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### Working in a Regulated Occupation in Canada: an Immigrant – Native-Born Comparison

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## **Working In a Regulated Occupation in Canada: An Immigrant - Native-Born Comparison**

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**JEL Classification :** J24, J61 and L50

**Abstract:** The number of immigrants working in regulated and unregulated occupations is unknown. A major contribution of this study is that we use Statistics Canada data to classify occupations, across provinces, into regulated and unregulated categories and then to examine the covariates of membership in a regulated occupation. In aggregate, immigrants are not less likely to work in a regulated occupation. Immigrants educated in Asia prove to be much less likely to secure access to a regulated occupation than either the native-born or other immigrants.

**Résumé:** Le nombre d'immigrants travaillant dans des emplois réglementés reste inconnu à ce jour. La principale contribution de cette étude est que nous avons utilisé des données de Statistique Canada pour classer les professions en deux catégories, soit réglementées et non réglementées, et ce, pour chacune des provinces; par la suite, nous avons examiné les caractéristiques des travailleurs d'emplois réglementés. Dans l'ensemble, les immigrants n'ont pas moins de chances de travailler dans un emploi réglementé. Par ailleurs, les immigrants formés en Asie ont beaucoup moins de chances d'accéder à des emplois réglementés que les non-immigrants et les immigrants natifs d'autres pays.

## Executive Summary

On average, immigrants to Canada are better educated than the native-born. Despite this apparent human capital advantage, there is strong evidence of continuing immigrant disadvantage in the labour market. A range of possible explanations has been proposed, many of them linked to the fact that the sources of immigrants have shifted from Europe to other parts of the world, particularly Asia. One of the common explanations is the problem of transferring credentials – which will be the focus of our paper.

The average return on education is lower for immigrants who were educated abroad, rather than in Canada. This might be a consequence of the poorer quality of education provided in some immigrant home countries, but it might also be a consequence of difficulties in securing recognition of the real value of an overseas education. Immigrants often cite lack of foreign credential recognition, as well as lack of Canadian work experience, as the two main problems they confront in securing employment that match their skills.

The issue of foreign credential recognition in Canada is different for regulated and unregulated occupations. An occupation is regulated if access to it requires a licence from a professional association or a government agency. In Canada, licensure is a provincial responsibility; it is provincial associations or agencies that grant licenses. While many unregulated occupations require significant amounts of education (e.g., university faculty, government service); regulated occupations are likely to be distinguished by the higher level of education and/or training they require compared to unregulated professions generally speaking. This is one of the reasons why, on average, regulated professions may be expected to provide higher pay.

A major contribution of this study is that we use Statistics Canada data to classify occupations across provinces, into regulated and unregulated categories and then to examine the covariates of membership in a regulated occupation. In this study, we contribute to understanding the immigrant credential recognition process in the following ways: i) we determine how many immigrants and non-immigrants work in regulated and unregulated occupations, and ii) we look at how education (level and place) is associated with the likelihood of working in a regulated occupation.

We used a tool from the Government of Canada's website "Working in Canada" to categorise all four-digit codes from the National Occupational Classification into either a regulated or unregulated category. The "Working in Canada" website is designed to provide detailed information about the labour market, and help prospective and new immigrants to decide where to live and how to find work. To analyse the determinants of access to regulated occupations we used data from the January 2008 Labour Force Survey (LFS). Our sample includes all labour

force participants, native-born Canadians and landed immigrants, aged 15 and over.

We propose three hypotheses: 1) other things being equal, immigrants are less likely to enter a regulated occupation than the native-born; 2) immigration duration in the host country increases the likelihood that they will enter a regulated occupation; 3) a lower probability of entry into a regulated occupation is most likely for immigrants educated outside Canada, the United States and Europe.

What our results suggest most strikingly is that where the immigrant's education was provided is a strong determinant of likelihood to enter a regulated occupation. We found that almost 86% of our sample were employed in an unregulated occupation. Given the concern with access to regulated occupations, it is surprising that the proportion of immigrants in regulated occupations is not very different from that of the native-born. One might have expected to find a larger immigrant presence in regulated occupations because of their higher level of education, but our findings suggest otherwise. Education is a minimal requirement for licensing so these results may indicate a problem of access to regulated occupations.

There are several possible explanations for the absence of an aggregate difference in access to regulated occupations. i) The programs established by governments, educational institutions, and regulated professions to facilitate diploma recognition no doubt help in some, perhaps many, cases. ii) Some new immigrants who fail to get their foreign diploma recognized, secure a Canadian qualification instead, and in doing so increase their likelihood of working in a regulated occupation. iii) It is possible that the immigration screening process means that a larger proportion of immigrants than of the native-born population have an education that would qualify them for a regulated occupation. Consequently, while many fail to get their qualification recognized, the larger number of them seeking recognition generates similar proportions of immigrants and of the native-born in regulated occupations. iv) It is also possible that the occupational options available for native-born who would qualify for a regulated occupation are broader than those available to immigrants. Some of the native-born with law or engineering degrees may find it to their advantage to work in unregulated occupations. Our data will not allow us to assess the relative plausibility of these accounts, but the absence of an aggregate access difference does suggest that these are worthwhile questions to be answered in future research.

