Immigrant Skill Utilization in the Canadian Labour Market: Implications of Human Capital Research

Jeffrey G. Reitz
University of Toronto

The quantitative significance of the underutilization of immigrant skills may be assessed, albeit imprecisely, in human-capital earnings analysis. Earnings deficits of immigrants may arise from: (a) lower immigrant skill quality, (b) underutilization of immigrant skills, and (c) pay inequities for immigrants doing the same work as native-born Canadians. Consistent with numerous studies, data from the 1996 census micro-data show that underutilization of immigrant skills is significant, though less so than unequal pay within occupations. In 1996 dollars, the total annual immigrant earnings deficit from all three sources was $15.0 billion, of which $2.4 billion was related to skill underutilization, and $12.6 billion was related to pay inequity. Discussion considers adjustments to these estimates, taking account of difficulties measuring the skill levels of occupations and immigrant skill quality.

La signification quantitative de la sous-utilisation des qualifications immigrées peut être évaluée, quoique sans précision, dans l'analyse humain-capitale de revenus. Les déficits de revenus des immigrés peuvent surgir de: (a) la qualité immigrée inférieure de compétence, (b) sous-utilisation des qualifications immigrées, et (c) injustices de salaire pour des immigrés faisant la même chose fonctionnent les Canadiens indigène-soutenus. Conformé aux nombreuses études, données des micro-données 1996 de recensement prouvent que la sous-utilisation des qualifications immigrées est significative, cependant moins ainsi que le salaire inégal dans des métiers. En 1996 dollars, tout le déficit immigré annuel de revenus de chacune des trois sources était $15,0 milliards, dont $2,4 milliards ont été liés à la sous-utilisation de compétence, et $12,6 milliards ont été liés à l'injustice de salaire. La discussion considère des ajustements à ces évaluations, tenant compte des difficultés mesurant les niveaux de compétence des métiers et de la qualité immigrée de compétence.

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One often hears about immigrants who are employed below their level of skill—the immigrant professional selling newspapers or driving a taxi cab, for example—but how typical is this type of situation across the Canadian immigrant population generally? Reports in news outlets and other sources provide compelling case descriptions (*Globe and Mail,* 1996a, 1996b, 1996c; *Toronto Star,* 1995; *Winnipeg Free Press,* 1995), but these reports cannot assess the scope and scale of the problem. Exactly how many skill-selected immigrants in Canada actually become employed for substantial periods of time in occupations significantly below their actual level of useful education, training, skill or work experience? Are valuable immigrant skills—particularly high-level professional or technical skills which are increasingly in demand—being wasted in Canada? Are some immigrant origins-groups affected more than others? What is the impact of any such underemployment on the Canadian economy, and on the success of the immigration program?

For Canadian immigration policy-makers, these questions are now becoming rather more urgent and pressing than they were in the past. In the past, at least from the 1960s when Canadian immigration became open to persons from all countries around the world, Canadian immigration policy has achieved considerable success by selecting immigrants on the basis of education and other forms of human capital influencing labour market success. As a result, new immigrants had substantially higher levels of formal education than did the native-born population, and performed fairly well in the labour market. Although many immigrants felt that the discounting of their qualifications by Canadian employers was an unpleasant fact of life, given their relatively high levels of education they could "afford it" so to speak; they achieved significant employment success anyway.

Now, however, and despite efforts to upgrade immigrant selection and shift toward greater emphasis on human capital selection criteria, there is significant evidence that the employment success of newly-arriving immigrants is much less than before. This evidence comes from analysis of immigrant records linked to taxation data (Dougherty, 1999), and from analysis of successive censuses (Reitz, 1998a, 1999a, 2001; Drew, Murray & Zhao, 2000; see also Grant, 1999). It may be that the growth of the "knowledge economy" has increased the importance of human capital credentials in the Canadian labour force, and a credentials squeeze may be increasingly affecting immigrants. If highly educated professionals selected by the immigration program often end up working in jobs normally held by less skilled persons from the native-born population,

then in effect these immigrant skills are wasted. If the problem turns out to be significant, then perhaps skill-selectivity alone may no longer be sufficient to ensure the success of the immigration program. Efforts to ensure more effective immigrant skill utilization may be needed.

Immigrant skill underutilization also has implications for the current debate over the "brain drain". Some have argued that if there is a brain drain from Canada—a significant exodus of highly trained persons mainly to the United States—then there also may be an offsetting "brain gain" due to immigration from elsewhere. Any flow of skilled workers from Canada may be offset by an even larger number of equally skilled persons arriving in Canada from other countries. Hence instead of a brain drain there really may be only a circulation of highly skilled workers, and Canada as a net importer of such workers would be a net beneficiary of this process (Drew et al., 2000). However, the offsetting impact of immigrant skills obviously would be diminished if there is substantial underutilization of these skills. Because of this possibility, instead of "brain gain" some have begun to speak of "brain waste".

