



INTEGRATION  
OF IMMIGRANTS  
PROGRAMME

2007 – 2012

**Economic integration of immigrants  
in New Zealand: Winkelmann and Winkelmann  
revisited**

Yun Liang, Jacques Poot and Steven Stillman

**Work in Progress!**

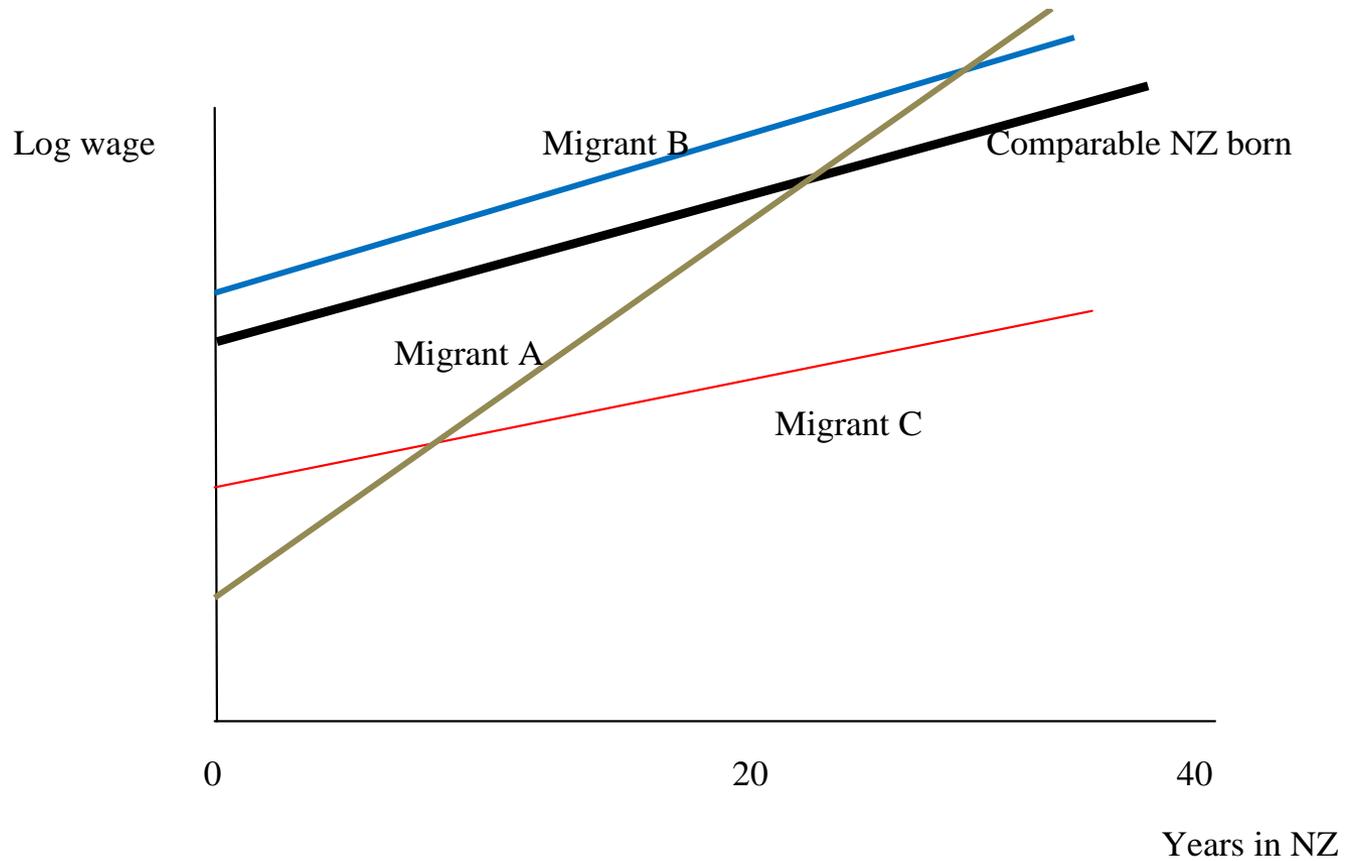
# Acknowledgements

- Funded by Foundation for Research Science and Technology grant MAUX0605.
- Access to the micro data used in this study was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. All frequency counts using Census data are subject to base three rounding in accordance with Statistics New Zealand's release policy for census data.