Controlling for place of education, duration in the country does not improve the likelihood that immigrants will enter a regulated occupation. Education is very strongly related to access to a regulated occupation; the likelihood increases with each additional level of education, no matter where the education was completed. Immigrants educated in Asia prove to be *much* less likely to secure

access to a regulated occupation than either the native-born population or other immigrants. Given that the main source countries for new immigrants to Canada are China and India, it is worrying that Asian degree holders are significantly less likely to work in a regulated occupation. This finding suggests that initiatives to assist Asian immigrants in finding employment, such as the Canadian Immigration Integration Project funded by the Government of Canada's Foreign Credential Recognition Program, may prove valuable and important.

## **Introduction**

On average, immigrants to Canada are better educated than the native-born. In 2006, 47% had a postsecondary diploma, compared to 38% of the native-born (computed from Statistics Canada 2008a). Despite this apparent human capital advantage, there is strong evidence of continuing immigrant disadvantage in the labour market (Boudarbat and Boulet 2007; Picot and Sweetman 2005). A range of possible explanations has been proposed, many of them linked to the fact that the sources of immigrants have shifted from Europe to other parts of the world, particularly Asia.

Picot (2004) and Picot and Sweetman (2005) list the most common of these explanations. i) Most of the new immigrants are members of visible minorities. This may have provoked discrimination. ii) While new immigrants may be better educated than the native-born population, the average quality of their education may be lower. Consistent with this, Sweetman (2003) found that immigrants from countries with lower scores on standardized tests in mathematics and science get lower returns to their schooling. iii) Reitz (2001) has raised the possibility that the return to immigrant education has fallen because their *relative* educational advantage has been declining. This has been because the educational attainment of the native-born has risen rapidly, in particular among women (Statistics Canada 2004). iv) There was a rise in the volume of immigration in the 1980s and 1990s. During much of this period labour markets were relatively depressed. Immigrants, then, did poorly because they are, by definition, new entrants to the labour market and the gap between the labour market outcomes of new entrants and the already employed tends to widen during periods of slow economic growth: “Macro conditions at the time of entry to the labour market have adverse impacts on both labour force

participation and employment (Aydemir 2003, 17).” v) There is, finally, the problem of transferring credentials. It is this that interests us in this paper.

The average return on education is lower for immigrants who completed it outside rather than within Canada (Ferrer and Ridell 2008; Li 2001; Alboim, Ross, and Meng 2005; Anisef, Sweet, and Frempong 2003). This might be a consequence of the poorer quality of education provided in some immigrants’ home countries. But it also might be a consequence of difficulties in securing recognition of the real value of an overseas education. Employers report that difficulties in the assessment of foreign credentials discourage them from hiring immigrants, along with similar problems in assessing language skills and the value of work experience (Canadian Labour and Business Centre 2001; see also Li 2000; Reitz 2001). Immigrants themselves see problems of foreign credential recognition, as well as lack of Canadian work experience, as two of the main problems they confront in securing employment that matches their skills (Statistics Canada 2003).

For our purposes, it is useful to distinguish between credential recognition relevant to regulated as opposed to unregulated occupations. Most occupations are unregulated. In these, credential recognition is at the discretion of the employer.<sup>1</sup> An occupation is regulated if access to it requires a licence from a professional association or a government agency. In Canada, licensure is a provincial responsibility; it is provincial associations or agencies that grant licenses. Licensing is usually seen as a method of protecting public safety. Examples of regulated occupations include doctors, nurses, engineers, as well as some trades. According to the Canadian Information Centre for

International Credentials (2009), about 20 per cent of Canadians work in regulated occupations.

Many unregulated occupations require significant amounts of education (e.g., university faculty, government service). In general, however, regulated occupations are likely to be distinguished by the high level of education and/or training they require. This is one of the reasons why, on average, they might be expected to provide higher pay. The other reason is that the regulations governing access tend to restrict supply into them. Clearly, difficulty in gaining access to these occupations would tend to lower the overall earnings of immigrants and, in particular, the return to their education.

### **Regulation and Immigrants**

To enter a regulated occupation, immigrants must have their skills recognized by a licensing body. Frequently, they are required to repeat part of the training program in Canada because “the educational background may be relevant, but it may not contain all of the elements required in a Canadian context (Reitz 2005, 9)”. Sometimes they are required to complete all of it. Nonetheless, the situation is not entirely bleak. There have been attempts to facilitate the immigrant transition into regulated occupations. In the past 10 years, these have included the Government of Canada’s Foreign Credentials Referral Office, a Quebec-France agreement on the mutual recognition of professional qualifications, the Canadian Information Centre for International Medical Graduates, as well as many bridging programs offered by universities, often in conjunction with regulatory bodies.

