function of explanatory variables (X), for individual i, at time t:

\[ LMSI_{it} = \alpha + X_{it} \beta + \varepsilon_{it} \]
Econometric Method (2)

- Since the data are longitudinal I can consider panel data models.
- But, because there are few waves, the models cannot be too sophisticated (e.g. a dynamic panel model is not appropriate).
Econometric Method (3)

\[ LMSI_{it} = \alpha + u_i + X_{it} \beta + v_{it} \]

- Panel model adds unobserved individuality \((u_i)\)
- I use the Random Effects Model: \(u_i\) is random variable not estimated (assumption is \(E(u_i | X_{it}) = 0\))
- Alternative (Not using) Fixed effects model: \(u_i\) is fixed and is estimated (see paper for summary of multiple justifications for REM)
<table>
<thead>
<tr>
<th>Description</th>
<th>Variable Name</th>
<th>Variables Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &amp; Age squared/100</td>
<td>Age &amp; Agesqd</td>
<td>5/Continuous</td>
</tr>
<tr>
<td>Australian labour market experience</td>
<td>ALME</td>
<td>Continuous</td>
</tr>
<tr>
<td>Choice of Australia was influenced by</td>
<td>CameEco (T)</td>
<td>1</td>
</tr>
<tr>
<td>Choice of Australia was influenced by</td>
<td>CameFam (T)</td>
<td>1</td>
</tr>
<tr>
<td>Country of birth or origin</td>
<td>CoBirth (T)</td>
<td>8</td>
</tr>
<tr>
<td>Duration of time unemployment in Australia</td>
<td>Umptime</td>
<td>Continuous</td>
</tr>
<tr>
<td>Economic factors: supply and demand side</td>
<td>URate &amp;</td>
<td>Continuous</td>
</tr>
<tr>
<td>Employed in former country of residence</td>
<td>WorkFcr (FCR)</td>
<td>1</td>
</tr>
<tr>
<td>English language proficiency level</td>
<td>ELAI</td>
<td>Index [0:100]</td>
</tr>
<tr>
<td>English-speaking developed country, other</td>
<td>EngBack (T)</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
<td>Male (T)</td>
<td>1</td>
</tr>
<tr>
<td>Have relative living in Australia not in PA’s</td>
<td>RelOz (T)</td>
<td>1</td>
</tr>
<tr>
<td>Mental health (the GHQ12)</td>
<td>GHQ</td>
<td>Index [0:100]</td>
</tr>
<tr>
<td>Health Good or Bad (physical well-being)</td>
<td>Health</td>
<td>Scale [1,5]</td>
</tr>
<tr>
<td>Health: Number of visits to the doctor</td>
<td>DrVisit</td>
<td>Continuous</td>
</tr>
</tbody>
</table>
### Explanatory Variables (2)

<table>
<thead>
<tr>
<th>Description</th>
<th>Variable Name</th>
<th>Variables Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest qualification was obtained in Australia</td>
<td>QualOz</td>
<td>1</td>
</tr>
<tr>
<td>Long term health condition</td>
<td>IllT</td>
<td>1</td>
</tr>
<tr>
<td>Main activity was unemployed in FCR</td>
<td>UmpFcr (FCR)</td>
<td>1</td>
</tr>
<tr>
<td>Marital status</td>
<td>Marstat</td>
<td>1</td>
</tr>
<tr>
<td>Number of (dependent) children and/or students in</td>
<td>NumChild</td>
<td>Continuous</td>
</tr>
<tr>
<td>Number of adult relatives living in the PA’s</td>
<td>NumAdult</td>
<td>Continuous</td>
</tr>
<tr>
<td>Person (PA or MU) (4)</td>
<td>PA/MU (T)</td>
<td>3</td>
</tr>
<tr>
<td>Power Distance Indicator (PDI)</td>
<td>PDI (T)</td>
<td>Index [0:100]</td>
</tr>
<tr>
<td>Previous visit was for an extended period</td>
<td>VisLong (FCR)</td>
<td>1</td>
</tr>
<tr>
<td>Previously visited Australia</td>
<td>VisitOz (FCR)</td>
<td>1</td>
</tr>
<tr>
<td>Qualification assessed for Australia at what level</td>
<td>Qualevel</td>
<td>1</td>
</tr>
<tr>
<td>Education or qualification (6)</td>
<td>Educat/ Qualif</td>
<td>10-Mar</td>
</tr>
<tr>
<td>Sought information about Australian job prospects</td>
<td>JobPros (FCR)</td>
<td>1</td>
</tr>
<tr>
<td>Sponsored</td>
<td>Spons (T)</td>
<td>1</td>
</tr>
<tr>
<td>State of residence</td>
<td>State</td>
<td>8</td>
</tr>
<tr>
<td>Time in Australia since arrival</td>
<td>TimeOz</td>
<td>Continuous</td>
</tr>
<tr>
<td>Unemployed at any time in Australia</td>
<td>UmpOz</td>
<td>1</td>
</tr>
<tr>
<td>Visa category</td>
<td>Categ (T)</td>
<td>5</td>
</tr>
</tbody>
</table>
Since there are employed, unemployed and NLF in the sample it is necessary to define some explanatory variables as labour market status specific
Explanatory Variables (4)