# How are migrants economically affected by their own migration?

- Generally, migrants benefit from migrating, economically or in broader terms
- .....but initial outcomes may differ considerably from those of 'comparable' people in the host country.
- Outcomes generally improve with years in the host country, but...
- ...there may or may not be a 'catching up' or 'overtaking'
- Economic research focuses predominantly on labour market outcomes such as
  - Job-skills mismatch
  - Earnings
  - Labour force participation or employment rates
  - Spells of unemployment
  - Post-arrival education and on-the-job training

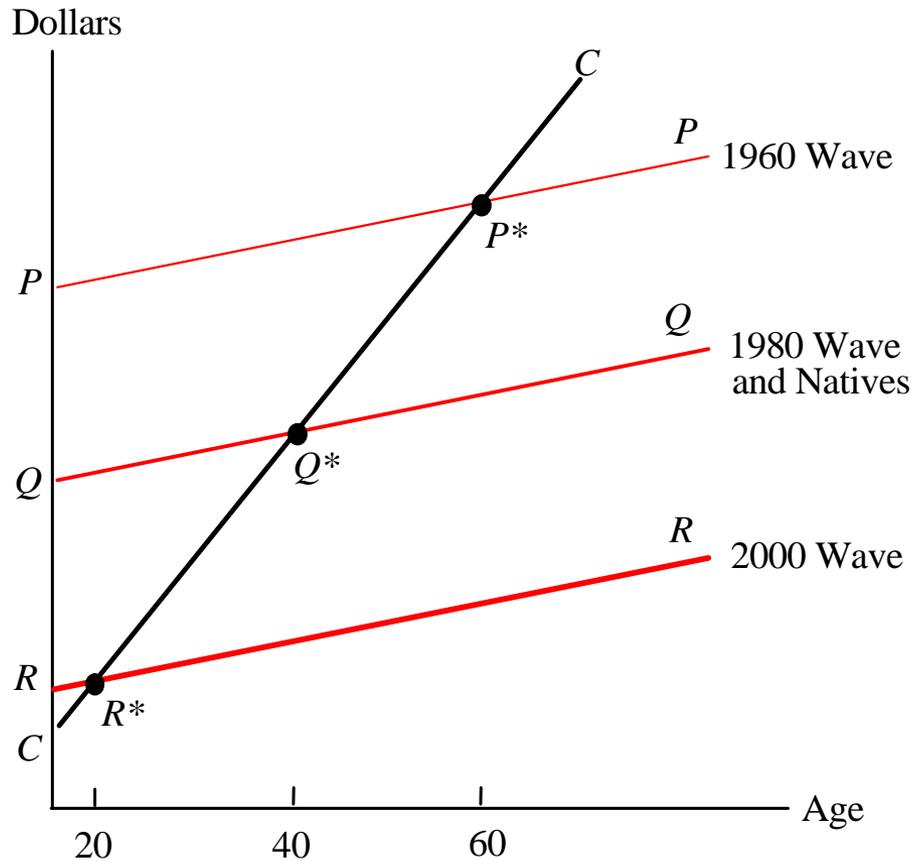
# The standard picture of earnings 'adaptation'



# Some causes of the initial pay gap

- Skills are not immediately transferable
- Communication difficulties due to a language barrier
- Job search may be longer and less efficient due to limited local labour market knowledge and limited networks
- Foreign qualifications may not be recognised
- Cultural factors may influence how immigrants 'compete'
- Spatial, occupational and industrial clustering of immigrants
- Selection effects: e.g. 'working holiday'; 'lifestyle migrants'
- Employers have imperfect information: stereotyping/'statistical discrimination'
- Other forms of discrimination

# Just one census of data can give the wrong conclusions regarding economic integration: pooled censuses allow identification of cohort effects



US example: The cross-sectional age-earnings profile in 2000 erroneously suggests that immigrant earnings grow *faster* than those of natives.

