

# Does the SMC points system predict the labour market outcomes of skilled migrants?<sup>1</sup>

Juliette Grangier, Motu & Department of Labour  
Rob Hodgson, Department of Labour & The University of Waikato

## Abstract

The Skilled Migrant Category (SMC) is a points-based policy allowing people to gain permanent residence in New Zealand according to employment and capacity-building factors. The aim of this research is to assess how well the points that are allocated act as a predictor of labour market outcomes for successful applicants three years after being granted residence, and to draw implications in terms of public policy. Using data from the Longitudinal Immigration Survey: New Zealand (LisNZ), multivariate models are developed to critically analyse the points that are currently allocated and test the role of additional observed characteristics.

## Introduction

The Skilled Migrant Category (SMC) is a points-based policy that allows people who have the ability to contribute to New Zealand economically (through meeting skill needs, building capacity, innovation, global connectedness) and socially, to gain permanent residence in New Zealand. In recent years, SMC approvals have made up more than half of all residence approvals. Specifically, the objective of the Skilled Migrant Category is to grant residence to people who demonstrate that they:

- *have skills to fill identified needs and opportunities in New Zealand;*
- *are able to transfer those skills to New Zealand and link with local needs and opportunities;*
- *are able to demonstrate an ability to contribute to New Zealand both economically and socially; and*
- *are able to demonstrate an ability to successfully settle in New Zealand.<sup>2</sup>*

The system is designed to balance these different criteria, as well as to give weight to other objectives such as to incentivise migrants to live outside of Auckland, and to give more points to younger people, thus maximising the potential economic contribution over the longer term. Points are granted for transferable skills and employability, and only recognised qualifications and relevant experience are awarded points. The match between skills and New Zealand's needs is stressed, through points being awarded for having a job or job offer in identified future growth areas and areas of skills shortage. The migrant's ability to settle in New Zealand can be demonstrated by New Zealand qualifications or experience, or the existence of close family members living in New Zealand. However, SMC policy is constrained by the information that is obtainable and that can be verified at a reasonable cost, as well as by other

---

<sup>1</sup> Access to the 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. The results presented in this study are the work of the authors, not Statistics New Zealand.

<sup>2</sup> Immigration New Zealand Operations Manual

considerations, such as the need to not discriminate against people on the basis of ethnicity or nationality.

The present research provides insights on skilled migrants' labour market outcomes in New Zealand, a key aspect of their contribution to the country's economy, as well as an important outcome for the migrants themselves. The aim is to assess how well the points that are allocated in the SMC policy act as a predictor of labour market success and to draw implications in terms of public policy. The efficiency of the SMC policy leverages will be analysed with regard to the association between the points' factors and the medium term labour market outcomes of skilled migrants.

For the purposes of this analysis, labour market outcomes are defined in term of wages. They are considered to be an indicator of successful migration, to the extent that higher wages reflect higher productivity, higher fiscal contribution and higher consumption. Data from the Longitudinal immigration survey: New Zealand (LisNZ) is used to address these questions. In addition to identifying the migration category, this dataset provides information on labour market outcomes up to three years post-residence, as well as on a wide range of individual characteristics related to the settlement experiences of the migrants.

First, previous research on skilled migrants' labour market outcomes is reviewed, and the dataset is introduced. Then, a framework to predict wage rates is developed from the Human Capital Earning function. Following this, the results yielded by the SMC points' factors are discussed, and finally some conclusions are drawn from the analysis.

### ***Previous research***

Previous research has attempted to investigate the impacts of immigration policy on migrant outcomes. In particular, the cases of Canada and Australia present strong similarities with New Zealand, both in terms of policies and available data.

In the US, some studies have focused on cohorts of migrants comparing long-term outcomes across different groups, showing that selection based on skills has a positive impact on outcomes, although this effect tended to fade with time. (Jasso and Rosenweig, 1995 ; Duleep and Regets, 1996).

Using the Longitudinal Survey of Immigrants to Canada, Aydemir (2010) compares educational levels and labour market outcomes among different groups. He finds that, although the screening process based on skills leads to higher educational levels of migrants, and also of their spouses, those migrants do not achieve better labour market outcomes in the short term as a result of the difficulties in transferring these skills to the country of migration.