It remains the case that there is widespread suspicion that poor application of regulations limits immigrant access to a set of generally well-paid occupations and that, in consequence, as well as depriving Canadians of the benefits of the immigrants' skills, this contributes to the declining relative economic status of immigrants. There is evidence bearing on this issue. Some research has focused on specific regulated occupations, such as engineering (Boyd and Thomas 2002; Girard and Bauder 2007), and nursing and medicine (Hawthorne 2006). Other studies have looked at the job-skills mismatch - that is, what is the proportion of immigrants with a university degree in jobs with low educational requirements (Galarneau and Morissette 2008; Renaud and Cayn 2006). Still other studies have examined the extent and correlates of the match between the pre- and post-immigration occupations held by immigrants (Girard, Smith, and Renaud 2008; Statistics Canada 2003). But, in our view, progress in understanding this issue has been hindered by the complexity of occupational regulation in Canada. To study the mechanisms associated with access to regulated occupations requires, first, a capacity to identify them. This is a challenge because the list of regulated occupations varies - significantly, as we shall see - by province. A major contribution of this study is that we use Statistics Canada data to classify occupations, across provinces, into regulated and unregulated categories and then to examine the covariates of membership in a regulated occupation. We describe how we do this shortly.

A general consideration of the literature and issues arising from it leads us to propose the following hypotheses.

1. Since credential recognition is identified as a major barrier to employment, we hypothesize that it is easier for immigrants to gain access to unregulated than to

regulated occupations. We would note, however, that the existence of programs to assist new immigrants in getting their foreign diploma may have substantially reduced or even eliminated this immigrant disadvantage.

2. The recognition of credentials often takes time, sometimes a substantial amount of it. Consequently, we expect that the likelihood of entry into a regulated occupation increases with the duration of an immigrants' stay in Canada.
3. Recognition may be difficult because of a lack of knowledge about the quality of an immigrants' education, or because of the poor quality of the education of some immigrants. Education in the U.S. or Europe is probably less of an unknown quantity for most licensing bodies and employers, and may be of equal quality to that provided in Canada. In general, then, for either reason we might expect that immigrants who completed their education in the U.S. or Europe should be more represented in regulated occupations than other immigrants.

In this study, we want to contribute to understanding the immigrant credential recognition process in the following ways: i) we determine how many immigrants and non-immigrants work in regulated and unregulated occupations, and ii) we look at how education (level and place) is associated with the likelihood of working in a regulated occupation. This second question is interesting because the existing literature suggests that immigrants are disadvantaged because they cannot secure the amount of access to regulated occupations that their high level of education should warrant. We try to assess the extent of this problem. Note that, to examine this issue it is necessary to take into account the fact that occupational regulation is within provincial jurisdiction. So it is possible that the access to regulated occupations varies across provinces because of

variation in both the number of regulated occupations and the rules determining access to them.

### **Data and Analysis**

The task of assigning all occupations in Canada to two categories, regulated and unregulated, may seem arduous, given that regulating bodies are provincially based and that there are 516 four-digit level occupations within the National Occupational Classification (NOC) (Statistics Canada 2007a). In fact, it is simpler to do so than it might appear. We used a tool from the Government of Canada's website "Working in Canada" to categorise all four-digit codes from the National Occupational Classification into either a regulated or unregulated category. The "Working in Canada" website is designed to provide detailed information about the labour market, and help prospective and new immigrants to decide where to live and how to find work. To do so, it provides a report on each occupation, in each province and territory, which includes a job description, skill requirements, average salary and job opportunities, and specifies whether or not the occupation is regulated.<sup>2</sup> We used this information to identify all regulated and unregulated occupations, by province and by NOC number.

In all provinces most occupations are unregulated. Table 1 shows, however, that the proportions vary considerably. Quebec and Alberta have the highest proportions - 17.8% and 16.3% respectively; Prince Edward Island and Newfoundland/Labrador have the lowest proportions (9.0% and 8.5%).

**Table 1: Number and Proportion of Regulated Occupations, by Province**

	<i>Number of Regulated Occupations</i>	<i>%</i>
British Columbia	59	11.43
Alberta	84	16.28
Saskatchewan	60	11.63
Manitoba	63	12.21
Ontario	71	13.76
Quebec	92	17.83
New Brunswick	61	11.82
Nova Scotia	62	12.02
Prince Edward Island	49	9.50
Newfoundland / Labrador	44	8.53

Source: Based on information from “working in Canada tool” from CIC (2008).

To analyse the determinants of access to regulated occupations we used data from the January 2008 Labour Force Survey (LFS). An advantage of the LFS is its large sample size (over 102,000 respondents throughout Canada) which makes it possible to examine the distributions of immigrant and native-born workers across regulated and unregulated occupations, in each province. The LFS contains the NOC number at the four-digit level for each respondent in the labour force so we could assign each occupation into the regulated or unregulated categories.

Our sample includes all labour force participants, native-born Canadians and landed immigrants, aged 15 and over. The labour force is the entire civilian non-institutional population who are employed or unemployed (Statistics Canada 2008b). The occupation recorded (and its NOC number) for the unemployed respondents corresponds to the last occupation occupied.

Our analysis compares the occupational outcomes of the native-born and of landed immigrants. We exclude ‘non-permanent residents’ from the sample. These are neither landed immigrants nor native-born Canadians; they are “persons from another country who live in Canada and have a work or study permit, or are claiming refugee

status, as well as family members living here with them” (Statistics Canada 2008b, 13). The initial sample included 102,170 individuals aged 15 and over. After the exclusion of non-permanent residents the sample size was reduced to 100,778 individuals of whom 65,593 were labour force participants. The final sample fell to 64,298 individuals after the exclusion of 1,295 labour force participants with no NOC number.