In New Zealand, *rising* skill levels of cohorts of immigrants will *underestimate* catch up in a cross-section of e.g. census data

## Besides 'years since arrival', 'year' matters in several other ways as well:

- Year of arrival ( 'hysteresis' or 'cohort' effects)
- Year of observation ('business cycle' effects)
- Age in the year of observation ('experience' effects)
- Age in the year of arrival ('life course' effects)
- ....but these effects cannot separately identified without additional assumptions.
- In our regressions we assume:
  - Year of observation effects are the same for migrants and NZ born
  - The age effect is measured by 'potential experience' (=age-years of schooling-5). This the same for migrants and the NZ born
  - The year of arrival is replaced by a 'decade of arrival'
  - For 'age at arrival' we consider: <5, 5-16, 17-20, >20

# Empirical research on labour market integration of immigrants

## The classics:

- Chiswick, B.R. (1978) 'The Effect of Americanization on the Earnings of Foreign-Born Men', *Journal of Political Economy* 86(5): 897-921. **US microdata regressions**
- Borjas, G.J. (1985) 'Assimilation, changes in cohort quality and the earnings of immigrants', *Journal of Labor Economics* 3(4): 463-489. **US microdata regressions**

## In New Zealand:

- Poot, J., Nana, G., and Philpott, B. (1988) *International Migration and the New Zealand Economy*. Wellington: Institute of Policy Studies. **census cross-tabulations 1981**
- Poot, J. (1993) 'Adaptation of Migrants in the New Zealand Labor Market', *International Migration Review* 27(1): 121-139. **census pooled cross-tabulations 1981 & 1986**
- Winkelmann, L. and Winkleman, R. (1998). 'Immigrants in the New Zealand Labour Market: A Cohort Analysis using 1981, 1986 and 1996 Census Data', *New Zealand Labour Market Bulletin*, 182: 34-70. **census microdata regressions 1981, 1986 & 1996**
- Boyd, C. (2003) 'Migrants in New Zealand: An Analysis of Labour Market Outcomes for Working Aged Migrants Using 1996 and 2001 Census Data', Wellington: Department of Labour. **descriptive analysis of census microdata 1996 & 2001**
- Nana, G. and Sanderson, K. (2008) *Migrants and Labour Market Outcomes*. Wellington: Berl. **multivariate analysis of census cross-tabulations 1981, 1996, 2001 and 2006**
- Stillman, S. and Maré, D. (2009) *The Labour Market Adjustment of Immigrants in New Zealand*. Wellington: Department of Labour. **1997-2007 NZ Income Survey microdata regressions**

**Related NZ research:** *geographical mobility of migrants* (Maré, Morton and Stillman, 2007); *under and overskilling* (Stillman and Maré, 2009; Poot and Stillman, 2010); *wealth* (Gibson, Le and Stillman, 2007); *children* (Woolf 2010); *selection effects* (McKenzie, Gibson and Stillman, 2010); *discrimination* (Ward and Masgoret, 2007); *recent migrant employers and employees* (Meares et al. 2009, 2010).

# Key conclusions from the 1998 Winkelmann & Winkelmann study

- First study to use unit record data in Data Lab: 5% sample of NZ born, 20% sample UK & Ireland born, 100% all others; population aged 15-64; 1981, 1986 and 1996 census
- In the first year after arrival, a typical immigrants had 20% lower income than a comparable NZ-born resident
- The gap disappeared after 20-30 years
- Convergence was faster for employment rates than for income
- Asian and Pacific Island immigrants of the early 1990s had worse outcomes than immigrants from those source regions previously
- Using just 1996 data, it was found that migrants from NESB countries earned 30% more if they were proficient in English
- Stillman and Maré (2009) find broadly the same, but average outcomes were better resulting from higher average skill levels of new and recent migrants

Replicating  
W&W  
1996  
census  
regressions  
and  
replacing  
income by  
imputed  
wages