Cobb-Clark (2000) used the Longitudinal Survey of Immigrants to Australia to investigate the determinants of labour market participation and employment of migrants who entered Australia under different visa categories. She found that initially the visa category had only a limited role in labour market participation, but had a significant effect on the employment rate. However, the gaps in employment rates narrowed at 18 months. The importance of English language was also highlighted. Cobb-Clark (2004) analysed three labour market outcomes, participation rate, unemployment rate, and the employment to population ratio, across immigration categories. Returns to factors that allocated points under the selection system were also analysed. Results indicated that the introduction of the points system focused on skills led to a large increase in the measurable human capital of new immigrants. The policy changes completely explained the improvements in participation rates and approximately half of the fall in male unemployment rates. However, most of the decline in female unemployment rates was from changes in returns to skills.

In New Zealand, the topic of labour market assimilation of immigrants relative to similar native-born has been relatively well researched (Poot and

Cochrane, 2004; Poot, 1993; Winkelmann and Winkelmann, 1998; Boyd, 2003). All of these studies used data from the New Zealand Census of Population and Dwellings (New Zealand Census), which is only conducted five-yearly and collects limited information on income and none on wages. Stillman and Maré (2009) instead used data from the 1997–2007 New Zealand Income Survey (NZIS) to analyse how employment rates, hourly wages, annual income and occupations of immigrants compare with similar New Zealand-born.

Although the focus of these studies has been primarily on the path of convergence to the labour market outcomes achieved by the New Zealand-born, common differences are found between broad migrant groups. A consistent finding is that initial entry disadvantage and subsequent convergence is more pronounced for immigrants born in Asia. Unfortunately, these studies were unable to identify immigrant specific factors, such as the immigration category that people were approved under, previous experience in New Zealand (e.g. work, student or visitor), New Zealand qualifications, or English language ability.

## **Data**

The Longitudinal Immigration Survey: New Zealand (LisNZ) targeted migrants whose residence was approved between November 2004 and October 2005. Interviews were conducted in three waves at 6, 18, and 36 months after taking up residence in New Zealand; around 5,000 interviews were completed at the last wave.

The survey was specifically designed to increase the understanding of immigration and of the settlement process. LisNZ collected various characteristics that had not been measured previously in New Zealand in general surveys (the census for instance), notably the immigration category, but also English language ability, previous experience of New Zealand prior to gaining residence, and family networks.

The sample studied here is composed of migrants who gained residency through the Skilled Migrant Category as the Principal Applicants. The outcomes of partners and dependent children (secondary applicants) are not included in the analysis. The sample is furthermore restricted to respondents at wave three in order to focus on medium-term outcomes. This restriction might lead to attrition bias. In studying attrition in LisNZ between wave one and wave two, Bryant and Krsinich (2009) showed that respondents with higher wages are more likely to attrite. However, given the scale of the bias and the relatively few who attrited, they concluded that the wave two sample is still representative of the original population. The analysis is conducted using weights designed to represent the original population of migrants. The sample size is around 1700 individuals.

As can be seen in Table 1, principal skilled migrants tend to be in their twenties or thirties, highly educated, and have mostly more than ten years of work experience. They mainly come from the United Kingdom and the Irish Republic, South Africa and Asia. Migrants from Asia are younger, less experienced and more qualified than the average, whereas migrants from the United Kingdom and the Irish Republic are more likely to have applied from offshore.

The LisNZ data does not contain the actual points that were awarded in migrants' applications. Instead, the information contained in LisNZ is used to build estimates of whether applicants were eligible for points for each factor. The SMC process has a number of stages. If the potential migrant meets certain requirements,<sup>3</sup> the first step is to submit an expression of interest (EOI). The expression of interest entails claiming points, a minimum of 100 points allows the EOI to be entered into the 'pool' for selection.<sup>4</sup> Because the points that migrants

---

<sup>3</sup> Aged from 20-55 (inclusive) and standards of health, character, and English language proficiency.

<sup>4</sup> Expressions of interest with over 140 points are automatically selected to apply. EOIs that have total points of 100 or more but less than 140, and include points for offers of skilled

claim have to be verified, there is a disincentive to claim points above the level that entitles them to progress to the next stage of the application process. In addition, some changes have been made to SMC policy since LisNZ was administered. This research attempts to replicate current SMC policy as much as possible, rather than the policy which was in force at the time LisNZ participants applied for residence.