Finally, following other research we control for the source of the highest diploma earned. The LFS only contains information on the source of post secondary diplomas of landed immigrants. We have assumed that the education of the native-born was completed in Canada. Following the work of Li (2001) and other scholars (Schaafsma and Sweetman 2001; Boyd and Thomas 2002; Anisef, Sweet, and Frempong 2003), we estimated the place of education of landed immigrants with less than a postsecondary diploma by looking at their level of education and age at immigration.<sup>3</sup>

## **Results**

Our analysis is divided into two parts: i) a series of descriptive analyses of landed immigrants and non-immigrants in Canada in January 2008 and of their distribution across regulated and unregulated occupations; and ii) a series of logistic regressions on the likelihood of working in a regulated occupation, including an interaction term between level and place of education.

Table 2 summarizes the socio-economic characteristics of the landed immigrants and native-born Canadians in the sample. The variables in the table are included in the regression analysis described shortly. Nearly 80% of labour force participants are native-born. Among the landed immigrants, most (69%) are long-term immigrants. Over 44% of

landed immigrants earned their diploma in Canada, which may be explained by the fact that most landed immigrants in the sample (60% - not shown in tables) were granted that status before they were 15 years old. Given that most immigrants coming to Canada are economic immigrants selected partly for their high human capital, it is not surprising that 70% of them have post-secondary education as compared to 65% of native-born Canadians.

Table 2 also reveals the following. First, there were slightly more male labour market participants among landed immigrants than among the native-born. We know that gender is a determinant of labour market position, especially for immigrants; female immigrants earn less than male immigrants and non-immigrants (Li 2000; Alboim, Finnie, and Meng 2005), and are more likely to work part-time (Noreau 2000) or have a temporary position (Cranford, Vosko, and Zukewich 2003). Second, the average age of landed immigrant labour force participants was higher than that of the native-born. Recent immigrants are, of course, younger than native-born Canadians but, in total, immigrants are older than non-immigrants (Palameta 2004). Third, immigrants are disproportionately concentrated in Ontario (mainly in Toronto) and British Columbia (mainly in Vancouver) and underrepresented in all other provinces. Fourth, there are more unattached individuals among the native-born; conversely, slightly more landed immigrants than native-born live with a partner and children. Fifth, the differences in the occupational distributions of landed immigrants and the native-born are rather modest. The proportions in the highly regulated health sector are almost identical and landed immigrants are only slightly less present in social sciences, education and government. The one striking difference is in natural and applied sciences. Significantly more landed

immigrants are employed in this sector, possibly reflecting the special recruitment of information technology professionals and engineers during the IT boom of the late 1990s (Picot and Hou 2009). Finally, there was little difference in weekly earnings. However, given immigrants' higher educational levels, other things being equal, one might have expected them to be paid more than the native-born.

**Table 2:** Proportions of Landed Immigrants and Native-Born, by Socio-Economic Characteristics, Canadian Labour Force Participants aged 15 and over, January 2008

	<i>Landed Immigrants</i>	<i>Native-Born</i>	<i>Total in the Labour Force</i>
<b>Year Landed Immigrant Status was Granted</b>			
Less than five years ago	14.39	--	3.07
5 to 10 years ago	16.63	--	3.41
Over 10 years ago	68.98	--	14.03
Native-born Canadians	--	100	79.48
<b>Highest Level of Education</b>			
High school not completed or lower	10.94	13.91	13.29
High school completed	18.95	20.88	20.49
Some post-secondary education	5.93	8.92	8.31
Trade Certificate	8.77	12.28	11.56
Community college, Cegep	18.03	21.54	20.82
University certificate, below bachelor	2.50	2.76	2.71
Bachelor's degree	22.40	14.11	15.81
Above bachelor's degree	12.48	5.60	7.01
<b>Region Where Highest Diploma was Completed</b>			
Canada	44.26	100	88.69
USA	2.91	--	0.59
Latin America	6.12	--	1.24
Western Europe	2.76	--	0.56
Eastern Europe	5.04	--	1.02
Northern Europe	4.16	--	0.84
Southern Europe	4.12	--	0.84
Africa	3.23	--	0.65
West Central Asia	3.17	--	0.64
Eastern Asia	7.67	--	1.56
South-East Asia	7.04	--	1.43
Southern Asia	8.75	--	1.78
Australia, N-Z or Fiji	0.76	--	0.15
<b>Gender</b>			
Male	54.05	52.66	52.94
Female	45.95	47.34	47.06
<b>Average Age</b>	44	39	40