1996 census	Males			Females		
	WW table 45 column 4	WW 2010 replication	imputed wage	WW table 46 column 4	WW 2010 replication	imputed wage
<b>VARIABLES</b>						
Immigrant cohort						
pre60	0.107**	0.144**	0.057**	0.094**	0.088**	0.036**
1961-65	0.060**	0.094**	0.059**	0.036**	0.005	-0.009**
1966-70	0.061**	0.100**	0.056**	0.045**	0.031*	-0.016**
1971-75	0.048**	0.102**	0.056**	0.033**	0.041**	-0.008**
1976-80	0.005	0.060**	0.074**	-0.042**	-0.034*	0.005
1981-85	-0.017	-0.015	0.077**	-0.053**	-0.077**	0.011**
1986-90	-0.037**	-0.053**	0.068**	-0.060*	-0.116**	0.012**
1991-95	-0.160**	-0.213**	0.012**	-0.230*	-0.374**	-0.013**
hours	0.012**	0.014**		0.020**	0.026**	
age	0.132**	0.167**	0.068**	0.081**	0.103**	0.060**
agesq/100	-0.149**	-0.189**	-0.075**	-0.100**	-0.116**	-0.070**
New Zealand Degree	0.034**	-0.002	0.051**	0.047**	0.036**	0.030**
Auckland	0.091**	0.170**	0.104**	0.107**	0.184**	0.098**
Highest qualification						
School qualification	0.136**	0.176**	0.174**	0.158**	0.208**	0.153**
Vocational qual.	0.212**	0.250**	0.087**	0.247**	0.304**	0.262**
University qual	0.555**	0.681**	0.481**	0.499**	0.611**	0.432**
(No Qual as reference)						
Proficient in English	0.277**			0.208**		
Australia	-0.006	-0.036**	-0.051**	-0.017	-0.018	-0.043**
Europe & North America	-0.101**	-0.219**	-0.046**	-0.082**	-0.180**	0.010**
Pacific Islands	-0.229**	-0.320**	-0.210**	-0.109**	-0.132**	-0.152**
Asia	-0.319**	-0.569**	-0.266**	-0.184**	-0.385**	-0.228**
Other	-0.062**	-0.132**	-0.011*	-0.065**	-0.110**	0.046**
(UK and Ireland as reference)						
Constant	6.471**	6.157**	1.223**	6.967**	6.616**	1.297**
<b>Observations</b>	<b>116326</b>	<b>812367</b>	<b>812367</b>	<b>97382</b>	<b>682020</b>	<b>682020</b>
R-squared	0.36	0.19	0.25	0.32	0.17	0.30
Standard errors in brackets						
* significant at 5%; ** significant at 1%						

## 1996, 2001 and 2006 pooled Census data – descriptives (population aged 25-64)

	<b>Male</b>			
	Nzborn	yrsinnz<5	yrsinnz in (5,9)	yrsinnz>=10
Employment Rate	86.34%	74.51%	81.13%	84.57%
Real Wage	20.99	21.50	21.78	22.03
Years in New Zealand		1.84	6.83	25.81
Years of Education	12.12	12.90	12.54	12.13
Arrived Before Age 5				14.66%
Arrived Between 5-16			0.44%	27.42%
Arrived Between 17-20			6.95%	9.62%
Arrive Age 21+		100.00%	92.62%	48.29%
Arrived Before 1957				7.56%
Arrive 1957-66				17.60%
Arrive 1967-76				33.17%
Arrived 1977-1986			5.88%	23.26%
Arrived 1987-1996		28.89%	60.23%	18.41%
Arrived 1997-2006		71.11%	33.90%	
Sample Size	1,914,525	143,250	86,127	322,239

# Recent migrants (< 5 yrs in NZ), country of birth ranked by number of female migrants

England	14.46%	Thailand	1.36%
China	11.85%	Sri Lanka	1.32%
India	6.94%	Tonga	1.31%
South Africa	6.74%	Caribbean, Central, South America	1.26%
Korea	5.77%	Canada	1.25%
Australia	5.03%	Other Sub-Saharan Africa	1.11%
Fiji	4.19%	Netherlands	0.86%
Eastern Europe, Central Asia and Former Soviet Union	4.06%	Ireland	0.82%
Philippines	3.09%	Other South Asia	0.80%
Japan	2.90%	Indonesia	0.79%
USA	2.80%	Other Pacific Islands	0.61%
Samoa	2.44%	Viet Nam	0.59%
Middle East and North Africa	2.33%	Cambodia	0.56%
Taiwan	2.32%	Wales	0.54%
Other Western Europe	1.97%	Singapore	0.53%
Scotland	1.71%	Cook Islands	0.48%
Germany	1.69%	Northern Ireland	0.27%
Zimbabwe and Zambia	1.64%	Other East Asia	0.26%
Hong Kong	1.64%	Niue and Tokelau	0.17%
Malaysia	1.56%	<b>Total</b>	<b>159819</b>