**Table 1: Characteristics of principal skilled migrants at wave three**

<b>Origin</b>	<b>UK/ IR</b>	<b>Asia</b>	<b>South Africa</b>	<b>Other</b>	<b>Total</b>
<b>Unweighted counts</b>	432	798	134	394	1758
<b>Percent</b>	39%	29%	13%	19%	<b>100%</b>
<b>Female</b>	30%	41%	28%	36%	<b>34%</b>
<b>Aged 20-29 years old</b>	12%	54%	13%	25%	<b>26%</b>
<b>Aged 30-39 years old</b>	52%	30%	44%	41%	<b>42%</b>
<b>Offshore applicants</b>	37%	7%	9%	13%	<b>20%</b>
<b>Work experience: More than 10 years</b>	80%	30%	81%	59%	<b>62%</b>
<b>Post school diploma: Vocational</b>	38%	23%	49%	38%	<b>35%</b>
<b>Bachelor or higher</b>	54%	70%	41%	54%	<b>57%</b>
<b>NZ post school qualification</b>	2%	50%	S	10%	<b>17%</b>
<b>English main language</b>	99%	35%	81%	57%	<b>70%</b>
<b>Employment rate (wave 3)</b>	95%	91%	98%	92%	<b>94%</b>
<b>Mean hourly wage (wave 3, \$/hour)</b>	32	25	30	31	<b>30</b>

Source: LisNZ

Note: All characteristics are observed at wave one, and are weighted to represent the population at this time, unless otherwise stated.

The level of information available does not allow SMC policy to be reproduced exactly. For instance, the definitions of skilled employment, identified future growth area (IFGA) and area of absolute skills shortage (AASS) are based on occupation lists, and the evidence that must be provided by the applicants differ across occupation. For simplicity, the criterion for deriving skilled employment is a skill level threshold (ANZSCO skill level of three or less) and no estimates are derived for bonus points for IFGA and AASS. In order to evaluate the quality of the estimates, the percentage of SMC migrants who could have claimed points for each factor, according to LisNZ data, is matched with the actual percentage derived from the residence approvals from Immigration New Zealand's Application Management System (AMS). The results are reported in Table 2, as well as an assessment of the consistency between each estimate (for further information on each estimates, see the Glossary of variables in annex). The match is generally good, in particular for the human capital and employment factors, which are the ones of primary interest in this study and are worth the most weight. Percentage for the partner's offer of employment, partner's qualification, and close family support in New Zealand are largely underreported, both because the data does not allow accurate estimates and because applicants are unlikely to claim points for those factors unless they need to.

---

employment or current skilled employment in New Zealand, are then selected. If places are left additional EOIs may be selected from the Pool on the basis of criteria set from time to time by the Minister of Immigration, having regard to the objectives of the Skilled Migrant Category.

**Table 2: LisNZ estimates of SMC points factors**

Factor	Points	Actual % claiming points	Estimated % eligible for points	Consistency of the LisNZ estimates	Mean hourly wage
<b>Skilled employment</b>					
Current employment for 12 months or more	60	29%	26%	Good	\$29
Current employment for fewer than 12 months	50	37%	32%		\$29
Job offer	50	19%	19%	Good	\$33
<b>Bonus points for employment or an offer of employment</b>					
IFGA or AASS	10	29%		No estimates	
Region outside Auckland	10	47%	45%	Good	\$30
Partner employment or offer of employment	20	5%	17%	Poor	\$31
<b>Relevant work experience in comparable labour market<sup>5</sup></b>					
2 years	10	13%	13%		\$27
4 years	15	12%	3%		\$27
6 years	20	11%	3%	Moderate	\$33
8 years	25	9%	4%		\$33
10 years	30	34%	39%		\$33
<b>Bonus points for New Zealand work experience</b>					
1 years	5	PC	24%		\$30
2 years	10	12%	10%	Good	\$28
3 years or more	15		3%		\$28
<b>Additional bonus points for work experience in a IFGA or AASS</b>					
2-5 years	10	27%			
6 years or more	15			No estimates	
<b>Qualifications</b>					
Recognised basic qualification	50	68%	66%		\$28
Recognised postgraduate qualification (Masters, PhD)	55	10%	26%	Moderate	\$34
<b>Bonus points for recognised qualifications</b>					
NZ qualification gained after 2 years of study in NZ	10	11%	PC		
Basic NZ qualification or 2 years of full-time study in NZ towards a recognised qualification	5	PC	14%	Moderate	\$22
Post-grad NZ qualification	10	PC	3%		\$24
Qualification in an IFGA or AASS	10	32%		No estimates	
Partner qualifications	20	16%	29%	Moderate	\$32
<b>Close family support in NZ</b>					
	10	3%	17%	Poor	\$28
<b>Age</b>					
20-29 years	30	33%	26%		\$25
30-39 years	25	41%	42%		\$31
40-44 years	20	15%	18%	Good	\$31
45-49 years	10	7%	9%		\$32
50-55 years	5	4%	4%		\$30

Source: Application Management System, skilled principal whose residency was approved between 1 November 2004 and 31 October 2005 and who took up residence within one year of approval date. LisnNZ, skilled principals answering at wave 3, weighted.