	<i>Landed Immigrants</i>	<i>Native-Born</i>	<i>Total in the Labour Force</i>
<b>Province or Region of Residence</b>			
British Columbia	17.48	12.19	13.28
Alberta	9.46	11.90	11.40
Saskatchewan	0.81	3.47	2.93
Manitoba	2.72	3.66	3.47
Ontario	55.24	34.95	39.11
Quebec	13.24	25.70	23.14
Atlantic Canada	1.06	8.13	6.68
<b>Family Type</b>			
Unattached individual	11.79	17.23	16.11
Couple, no children	24.74	27.61	27.02
Couple, children	48.07	42.67	43.77
Single parent	5.84	7.26	6.97
Other families	9.56	5.24	6.12
<b>Occupational Groups</b>			
Management	9.03	8.43	8.55
Business, Finance and Admin.	17.69	18.63	18.44
Natural & Applied Sciences	10.37	6.26	7.10
Health	5.55	5.79	5.74
Social Sc., Education, Gov.	7.70	8.83	8.60
Art, Culture, Recreation, Sport	2.41	3.11	2.96
Sales & Service	23.02	24.70	24.36
Trades, Transport, Manuf.	13.76	15.76	15.36
Primary Industry	10.47	8.49	8.89
<b>Salaried Workers: Average Weekly Earnings (\$)</b>	766	772	771
<b>TOTAL</b>	100%	100%	100%

Source: Labour Force Survey, Canada, January 2008

Notes: n=64,298. Results weighted.

Table 3 presents the respective presence of immigrants and non-immigrants in regulated and unregulated occupations. Almost 86% of our sample was employed in an unregulated occupation. Our first surprising result, given the concern with access to them, is that the proportion of immigrants in regulated occupations is not very different from that of the native-born (13.3% versus 14.6%). Again, however, as for average weekly salary, one might have expected to find a larger immigrant presence in regulated occupations because of their higher level of education. Education is a minimal requirement for licensing so these results may indicate a problem of access to regulated

occupations. Multivariate analysis will allow us to distinguish the effect of level of education and immigrant status on the likelihood of access regulated occupations.

**Table 3:** Proportions of Landed Immigrants and Native-Born Working in a Regulated and Unregulated Occupation, Canadian Labour Force Participants aged 15 and over, January 2008

	<i>Landed Immigrants</i>	<i>Native Born</i>	<i>Total in the Labour Force</i>
Unregulated Occupations	86.61	85.38	85.63
Regulated Occupations	13.39	14.62	14.37
<b>Total</b>	100	100	100

Source: Labour Force Survey, Canada, January 2008

Notes: n=64,298. Results weighted.

In Table 4 we re-examine the same socio-demographic characteristics summarized in Table 2, this time controlling for both immigrant/native-born status and presence in a regulated or unregulated occupation. Hypothesis 2, it will be recalled, proposed that licensure delays mean that the proportion of immigrants in regulated occupations should increase with duration since migration. Table 4 provides some support for this conjecture. In the first five years after receipt of the status, 11.6% of landed immigrants are in regulated occupations; in the next five years the proportion rises to 14.6%. The table reveals no increase for those with longer durations. Evidently, the difference between the less than 5 and 5 to 10 year categories might, however, be produced either by delays in licensure or in the composition of the immigrant stream.

Education is a minimal requirement for licensing. Table 4 shows that the proportions licensed of both landed immigrants and the native-born rises with education. We assume that trade certificates, bachelor's degrees, and degrees above the bachelor's level are the standard entry requirement into regulated occupations; if that is correct, Table 4 also reveals a striking difference within each category between landed

immigrants and the native-born in their access to regulated occupations. The native-born are between five and 10 percentage points more likely to be in a regulated occupation. This provides crude support for hypothesis 1, which suggested that landed immigrants with similar levels of education would be less successful in gaining access to regulated occupations than their native-born counterparts. The occupational data provides some further support for hypothesis 1. Despite, on average, better education, landed immigrants in Health and in Social Sciences, Education, and Government are about ten percentage points less likely to be employed in a regulated occupation. There is, however, no such disadvantage in Natural and Applied Sciences, perhaps because of the IT recruitment of immigrants discussed above.

Hypothesis 3 suggested that immigrants educated in the United States or Europe would be more likely to enter a regulated occupation than those educated in other parts of the world outside Canada. Table 4 provides some evidence for this: 22% of immigrants from the United States were in regulated occupations, more than any other source, and double the proportions from Latin America, East Asia, and South Asia. The proportions of immigrants from Western, Northern, and Southern Europe in regulated occupations are modest: 12.7%, 13.2%, and 12.5% respectively. We assume that this has something to do with the fact that many of these immigrants came much earlier, when the educational standards required for admission were lower. We address this issue in the regression analysis. A relatively high proportion of the more recent flow of immigrants from Eastern Europe *is* in regulated occupations as is an even higher proportion of the small number of immigrants from Australia and New Zealand (and Fiji).

**Table 4:** Proportions of Landed Immigrants and Native-Born Working in a Regulated and Unregulated Occupation, by Socio-Economic Characteristics, Canadian Labour Force Participants aged 15 and over, January 2008