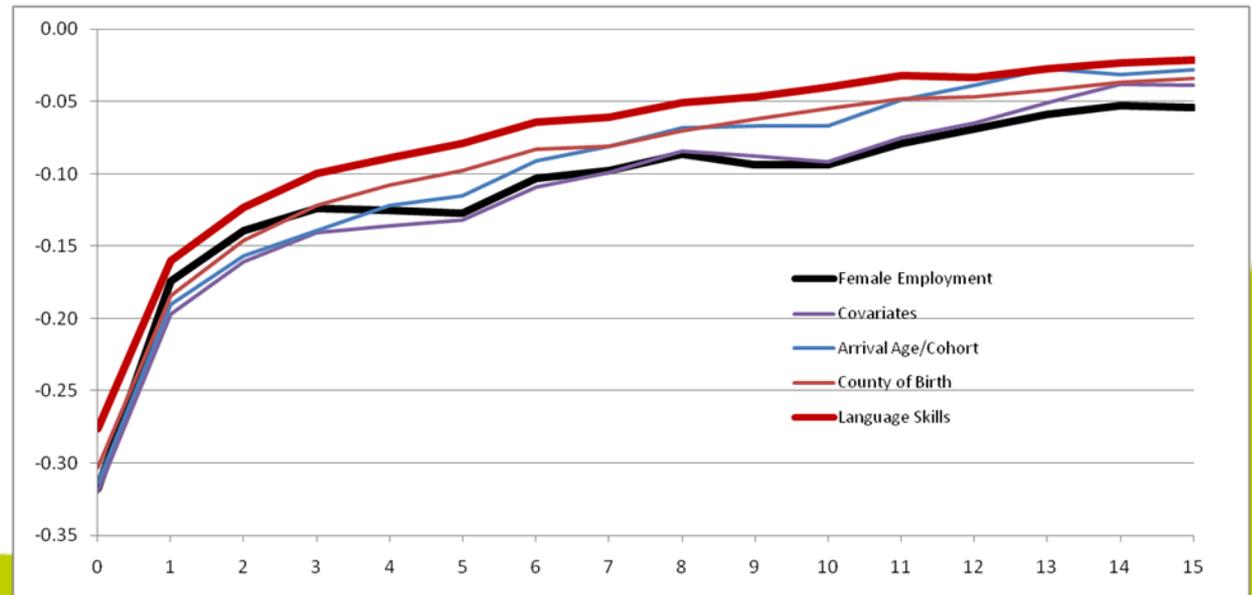
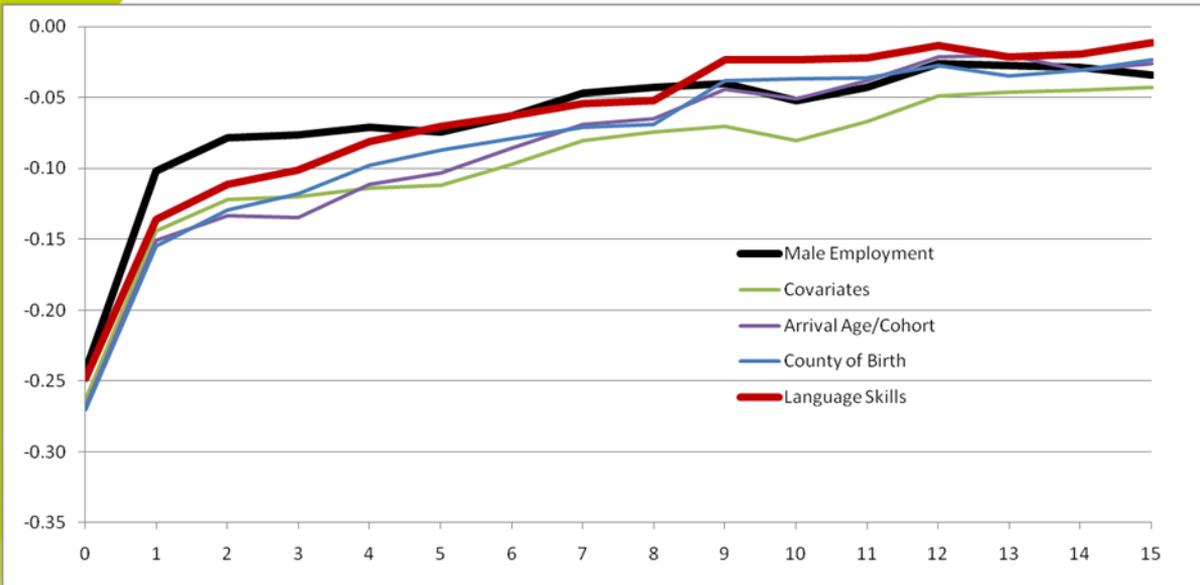
## Languages spoken: “Can have a conversation about a lot of everyday things”