PC: Policy change between 2005 and 2007

Mean hourly wage at wave 3, in \$/hour, missing values excluded

<sup>5</sup> Points are awarded only for experience gained in a comparable labour market, 29 countries, or in an AASS, unless the applicant has a job or a job offer. The list of comparable labour markets is reported in annex.

## **Estimation Model**

In order to assess how well specific points act as a predictor of labour market outcomes, it is useful to know how well labour market outcomes can be predicted with the available information, and what its determinants are. A Mincer Human Capital Earnings function (Mincer, 1974) is used. This function relates the logarithm of wages to the number of years of education and work experience. More precisely, the relationship is linear with respect to the years of education and quadratic with respect to experience. This functional form, derived from a model of investment in human capital, has been extensively used in previous work in this area (Chiswick, 2003).

The outcome is defined as the logarithm of hourly wage. The years of education attained since primary school is reported in the LisNZ data. The years of potential experience and its square are derived from the age minus the years of education minus five. The model is then built up with additional observed characteristics, in order to reach the "best" model according to the adjusted R squared criteria. The ANZSCO skill level in the most recent occupation before residence approval is included to supplement years of potential experience. The variable is used as a proxy for the quality of work experience. The skill level ranks from one to five, one being the highest. For example, managers and professionals have a skill level of one or two, technicians and trade workers correspond to level two or three, and labourers to level four or five. English language ability, derived from information declared by the respondent about his or her capacity to speak, write and understand English, also constitute a measure of migrants human capital (Chiswick and Miller, 2003). Note, however, that eligibility for SMC is conditional on a minimum level of English.<sup>6</sup> Controls include country of origin, composition of the household interacted with gender, and the region where the respondent lives in New Zealand.<sup>7</sup> Additional variables that have been tested but did not bring further information include the squared years of education, the highest qualification in replacement or in addition to the years of education, the location at the time of application (onshore or offshore), the eventual type of temporary visa used before residence, and previous experience in New Zealand. The model was run on male and female separately and few differences were found<sup>8</sup>.

The ordinary least square estimates of the best model are reported in Table 3, for outcomes six months (wave one) and three years (wave three) after arrival<sup>9</sup>. The model explained 33 percent of wage variability at wave one, but only 22 percent at wave three. The return to one year of education is around four percent at wave three. Work experience has a positive yet diminishing effect on wage, and a lower skill level is associated with lower wages. The effect of English ability is moderate, with low levels of significance and no significance at all at wave one. A large proportion of skilled migrants come from English speaking countries, and language ability is highly correlated with nationality. Given the SMC English language requirements, the variation is small even among English as second language speakers. Language ability loses its significance when nationality is added among the regressors. In line with previous studies of migrants' outcomes in New Zealand, the model outlines that, while controlling for education, work experience, and to some extent for language ability, migrants from Asia and the Pacific earn significantly less than others. The magnitude of

---

<sup>6</sup> International English Language Testing System (IELTS) General or Academic Module score of at least 6.5.

<sup>7</sup> A number of breakdowns were tested, but North Island South Island was found to perform best.

<sup>8</sup> The composition of the household is significant only for women. The other main difference was the scale of the coefficient for Asian nationality, which is larger for men than for women.

<sup>9</sup> English language ability, composition of the household and region lived in New Zealand takes different values for each wave.

this effect is striking: three years after taking residence, migrants from Asia (resp. the Pacific) earn on average 23 percent (resp. 20 percent) less than those from Europe.

**Table 3: Estimation model**

<b>Dependant variable (log):</b>	<b>Wave Three Hourly Income</b>		<b>Wave One Hourly Income</b>	
R squared	0.2153		0.3349	
Adjusted R squared	0.2028		0.3252	
Number of observations	1404		1286	
	Parameter Estimates	Standard Error	Parameter Estimates	Standard Error
Years of education	0.037**	0.005	0.024**	0.004
Years of potential work experience	0.012*	0.006	0.022**	0.004
Squared years of work experience/100	-0.033*	0.016	-0.058**	0.012
Previous skill level [Level 1]				
Level 2	-0.127**	0.037	-0.136**	0.027
Level 3	-0.195**	0.040	-0.216**	0.028
Level 4 or more	-0.184**	0.039	-0.235**	0.028
No working spells recorded	-0.075	0.073	-0.023**	0.064
Nationality [Europe]				
South Africa	-0.044	0.038	-0.016	0.027
North America	-0.079	0.061	0.079†	0.044
Asia	-0.230**	0.035	-0.268**	0.025
Pacific	-0.201**	0.064	-0.163**	0.047
Other	-0.121*	0.060	-0.136**	0.043
English Ability [Main language]				
Very good or good	-0.062*	0.031	-0.027	0.023
Moderate or poor	-0.266*	0.105	-0.011	0.099
Composition of household [Male in couple without children]				
Single male	-0.031	0.043	-0.067*	0.030
Male in couple with children	0.032	0.036	0.024	0.025
Single Male with children	-0.055	0.084	0.380	0.282
Single female	-0.155**	0.046	-0.156**	0.032
Female in couple without children	-0.116*	0.047	-0.116**	0.032
Female in couple with children	-0.077	0.049	-0.110**	0.035
Single Female with children	-0.245**	0.091	0.059	0.099
Region: South Island [North Island]	-0.187**	0.029	-0.127**	0.021