	<i>Landed Immigrants</i>		<i>Native-Born</i>		<i>Total in the Labour Force</i>	
	Un-regulated	Regulated	Un-regulated	Regulated	Un-regulated	Regulated
<b>When Immigrants have been granted their landed immigrant status</b>						
Less than five years ago	88.37	11.63	--	--	88.37	11.63
5 to 10 years ago	85.38	14.62	--	--	85.38	14.62
Over 10 years ago	86.54	13.46	--	--	86.54	13.46
Native-Born	--	--	85.38	14.62	85.38	14.62
<b>Highest Level of Education</b>						
High school not completed or lower	95.88	4.12	95.95	4.05	95.94	4.06
High school completed	95.72	4.28	94.37	5.63	94.62	5.38
Some post-secondary education	93.30	6.70	93.20	6.80	93.22	6.78
Trade Certificate	86.29	13.71	81.12	18.88	81.92	18.08
Community college, Cegep	87.82	12.18	84.16	15.84	84.80	15.20
University certificate, below bachelor	82.09	17.91	82.69	17.31	82.58	17.42
Bachelor's degree	79.36	20.64	71.16	28.84	73.52	26.48
Above bachelor's degree	74.17	25.83	65.27	34.73	68.48	31.52
<b>Region Where Highest Diploma was Completed</b>						
Canada	84.10	15.90	85.38	14.62	85.25	14.75
USA	78.03	21.97	--	--	--	--
Latin America	91.22	8.78	--	--	--	--
Western Europe	87.31	12.69	--	--	--	--
Eastern Europe	83.64	16.36	--	--	--	--
Northern Europe	86.80	13.20	--	--	--	--
Southern Europe	87.55	12.45	--	--	--	--
Africa	86.19	13.81	--	--	--	--
West Central Asia	88.89	11.11	--	--	--	--
Eastern Asia	92.99	7.01	--	--	--	--
South-East Asia	91.94	8.06	--	--	--	--
Southern Asia	89.87	10.13	--	--	--	--
Australia, N.Z. or Fiji	80.67	19.33	--	--	--	--
<b>Gender</b>						
Male	85.09	14.91	85.28	14.72	85.24	14.76
Female	88.41	11.59	85.50	14.50	86.07	13.93
<b>Average Age</b>						
	44	44	39	40	40	41
<b>Province or Region of Region</b>						
British Columbia	87.82	12.18	87.82	12.18	87.82	12.18
Alberta	82.71	17.29	80.76	19.24	81.10	18.90
Saskatchewan	91.06	8.94	90.08	9.92	90.14	9.86
Manitoba	92.87	7.13	89.72	10.28	90.22	9.78
Ontario	86.75	13.25	86.15	13.85	86.32	13.68
Quebec	86.25	13.75	88.05	11.95	83.57	16.43
Atlantic Canada	79.75	20.25	88.05	11.95	87.78	12.22

	<i>Landed Immigrants</i>		<i>Native-Born</i>		<i>Total in the Labour Force</i>	
	Un-regulated	Regulated	Un-regulated	Regulated	Un-regulated	Regulated
<b>Family Type</b>						
Unattached individual	87.56	12.44	85.39	14.61	85.72	14.28
Couple, no children	85.33	14.67	84.73	15.27	84.84	15.16
Couple, children	86.17	13.83	84.83	15.17	85.13	14.87
Single parent	90.52	9.48	89.29	10.71	89.50	10.50
Other families	88.67	11.33	87.96	12.04	88.19	11.81
<b>Occupational Groups</b>						
Management	99.73	0.27	98.32	1.68	98.62	1.38
Business, Finance and Admin.	89.60	10.40	93.49	6.51	92.73	7.27
Natural & Applied Sciences	65.27	34.73	67.60	32.40	66.91	33.09
Health	44.89	55.11	34.78	65.22	36.76	63.24
Social Sc., Education, Gov.	78.57	21.43	67.02	32.98	69.12	30.88
Art, Culture, Recreation, Sport	95.07	4.93	97.59	2.41	97.17	2.83
Sales & Service	93.95	6.05	95.90	4.10	95.53	4.47
Trades, Transport, Manufacturing	87.71	12.29	79.49	20.51	80.99	19.01
Primary Industry	99.91	0.09	97.37	2.63	97.98	2.02
<b>Salaried Workers: Average Weekly Earnings (\$)</b>	724	1,063	729	1,024	728	1,031
<b>TOTAL</b>	86.61	13.39	85.38	14.62	85.63	14.37

Source: Labour Force Survey, Canada, January 2008

Notes: n=64,298. Results weighted.

In addition to the sections of the table that bear on our hypotheses we would draw attention to two other parts of the table. First, there are differences by province or region. Alberta has the second largest percentage of both the native-born and landed immigrants in regulated occupations, perhaps related to the fact that it has more such occupations than any province other than Quebec (cf. Table1). Quebec, however, has even more regulated occupations than Alberta. Given this, it is surprising that it has less than three percentage points more members of the labour force in these occupations than Ontario and smaller differences when the comparisons are made within the landed immigrant and native-born categories. In any case, there are differences in the proportions of respondents in regulated occupations by province or region that may influence the results

of our regression analysis, given that differences in industrial structure by province are likely to cause differences in the demand for licensed employees.<sup>4</sup> Second, Table 4 also confirms that the average weekly earnings for those in regulated occupations are considerably higher than those in unregulated occupations – about 45%, in fact. Perhaps more interesting is the fact that the earnings differences between landed immigrants and the native-born are modest in both categories.

In Table 5 we report the results of a logistic regression analysis of the predictors of employment in a regulated occupation. The predictors are entered in consecutive blocks: Model 1, immigrant status; Model 2, immigrant status, education, an immigrant status/education interaction; Model 3, immigrant status, education, an immigrant status/education interaction, region where diploma was awarded; Model 4, immigrant status, education, region where diploma was awarded, gender, province of residence, age, and family type. This sequence was chosen because we are primarily concerned with the role of immigrant status and duration of immigrant stay in determining access to regulated occupations. Finally, gender, province of residence, age and family type are added as controls.