	<b>Male</b>			
	Nzborn	yrsinnz<5	yrsinnz in (5,9)	yrsinnz>=10
Born in English Speaking Country	100.00%	65.85%	67.21%	83.89%
Speaks English	98.64%	87.51%	89.47%	95.53%
Speaks 1 language	90.88%	47.36%	42.28%	63.74%
Speaks 2 languages	7.13%	36.20%	41.80%	27.66%
Speaks 3 languages	0.75%	10.53%	11.33%	5.93%
Speaks 4 or more languages	0.30%	3.59%	3.78%	2.03%
Other Germanic	0.01%	0.08%	0.06%	0.06%
Romance	1.22%	6.57%	5.03%	4.27%
Greek/Balto-Slavic/Albanian/Armenian/Turko-Ataic/Uralic/Iranian	0.26%	4.32%	4.29%	1.76%
Indo-Aryan/Dravidian	0.17%	11.71%	11.95%	4.49%
Sino-Tibeto-Burmanc	0.26%	12.87%	15.44%	5.49%
Austro-asiatic/Tai-Kadai	0.06%	1.43%	2.16%	1.37%
Maori	4.82%	0.27%	0.38%	1.30%
Samoan	0.65%	2.87%	6.72%	8.82%
Tongan	0.05%	1.23%	3.43%	2.68%
Other Central Eastern Malayo Polynesian	0.14%	1.49%	2.39%	3.43%
Western Malayo-Polynesian	0.10%	2.96%	3.47%	1.27%
Afro-Asiatic	0.04%	2.83%	2.65%	0.54%
Other Languages	0.42%	7.54%	6.12%	1.84%
Artificial and Sign language	0.77%	0.28%	0.44%	0.52%
Sample Size	1914525	143250	86127	322239

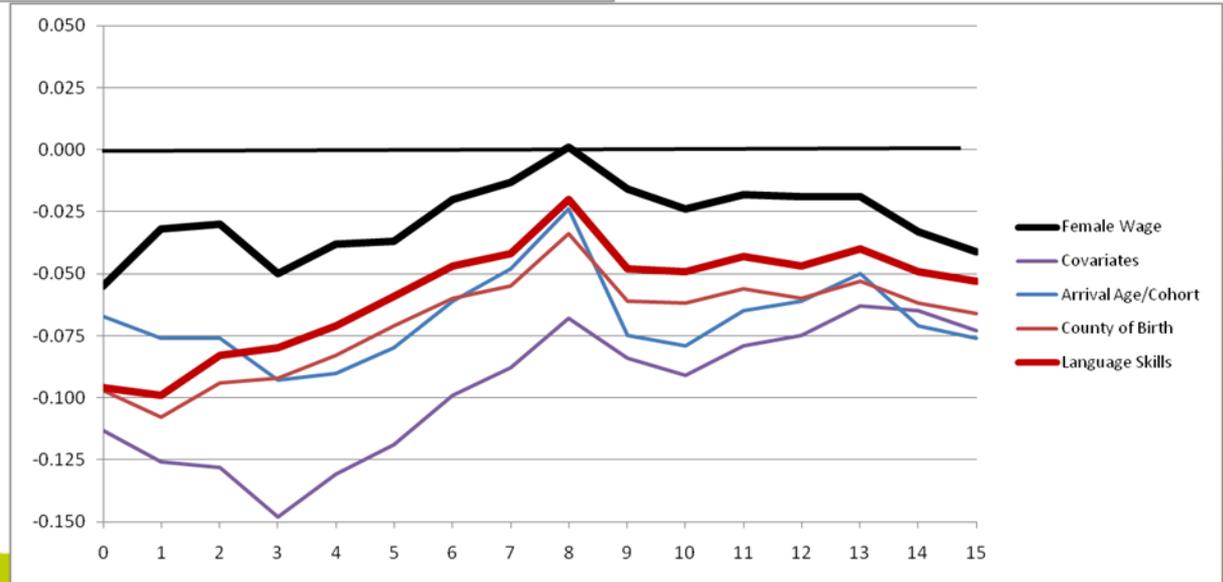
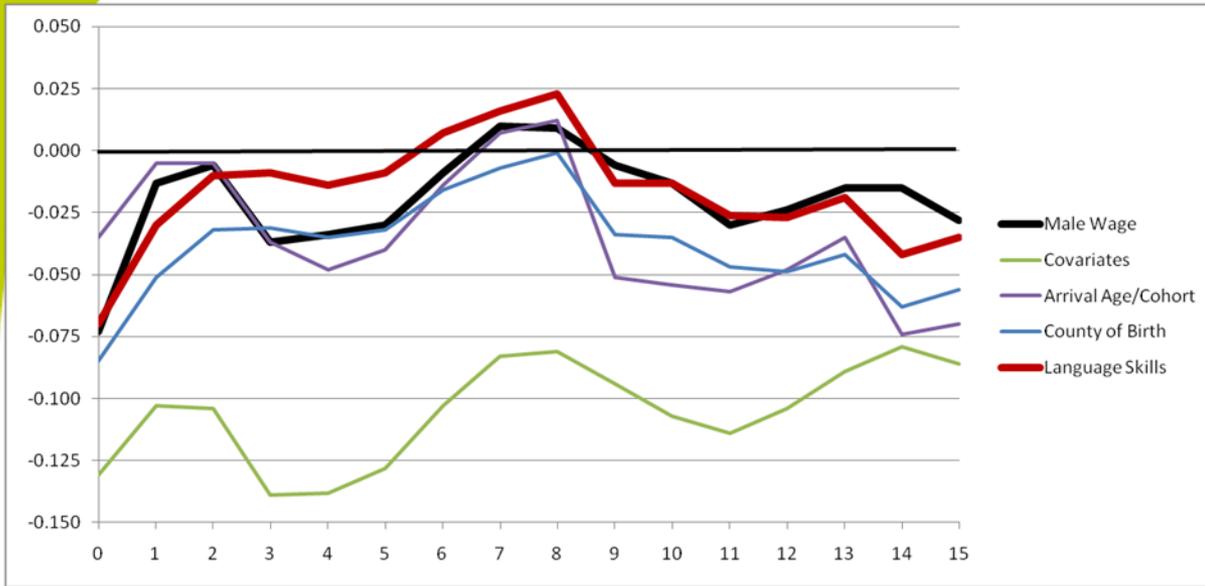
# Regression models: Estimating economic integration by “layers” of determinants