*Note: Longitudinal population of principal skilled migrants, employed part time or full time, missing values excluded. Wave three weights. Omitted categories are indicated in brackets.*

*Significance levels: \*\*1%; \*5%; †10%*

The relative change in hourly income between wave one and three was also tested as the dependent variable. The only variables that were significant were years of education, a skill level of four or more and no working spells recorded. Each had a positive coefficient, therefore, people with a low skill level (four or five), who earn significantly less at both waves, are also the ones experiencing the most wage growth. However, the model's R squared was only 3 percent.

This analysis gives an insight on how well the information available in the LisNZ is effective at explaining wage variability, and what its main drivers are.

The next section examines the results achieved with the SMC point model that, by construction, uses a restricted set of information.

### **SMC points model as a predictor of labour market outcomes**

The New Zealand SMC points system is a hybrid system (Papademetriou et al., 2008), awarding points for factors that demonstrate employability, contribution and settlement. The following analysis focuses on those characteristics included specifically as indicators of positive labour market outcomes, as identified by the Immigration New Zealand Operations Manual. The independent variables are therefore restricted to current employment or job offer, relevant work experience and New Zealand work experience, qualification and New Zealand qualification, and close family support.<sup>10</sup> Each variable is categorised in the way that reflects how SMC points are awarded. The dependant variable is the logarithm of the hourly wage, at wave one and wave three. The results of the ordinary least square estimates are reported in Table 4.

**Table 4: SMC model**

<b>Dependant variable (log):</b>	<b>Wave Three Hourly Income</b>		<b>Wave One Hourly Income</b>	
R squared	0.1328		0.1968	
Adjusted R squared	0.1228		0.1883	
Number of observations	1405		1287	
	Parameter Estimates	Standard Error	Parameter Estimates	Standard Error
Skilled employment [None]				
Job offer	0.108**	0.039	0.076*	0.031
Current employment for fewer than 12 months	0.036	0.037	0.070*	0.029
Current employment for 12 months or more	0.029	0.060	0.123**	0.044
Years of relevant work experience [less than 2]				
2-3 years	0.023	0.080	0.080	0.058
4-5 years	-0.018	0.077	0.054	0.057
6-7 years	0.153*	0.074	0.178**	0.061
8-9 years	0.160*	0.065	0.218**	0.050
10 or more years	0.182**	0.033	0.225**	0.025
Years of relevant work experience in New Zealand [less than 1]				
1 years	0.062	0.044	0.007	0.033
2 years	-0.011	0.092	-0.040	0.067
3 years	0.074	0.098	0.064	0.072
Qualification [None]				
Basic	0.192**	0.049	0.058	0.036
Master or higher	0.322**	0.054	0.199**	0.040
New Zealand qualification [None]				
Basic	-0.201**	0.041	-0.208**	0.031
Master or higher	-0.203**	0.075	-0.287**	0.059
Close family support	-0.035	0.033	-0.007	0.025

*Note: Longitudinal population of principal skilled migrants, employed part time or full time, missing values excluded. Wave three weights. Omitted categories are indicated in brackets. Significance levels: \*\*1%; \*5%; †10%*

<sup>10</sup> We were unable to replicate if migrants were eligible for bonus points for IFGA or AASS.

The model explains 13 percent of wage variability at wave three, and 20 percent at wave one, performing slightly more than half as well as the previous model. As expected, current employment and job offer have a significant positive effect on wages six months after taking residence. The effect of job offers persists three years after taking up residence, while the effect of current employment at the residence approval date disappears.