Model 1 shows us that being native-born increases the likelihood of employment in a regulated occupation by 10%. Model 2 still contains evidence of immigrant disadvantage. Controlling for the level of education, very recent immigrants are 37% less likely than long-term immigrants to work in a regulated occupation. Education is very strongly related to access to a regulated occupation; the likelihood increases with each additional level of education.

Adding region where the highest diploma was completed does not remove the immigrant disadvantage. The coefficients for this variable indicate, in our view, the differences in the recognition and/or quality of diplomas from different regions of the world. Diplomas from the United States, anywhere in Europe, and, in aggregate, Australia, New Zealand or Fiji, do not significantly reduce the likelihood of access to a regulated occupation, as compared to diplomas from Canada. Diplomas from all regions of Asia (except West Central Asia) do reduce that likelihood. Those having been educated in these regions remain disadvantaged after controls for gender, province or region, age, and family type. Interestingly, adding these controls generates some evidence of reduced access for those educated in Western and Northern Europe.

Finally, the control variables in Model 4 completely eliminate the main effect of immigration status. Because Alberta and Quebec have the highest proportion of regulated occupations, it was expected that respondents in these two provinces are more likely to work in a regulated occupation, as compared to those living in Ontario. Respondents who were part of couples, with or without children, were more likely to hold a job in a regulated occupation. More importantly, adding these variables has no effect on the already significant level of education coefficients.

**Table 5:** Odds Ratio from Logistic Regressions - Likelihood of Working in a Regulated Occupation, Canadian Labour Force Participants aged 15 and over, January 2008

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
<b>Year Landed Immigrant Status was Granted</b> (ref. Over 10 years ago)				
Less than five years ago	0.85	0.63***	0.81	0.80
5 to 10 years ago	1.10	0.86	1.05	1.05
Native-born	1.10*	1.29***	1.12*	1.11
<b>Highest Level of Education</b> (ref. High school not completed or lower)				

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
High school completed		1.35**	1.35**	1.37***
Some post-secondary education		1.71***	1.69***	1.75***
Trade Certificate		5.19***	5.15***	4.97***
Community college, Cegep		4.24***	4.21***	4.34***
University certificate, below bachelor		5.04***	5.05***	5.07***
Bachelor's degree		8.95***	9.02***	9.20***
Above bachelor's degree		11.84***	11.75***	11.93***
<b>Region Where Highest Diploma was Completed</b> (ref. Canada)				
USA			0.96	0.97
Latin America			0.69	0.68
Western Europe			0.67	0.61*
Eastern Europe			0.79	0.77
Northern Europe			0.71	0.67*
Southern Europe			1.25	1.25
Africa			0.91	0.84
West Central Asia			0.60	0.59
Eastern Asia			0.38***	0.38***
South-East Asia			0.51***	0.51***
Southern Asia			0.55**	0.54**
Australia, N.Z. or Fiji			1.62	1.57
<b>Gender</b> (ref. Male)				0.89***
<b>Age</b> (Continuous var.)				1.00
<b>Province or Region of Residence</b> (ref. Ontario)				
Atlantic Provinces				0.90
Quebec				1.24*
Manitoba				0.77***
Saskatchewan				0.77***
Alberta				1.65***
British Columbia				0.92***
<b>Family Type</b> (ref. Unattached individuals)				
Couple, no children				1.15**
Couple, children				1.16**
Single parent				0.96
Other families				1.03
<b>Wald chi2</b>	9.06*	2078.35***	2148.39***	2456.69***

Source: Labour Force Survey, Canada, January 2008

Notes: n=64,298. Results weighted.

\* p<.05 \*\* p<.01 \*\*\* p<.001

Table 5 shows that the likelihood of access to a regulated occupation rises with education but falls if that education was completed in Asia. In Table 6 we examine more closely the combined effects of level and location of education by introducing into the

estimating equation an interaction between the two factors. The results are quite striking. The probability of access to a regulated occupation increases with level of education no matter where the education was completed. However, as compared to the reference category – a secondary school diploma or less in Canada – the improvement in the likelihood of getting access varies considerably depending on the region of education: a bachelor’s degree or more awarded in Canada increases the likelihood more than eight times; a degree awarded outside either Canada or Asia increases the likelihood more than six times; but a degree awarded in Asia only increases it by more than three times. Moreover, in contrast to either Canada or any other part of the world, a trade certificate from Asia has no significant effect on the likelihood of gaining access to a regulated occupation.

**Table 6:** Likelihood of Working in Regulated Occupation among Canadian Labour Market Participants aged 15 and over, by Highest Level of Education and Region Where Highest Diploma was completed

<i>Highest Level of Education</i>	<i>Region Where Highest Diploma was Completed</i>		
	Canada	Asia	Elsewhere <sup>a</sup>
High School Completed or Lower	1	0.56*	1.12
Trades Certificate	4.16***	1.92	2.63**
Other Post-Secondary Education <sup>b</sup>	3.02***	2.30**	2.47***
Bachelor’s Degree or Above	8.36***	3.36***	6.37***

Source: Labour Force Survey, Canada, January 2008

Notes: n=64,298. Results weighted. The odds ratios represent the likelihood of working in a regulated occupation after controlling the effect of immigration status, gender, province or region of residence, age and family type. The variable “highest level of education” has been recoded into four categories (“high school completed or lower”, “trades certificate”, “other post-secondary education”, and “bachelor’s degree or above”) and the region of education into three categories (“Canada”, “Asia” and “elsewhere”).