- (1): No controls, except for census year
- (2): (1) plus human capital and other controls not related to migration: years of education (linear), potential experience (quadratic), marital status, family type, urban, 140 Labour Market Areas
- (3): (2) plus whether degree earned in NZ, decade of arrival, and controls for arrival at age <5, 5-16, 17-20, >20.
- (4): (3) plus 40 Countries of Birth and whether from English Speaking Background country
- (5): (4) plus “speaks English”, “speaks Maori”, “speaks 2 languages”, “speaks 3 languages”, “speaks 4 or more languages”, plus 15 language groups. All these variables are defined for the NZ-born and immigrants.

# Regressions of employment integration



# Regressions of wage adaptation



# Some findings from regression coefficients

- The results are generally consistent with international evidence regarding “Mincer” earnings equations
- What matters strongly are:
  - Schooling, experience, living in cities, NZ qualification, coming from an English speaking country, cohort of arrival, proficiency in English
- There are significant, but quantitatively varying, language and country of birth effects
- Surprisingly, there appears to be a small but negative effect of being multilingual on wages of immigrants *and* NZ born

# Conclusions

- The large numerical and structural increase in, and the greater diversity of, the foreign born population over the 1996-2006 decade warranted a revisiting of the Winkelmann & Winkelmann study
- The innovations of the new research have been: (1) focus on labour market earnings rather than total income; (2) using years of education rather than broad education levels; (3) accounting for specific countries of birth and languages spoken
- Employment integration with years in NZ is consistent and faster than earlier studies suggested
- Wage adaptation patterns appear more complex. For females, accounting for all observables, *increases* the earnings gap between migrants and comparable NZ born workers
- Interestingly, being multilingual has no positive return in the NZ labour market
- All else being equal, coming from a specific country of birth can yield a significant advantage or disadvantage in the NZ labour market
- Future research will focus on modelling the economic integration of a specific cohort: the LisNZ sample



# INTEGRATION OF IMMIGRANTS PROGRAMME

2007 – 2012



**National Institute of  
Demographic and Economic Analysis**

*Te Rūnanga Tātari Tatauranga*



THE UNIVERSITY OF  
**WAIKATO**

*Te Whare Wānanga o Waikato*

**MASSEY UNIVERSITY**  
COLLEGE OF HUMANITIES  
AND SOCIAL SCIENCES  
TE KURA PŪKENGĀ TANGATA