Relevant work experience increases wages, but only for durations which exceed six years of experience (which is true for around half of the sample, see Table 2). For a given level of relevant work experience in any comparable labour market, having gained any number of those years in New Zealand has no significant effect on the outcome. This seems to indicate that the definition of 'relevant' (skilled and gained in a comparable labour market, or associated with a job or job offer) is a good screen for selecting transferable work experience. However, it is also possible that the respondents in the sample have too little New Zealand work experience to have significantly improved outcomes. Only three percent of the sample had three years or more of skilled work experience in New Zealand. If the experience has non-linear returns, and, as is suggested by the coefficient of the relevant work experience, is rewarded only after a certain number of years, then this sample does not adequately allow the estimation of its return.

Highest qualification has a significant and large, positive effect on wages. At wave one, a post secondary school qualification at the level of a bachelor or lower (basic degree) has no significant advantage over having no diploma, and a Masters or Doctorate is associated with a 20 percent rise in income. Moreover, the returns to qualification levels is shown to increase, and three years after taking residence, a basic degree (resp Masters or Doctorate) is associated with a 19 percent (resp. 32 percent) rise in income, compared to not having any degree. In the SMC policy, points are awarded for qualification only if the degree is recognised, based on the New Zealand Qualifications Framework. These findings seem to support the recognition requirement.

Interestingly, the coefficient on the New Zealand qualifications is negative and significant. The results are less negative for wave three compared to wave one. Table 5 below reports some demographic characteristics of those with and without New Zealand qualifications. The population with a New Zealand qualification (in particular holders of a New Zealand diploma) are very likely to be from Asia; they are younger and less experienced than average. When controlling for region of origin, a Masters degree gained in New Zealand is not significantly different from a foreign qualification, but a New Zealand vocational qualification or Bachelors degree is associated with a ten percent decrease in wages, compared to the same qualification from abroad. Additional regressions were run where the vocational qualifications and Bachelor degrees are split. This increases the adjusted R squared by one point, and each qualification category is significant at the one percent level. The returns to vocational, Bachelor and Masters degrees at wave three are 15 percent, 27 percent and 33 percent respectively, while a New Zealand vocational degree (resp. Bachelor and Masters) is associated with a 26 percent lower returns or wages (resp. 19 and 20 percent) compared to no New Zealand qualification. However, when controlling for region of origin a Bachelor degree, as well as a Masters, gained in New Zealand is not significantly different from a foreign qualification.

Bonus points are awarded for close family support recognising that the presence of close family enhances prospects for employability and settlement (Immigration New Zealand Operations Manual SM20.1). The argument is that close family support may increase the breadth and efficiency of job search. This was not found to have a significant impact on income, but may have impacted the time to find a job or offer earlier on.

In order to test if the points awarded for reasons unrelated to labour market outcomes add any further insights to this analysis, the total number of

points migrants were eligible for was derived<sup>11</sup> and included in the model. It was found to be non significant.

The relative change in hourly income between wave one and three was also tested as the dependent variable. The SMC model explains 5% of relative increase in wages (while the estimation model explained 3%). The current employment is significant at 5%, with a negative coefficient, while the highest qualification is significant at 1%, and has a positive effect. Nothing else is significant.

**Table 5: Characteristics of holders of New Zealand qualifications**

	Holders of a NZ qualification	Other principal applicants
<i>Mean age</i>	27 years	37 years
<i>Mean years of experience</i>	6 years	16 years
<i>Asian</i>	84%	17%
<i>UK/IR</i>	4%	47%
<i>Other nationality</i>	12%	36%
<i>English main language</i>	34%	78%

Source: LisNZ

Scale: Longitudinal population, principal skilled migrants. Wave 3 weights.

### ***Do the SMC points reflect the human capital approach?***

Compared to the estimation model, the SMC model uses a restricted set of information, but also includes other variables – the job offer and New Zealand qualifications for example. As its explanatory power is lower, it is interesting to know if the SMC model is only a weaker version of the previous model, or if it also captures additional effects.

To test if the SMC model brings additional information to the human capital approach, the total number of points and total points relating to labour market factors for migrants was added to the estimation model. The result indicates that the entire SMC points contain some orthogonal information (both variables were significant at wave one, and the labour market points were significant at wave three) and are positively related to the outcome. For example, 50 extra points related to labour market factors – a job offer, or a basic qualification – are associated with a ten percent increase in hourly wage at wave three.

In order to identify the SMC factors that add further insights to the estimation models, all the variables in the SMC model were added in the estimation model as dummy variables. As a result, the coefficients of the variables included in the estimation model shifted slightly, and some became insignificant<sup>12</sup>, but overall the model seems robust. At wave one, the current job and having more than six years of relevant work experience have a significant positive effect. At wave three, having more than ten years relevant experience or at least three years of New Zealand work experience are both linked with significantly higher wages, while having a New Zealand basic qualification is linked with significantly lower wages. Interestingly, the SMC factors that are significant vary between waves. Moreover, the relevant experience is significant, even when controlling for a set of variables that are highly correlated – notably years of potential work experience.