<sup>a</sup> Elsewhere= USA + Latin America + Western Europe + Eastern Europe + Northern Europe + Southern Europe + Africa + Australia, N.Z. or Fiji.

<sup>b</sup> Other post-secondary education= some post-secondary education + Community college, Cegep + University certificate, below bachelor.

\* p<.05 \*\* p<.01 \*\*\* p<.001

## Discussion

We began this paper with three hypotheses: 1) other things being equal, immigrants are less likely to enter a regulated occupation than the native-born; 2) immigration duration in the country increases the likelihood that they will do so; 3) a lower probability of entry is most likely for immigrants educated outside Canada, the United States and Europe. Tables 2 and 4 provided some support for the first three hypotheses, but contained no controls. Controlling for level and place of education did not eliminate the immigrant disadvantage. Controlling for level and place of education, as well as gender, age, province and family type, eliminated any immigrant access disadvantage at all.

Both Table 4 and Table 5 contain direct information on years since the award of landed immigrant status. Table 4 suggest some nonlinearity; the probability of working in a regulated occupation increases from the first to the second five years after the award of landed immigrant status then stops increasing after 10 years. Results in Table 5 are not consistent with hypothesis 2: after controlling for place of education, duration in the country does not improve the likelihood that immigrants will enter a regulated occupation.

Tables 4, 5, and 6 all show that the likelihood of access to a regulated occupation varies considerably depending on the source of the immigrants. Immigrants educated in Asia prove to be *much* less likely to secure access to a regulated occupation than either the native-born or other immigrants. Hypothesis 3, that the likelihood of entry is least likely for immigrants educated outside the United States and Europe, is strongly

supported. Clearly, the barrier to immigrant entry varies, depending on the source of the immigrant.

## **Conclusion**

What our results suggest most strikingly is that it is not whether or not someone is an immigrant that limits access to regulated occupations. Rather, it is where the immigrant's education was provided. This is, we assume, not surprising. Still, since previous research using national samples has not directly measured whether or not an occupation is regulated we think that providing evidence of the existence and considerable magnitude of this effect is valuable. It is also interesting that, while negatively signed, the coefficient for an African education is not significant. That might warrant further investigation. In any case, our results provoke two questions: Why, *in aggregate*, are immigrants no less likely to secure access to regulated occupation? And, why are those with educations from Asia so much less likely to enter such an occupation? Consider these questions in turn.

There are several possible explanations for the absence of an aggregate difference in access to regulated occupations. i) The programs established by governments, educational institutions, and professions to facilitate diploma recognition no doubt help in some, perhaps many, cases. ii) Some new immigrants who fail to get their foreign diploma recognized then secure a Canadian qualification, in doing so increasing their likelihood of working in a regulated occupation. iii) It is possible that the immigration screening process means that a larger proportion of immigrants than of the native-born have an education that would qualify them for a regulated occupation, were that

qualification recognized by a licensing body or employer. Consequently, while many fail to get their qualification recognized the larger number of them seeking recognition generates similar proportions of immigrants and of the native-born in regulated occupations. iv) It is also possible that the occupational options available for native-born who would qualify for a regulated occupation are broader than those available to immigrants. Some of the native-born with law or engineering degrees may find it to their advantage to work in unregulated occupations. Our data will not allow us to assess the relative plausibility of these accounts. But the absence of an aggregate access difference does, we think, suggest that these are worthwhile questions to be answered in future research.

Nor does our analysis allow us to answer the second question raised above. Immigrants with educations in Asia may have less access to regulated occupations either because employers and licensing bodies fail to recognize the real value of their diplomas or because many of those diplomas signal, on average, poorer quality education. Or it may be some combination of the two. However, the main source countries for new immigrants to Canada are China and India (Citizenship and Immigration Canada 2008). It is, therefore, worrying that it is Asian degree holders who are significantly less likely to work in a regulated occupation. This finding suggests that initiatives to assist Asian immigrants in finding employment, such as the Canadian Immigration Integration Project funded by the Government of Canada's Foreign Credential Recognition Program, may prove valuable and important.

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## ENDNOTES

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<sup>1</sup> Note that some non-regulated occupations allow for certification/registration with a professional body on a voluntary basis (Reitz: 2005). We know of no evidence on the pay effects of voluntary certification.

<sup>2</sup> It also provides contact information for regulatory bodies and apprenticeship authorities in each province.

<sup>3</sup> For example, we assume that immigrants with a high school diploma who became landed immigrants in Canada before age 18 received their diploma in their home country.

<sup>4</sup> One of the more interesting features of the relevant section of Table 4 is the high proportion of landed immigrants in regulated occupations in Atlantic Canada. A possibility is that this reflects a difficulty in recruiting professionals through internal migration and, consequently, a substitution of external for internal recruitment.