- For example, theory says time in Australian (TimeOz) matters to labour market outcome (and so to LMSI), but an interesting finding:
  - TimeOz for employed enhances labour market success
  - TimeOz for unemployed immigrant reduces LMSI
  - Only apparent with status specific TimeOz
Tests for pooling or stacking show:

- Cohorts are different (so don’t combine/stack)
- Primary Applicant (PA) and Migrating unit spouse/partner (MU) are different (don’t pool)
- Males and females are different (don’t pool)

Four sub-samples for each cohort:
- PA males, PA females, MU males, MU females
# LSIA: Labour Force Participants, Sub-Samples, Balance Sample

<table>
<thead>
<tr>
<th></th>
<th>LSIA 1 Obs</th>
<th>People</th>
<th>%</th>
<th>LSIA2 Obs</th>
<th>People</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA Male</td>
<td>5784</td>
<td>1928</td>
<td>52</td>
<td>2194</td>
<td>1097</td>
<td>51</td>
</tr>
<tr>
<td>PA Female</td>
<td>3012</td>
<td>1004</td>
<td>27</td>
<td>1334</td>
<td>667</td>
<td>31</td>
</tr>
<tr>
<td>MU Male</td>
<td>672</td>
<td>224</td>
<td>6</td>
<td>312</td>
<td>156</td>
<td>7</td>
</tr>
<tr>
<td>MU Female</td>
<td>1728</td>
<td>576</td>
<td>15</td>
<td>504</td>
<td>252</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>11196</td>
<td>3732</td>
<td>100</td>
<td>4344</td>
<td>2172</td>
<td>100</td>
</tr>
</tbody>
</table>
Preferred Econometric Models

- PAs require panel models (model includes unobserved individual heterogeneity, the $u_i$)
- MUs just need linear OLS models (models does not require individual heterogeneity)
What matters to almost everybody:

- English (measured as an index of English language ability, ELAI)
- Time in Australia (TimeOz)
- Cultural difference (measured as the Power Distance Indicator, PDI (Hofstede, 2001))
- Mental Health (GHQ)
- Use of qualifications (scale “rarely” to “very often”) (UseQual)
Econometric Results (2)

What matters much more to LSIA1 than LSIA2:
- Economic activity (EmpGrow)
- Visa category for PAs in LSIA1 (CAT_xxx)
- Country of Birth in LSIA1—except MU Males (CoB_xxx)
- Having been unemployed at some time in Australia (UmpOz)
Econometric Results (3)

What matters much more to LSIA2 than LSIA1:
~ Nothing
Econometric Results (4)

- Except for the previous observations there are few other generalisations.
- There are several measures that matter to one of the eight sub-samples only,
- Which confirms analysis of sub-samples is required.
Examples of things that matter to few:

- Previous visits to Australia (VisitOz) matters only to PA females in LSIA2
- Working in their FCR (WorkFcr) improves success only for MU males in LSIA2
- Being unemployed in their FCR immediately prior to arrival (UmpFcr) reduce success for PA females in LSIA2
- MU males in LSIA2 who came for family reasons (CameFam) do better in the labour market
More examples:

- PA males in LSIA1 who enquired about job prospects (JobPros) do worse in the labour market
- Having a qualification assessed at the same level as in their FCR (QualLev) improves outcomes for PA males in LSIA2
- Having an Australia qualification (QualOz) reduces outcomes for MU males in LSIA2
- A higher unemployment rate (URate) reduces the outcome for MU females in LSIA2
Econometric Results (7)

- For employed immigrants, TimeOz, ELAI, PDI all contribute to better labour market success (positive $\beta$)

- An important finding is that for non-employed immigrants these cause lower level of success (negative $\beta$)
For the unemployed, the explanation is that perceptions of ease of gaining employment deteriorates with the passage of time.

And the increased perception of difficulty is exacerbated for immigrants who expected to find transition to employment easy.

~ i.e. those with good English and from places more like Australia (e.g. UK)
A comment on coefficient size: Because the LMSI is an index it is relative size, not numeric value that is most interesting,

and interpretation requires reference to scales of the explanatory variables: e.g. for LSIA2, TimeOz has a range of 2 to 30 months, employment growth has a range of -6% per cent to +9%
So, for example, all other things equal, for PA males in LSIA2, a year in Australia, on average, increases the LMSI by 7 but for PA females in LSIA2 the increase is 21
Econometric Results (11)

- Or another example, showing small coefficients for continuous variables may obscure important impacts:
  - The average coefficient for the PDI (for employed immigrants) is about 0.2 but because of the scale of the PDI an immigrant from the U.K. would, all other things equal, have an LMSI 16 index points greater than an immigrant from Israel
The combination of explanatory variables, and their coefficient size, within the eight models is quite complex.

But, as shown previously, many variables suggested as important to gaining employment have no (or very limited) impact on improvements in labour market success in a broader sense.
Final Comment: Some Generalisations (1)

- Given ever increasing global competition for “desirable” immigrants we need to recognise that policy is not successful just because an immigrant gets a job
- Labour market progress/success (income, status, job satisfaction) matters so that immigrants stay, and they encourage further desirable immigrants
Final Comment: Some Generalisations (2)

- Current policy may contribute to immigrants finding employment, it does not necessarily contribute to labour market success in a broader sense and,

- allowing immigrants in and then assuming they will get jobs is not good policy,
  - e.g. time alone does not improve labour market outcomes if unemployed