<sup>11</sup> Excluding bonus points for IFGA and AASS since we did not estimate those factors

<sup>12</sup> Notably, the potential experience and its square at wave 3.

## **Conclusion**

The aim of this research was to assess how well the points that are allocated act as a predictor of labour market outcome (namely wages) for successful SMC principal applicants, and to draw implications in terms of the indicators used in SMC policy. The data used provides in-depth information about characteristics that might influence the settlement process of migrants, as well as on the immigration category the migrant arrived under. This is the first time immigration category has been examined in New Zealand in this type of analysis.

The analysis focused on the association between SMC points' factors (as observed at the time of application) that are specifically included as indicators of positive labour market outcomes and wages six months and three years after taking up residence. The effect of skilled employment at the time of application on wages is positive and decreases between wave one and wave three, confirming its role in early labour market outcomes. However, the effect of a job offer is persistent. Migrants' relevant work experience and qualification are rewarded by an increase in wages, but, contrary to the usual expectations, no evidence is found of a premium on wages due to New Zealand work experience or qualifications. These findings seem to support the recognition of the requirement for qualifications and experience, suggesting that the current skilled migrant category policy settings facilitate the transferability of migrants' skills to the New Zealand labour market. However, an in-depth study of this question would require a comparison of returns to skills between skilled migrants and the New Zealand-born. On the other hand, a vocational qualification gained in New Zealand is associated with a lower earnings. The coefficient is much smaller when region of origin is controlled for, due to the large proportion of young Asian migrants among former New Zealand students, and for the large – and unexplained – wage penalty faced by Asian migrants.

Although the policy necessarily draws from a restricted set of observable and readily verifiable information, the SMC points factors that are specifically included as indicators of positive labour market outcomes explain wage variability approximately half as well as the best predictive model that was grounded on economic theory and basic demographics. However, the SMC policy model does explain some of the variation that the theory-based estimation model did not.

This work may be extended in several ways. The SMC model can be extended to better capture the information available, for instance by categorising variables in different ways, and adding additional variables. The overall efficiency of the model could also be improved by removing variables that measure the same dimension. Finally, the weighting of variables also needs to be considered. Another extension will be to study the employment rate as an additional labour market outcome, although employment rates are generally high for SMC migrants, so lack of variation amongst different groups may be a restraint on its effective use.

# Annex

## Bibliography

Aydemir, A. (2010), "Immigrant selection and short-term labour market outcomes by visa category", IZA DP 4966.

Boyd, S. (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.

Bryant, J. and Krsinich, F. (2009) "Attrition in the Longitudinal Immigration Survey: New Zealand", NZAE paper

Chiswick, B. R., (2003), "Jacob Mincer, experience and the distribution of earnings", IZA DP 847

Chiswick, B. R. and P. W. Miller (2003). "The complementarity of language and other human capital: immigrants earnings in Canada", Economics of education Review 22(5): 469-480

Cobb-Clark, D. A. (2000). "Do selection criteria make a difference? visa category and the labour market status of immigrants to Australia." Economic Record 76(232): 15-31.

Cobb-Clark, D. (2004). "Selection policy and the labour market outcomes of new immigrants." IZA DP 1380.

Duleep, H. O. and M. C. Regets (1996). "Admission criteria and immigrant earnings profiles." International Migration Review 30(2): 571-590.

Jasso, G. and M. R. Rosenzweig (1995). "Do immigrants screened for skills do better than family reunification immigrants?" International Migration Review 29(1): 85-111.

Stillman, S. and D. Maré (2009). The Labour Market Adjust of Immigrants in New Zealand. Wellington, Department of Labour.

Papademetriou, D. G., Sommerville, W., & Tanaka, H. (2008). "Hybrid immigrant-selection systems: The next generation of economic migration schemes" Washington DC: Migration Policy Institute.

Poot, J. (1993). "Adaptation of migrants in the New Zealand labor market." International Migration Review 27(1): 121-139.

Poot, J. and B. Cochrane (2004). Measuring the Economic Impact of Immigration: a Scoping Paper. Wellington, Department of Labour.

Winkelmann, L. and R. Winkelmann (1998). "Immigrants in the New Zealand Labour Market: a Cohort Analysis using 1981, 1986 and 1996 Census Data." Labour Market Bulletin 1&2: 34-70.