While the issue of immigrant skills utilization is more pressing today, it is by no means new. It has long been mentioned when immigrant issues are discussed (Abella, 1984; Canada, 1984; Arnopoulous, 1979). And in some form, it has been the subject of research and policy initiatives in Canada (McDade, 1988; Stasiulis, 1990; Mata, 1994; Conger, 1994; Skills for Change, 1995; Conger & Bezanson, 1996; Brouwer, 1999; Watt & Bloom, 2001), and in other immigration countries such as Australia (Iredale, 1988a, 1988b; Fry, 1989; Dawkins, 1989; Mitchell, Tait & Castles, 1989; Castles, Mitchell, Morrissey & Alcorso, 1989) for a number of years.

One specific form of the issue of the underutilization of immigrant skills which has become salient in recent public discussion is the concern about the non-recognition of foreign credentials by licensing bodies of various trades and professions. In 1989, the Ontario government published a major report identifying the problem, and calling for action (Cumming, Lee & Oreopoulos, 1989; see also Abt, 1987), and in recent years there have been efforts to follow-up with specific programs (Price Waterhouse, 1993, 1998; Goldberg, 2000). Other provinces also have undertaken studies (Alberta, 1992; Manitoba, 1992).

The broader issue of immigrant skills utilization includes non-recognition of foreign credentials by licensing bodies, but extends beyond it as well. Employers demand educational prerequisites and other qualifications for many types of jobs, not only for the licensed trades and professions but also for semi-professions which are not formally

regulated, and for other jobs at various skill levels as well. Moreover, skill underutilization may affect the types of work that immigrants do and their career trajectories within occupations.

From this standpoint it may be useful to have a broad labour-market-wide assessment. For this purpose there is a substantial body of existing research on immigrant human capital and labour market performance. This research provides findings which can be assessed in the context of immigrant skills utilization. Research on the earnings of the new immigrants has shown, for example, that immigrants experience significant labour market disadvantage in Canada, and that the performance of new immigrants falls significantly below expectation based on an assumed equivalence of measurable human capital such as education and experience. The research also takes account of specific occupations in which immigrants are working, and of immigrant origins, and it attempts to assess the issue of the quality or Canadian relevance of immigrant skills. Some studies also have attempted to address the issue of the quality of immigrant education and training, and its relevance to the Canadian workplace. Many of the specific findings of this research provide an opportunity to consider the magnitude of the problem of immigrant skills underutilization, although of course there are important unknowns which render conclusions somewhat tentative or even speculative.

The presentation here will be in three steps. First, it is necessary to clarify the concept of immigrant skill underutilization— "brain waste" — and to state what it includes and how it is related to other forms of immigrant disadvantage, such as employment discrimination. Second, I will assess how existing research on immigrant earnings and human capital bears on the problem of immigrant skills utilization. And third, I will consider what are the sources of immigrant skill underutilization, what are some available policy options.

Immigrant Skill Utilization and Employment Disadvantage

Definition

Underutilization of immigrant skills may be defined as any employment of immigrants in work below a level of skill at which they could function as effectively as native-born Canadians. Native-born workers also may experience skills underutilization, of course, but the concern here is only insofar as skills underutilization affects immigrants differentially. The

question is: to what extent are immigrant skills less effectively utilized than the skills of the native-born? In this sense the issue is parallel to that of immigrant employment disadvantage generally, which is the subject of the labour market research to be discussed below.

Included in this definition of immigrant skill underutilization are a number of situations which are different from one another, but similar from the standpoint that immigrant skills are not fully utilized in the labour market.

1. *Non-recognition of foreign professional or trade credentials by Canadian licensing bodies for professions and trades.* This situation arises when immigrants who were licensed to work in a particular field in their country of origin are refused a parallel license for work in Canada. For example, some immigrants who have worked as physicians in other countries have been denied licenses to practice their profession in Canada. Some immigrants who have worked as nurses or professional engineers in other countries have been denied licenses to work in their field in Canada. This becomes skill underutilization where the foreign professional or trade standards in question are in fact essentially equal to Canadian standards.

2. *Non-recognition of foreign professional or trade credentials by employers, for immigrants who have received Canadian licenses.* In this situation, immigrant credentials have been recognized by the relevant Canadian licensing body, and a license has been issued, but the immigrant fails to obtain a job in the field because employers believe that despite the license, the immigrant's foreign background is of lower quality than the corresponding Canadian background. Again, this is skills underutilization if there is in fact no difference between the quality of the Canadian and foreign backgrounds.