## List of comparable labour market identified in the Immigration operational manual (SM11.10.1)

Australia	Malaysia
Austria	New Zealand
Belgium-Luxembourg	Netherlands
Canada	Norway
Cyprus	Philippines
Denmark	Portugal
Finland	Republic of South Korea
France	Singapore
Germany	South Africa
Greece	Spain
Iceland	Sweden
Ireland	Switzerland
Israel	United Kingdom
Italy	United States
Japan	

## Glossary of variables

For purpose of clarity, the variables listed here are grouped into four thematic categories:

1. Education
2. Experience
3. Skilled employment
4. Demographics.

The variables indicated as invariant take the same values at wave 1 and wave 3. The variables indicated as variant depend on the wave. If used to explain outcome at wave one (resp. three), they will refer to the given characteristics at wave one (resp. three).

### **1. Education**

#### **Years of education (Invariant)**

The number of years of education completed by the person before the residence approval date, including primary school, secondary school and post secondary school.

#### **Qualification (Invariant)**

The highest post secondary qualification of the person, grouped in three categories:

- No qualification: No degree or high school degree
- Basic: Basic, skilled, intermediate and advanced vocational degrees, Bachelor and Honours

- Post graduate: Master and PhD

### **New Zealand qualification (Invariant)**

The highest qualification gained in New Zealand.

### **Spouse qualification (Invariant)**

Whether the respondent's partner has a post secondary school qualification and speaks English best, for respondents who included a partner in their residence application.

## **2. Experience**

### **Years of potential work experience (Invariant)**

The age less the number of years of education less 5.

### **Previous skill level (Invariant)**

The skill level of the most recent working spell in New Zealand that started before the residence approval date, if the person has worked in New Zealand within two years before the residence approval date; otherwise the skill level in the person's source country, if the person has worked in his source country within two years before the residence approval date; otherwise undefined. Skill level is derived from the occupation and ranks from 1 to 5, 1 being the best skill level.

### **Years of relevant work experience (Invariant)**

The sum of the years of relevant work experience in New Zealand and of the years of relevant work experience abroad.

### **Years of relevant work experience in New Zealand (Invariant)**

The number of years the respondent has spent working in New Zealand before residence approval date, with a skill level of 1, 2 or 3, if the most recent period of work in New Zealand ends later than two years before the residence approval date. Working spells that end before two years previous to the residency approval date are not accounted for.

### **Years of relevant work experience abroad (Invariant)**

The relevant work experience abroad is equal to the difference between potential work experience and work experience in New Zealand if the two following conditions are respected:

- the respondent has worked in his source country with a skill level of 1, 2 or 3 within the last two years,
- the respondent has a job offer or a current skilled employment, or has lived more than twelve months in a country corresponding to a 'comparable labour market', else than New Zealand, after turning 18.

Otherwise, the relevant work experience abroad is set to 0.

## **3. Skilled employment**

### **Job offer (Invariant)**

Onshore applicants are considered to have a job offer if they are in employment at the residence approval date, with a skill level of 1, 2 or 3, but have had this job for less than three months.

Offshore applicants are considered to have a job offer if they declared that their job was arranged before they came to New Zealand, or if they start to work at a skill level of 1, 2 or 3 less than one month after arriving in New Zealand.

### **Current skilled employment (Invariant)**

Onshore applicants are considered to have a current skilled employment if they are employed at the residence approval date, with a skill level of 1, 2 or 3, and have been for at least four months. Respondents who have a current skilled employment are grouped in two categories:

- current skilled employment for less than 12 months,
- current skilled employment for more than 12 months.

The duration of different jobs are summed providing that the skill level is always three or less and that any interruption of work lasts less than a month.

### **Spouse job offer (Invariant)**

Whether the respondent's partner works at wave one, with a skill level of 1, 2 or 3, and speaks English best, for respondent who included a partner in their residence application.

### **Job or job offer outside Auckland (Invariant)**

Whether the first place the respondent lived after the residence approval date is outside Auckland region, for respondent who have a job offer or a current skilled employment.

## **4. Demographics**

### **Nationality (Invariant)**

The nationality of the person.

### **English ability**

If the respondent speaks only English or declares English as one of his best spoken languages, then English is considered as the main language. Otherwise, the modalities 'moderate or poor' and 'very good or good' are derived from questions assessing the respondent's ability to read, write, speak and understand English.

### **Composition of household**

The composition of the household interacted with gender.

### **Region**

The region in New Zealand where the respondent lives (either North Island or South Island).

### **Close family in New Zealand (Invariant)**

Whether the respondent has parents, siblings or adult children living in New Zealand.

**Age (Invariant)**

Age at wave one.