3. *Non-recognition of foreign occupational credentials by employers in non-licensed occupational fields.* Non-licensed fields in which persons received training from accredited institutions include various fields of business management, such as personnel, human resource management and labour relations, and in some of the so-called semi-professions, such as teachers, social workers, and librarians. Canadian employers may require a specific educational background, and may not consider a foreign educational degree in a parallel field to be equal to the Canadian degree. This would represent skills

underutilization to the extent that the foreign educational degree provides skills equivalent to a comparable Canadian degree.

4. *Discounting foreign-acquired skills not specifically credentialized, but nevertheless deemed relevant to the ability to perform a job.* Examples of this situation arise in management positions within scientific and engineering departments, when managers are typically recruited from within the department. In such cases, formal credentials focus on technical knowledge and skills, but the job in question involves management and includes also administrative or broader social skills of a non-technical nature. If the employer tends to assume that foreign-trained workers such as scientists do not possess these ancillary skills, when in fact they do, then the result is skills underutilization.

5. *Non-recognition of general foreign education by Canadian employers.* In many occupational fields in which Canadian employers require a general education, such as in lower-level management or sales supervision fields, or in fields like public relations or policy analysis, there may be a tendency to evaluate foreign education as a less relevant predictor of employee performance than the corresponding Canadian education. This constitutes skills underutilization to the extent that foreign education is as valid a predictor of performance as the corresponding Canadian education.

6. *Discounting of foreign experience by Canadian employers.* The employer's demand for "Canadian experience" is commonly observed in many occupational fields. Where foreign experience is in fact applicable to the Canadian workplace, then the demand for Canadian experience results in skill underutilization.

7. *All other negative employment decisions favouring Canadian-trained over foreign-trained workers affecting hiring or promotion.* Access to opportunities in the workplace may be affected by a range of decisions not all of which are formalized. These include membership in informal networks affecting the flow of information or decision-making, or recommendations for special assignments or other organizational perks. When these processes are affected by perceptions of lower levels of qualification based on foreign training, where this cannot be justified in terms of employment productivity,

and when occupational upgrading or promotions are affected, then such cases constitute skill underutilization.

All of these situations reflect immigrant skill underutilization, but in different ways. The differences are important and definitely affect the policy remedies which may be appropriate. Here, however, they are assessed as a group. The aim is to place the entire problem of immigrant skill underutilization in the context of immigrant employment generally.

Relation to Employment Discrimination

Immigrant skill underutilization as defined above, and in all of the situations listed, represents one form of "employment discrimination" based on immigrant status or immigrant origins. Employment discrimination is defined as negative employment decisions based on statuses such as birthplace or origins, rather than based solely on credentials and qualifications directly related to the potential productivity of the employee. Each of the seven types of situations listed above included a specification that the negative decision could not be justified in terms of the productivity relevance of the immigrant's qualifications. Hence they all should be considered forms of employment discrimination such as is prohibited by equal rights legislation.

Skill underutilization should be sharply distinguished from pay inequity, another form of employment discrimination against immigrants. This occurs when immigrants have full access to jobs involving significant skill and responsibility, so their skills are fully utilized, but they are simply paid less than native-born workers doing the same or similar jobs. Such cases constitute a failure to provide equal pay for work of equal value. While such discrimination obviously would represent a significant problem, it is not the primary focus of the present analysis. In both types of discrimination—skill underutilization and pay inequity—immigrants end up earning less than they might based on their productive potential. In the first, the costs are borne both by the immigrant and by the economy as a whole, since the immigrant is denied a career and the economy is denied the corresponding contribution. In the second, the economy actually benefits from the worker's skills and only the immigrant himself or herself is short-changed. Although the focus here is on skill underutilization, the analysis carries implications for pay equity as well.

In the hypothetical "perfect market" of classical economic theory, there is no discrimination of either kind, underutilization of immigrant skills or pay inequity (Borjas, 1999). Market forces are assumed to create

incentives for employers to probe the true value of immigrant qualifications and work, leading to a correction of any market undervaluation. However, discrimination field trials such as performed by Henry and Ginsberg (1985) show that discrimination does exist. So departures from the hypothetical perfect market do occur, and what is at issue here is their magnitude.

Measurement of Immigrant Skills Underutilization in Earnings Data

Underutilization of immigrant skills affects immigrant earnings, and the magnitude of this earnings effect is a measure of its economic impact. Immigrant employment and earnings in Canada, and their relation to educational qualifications, have been described in some detail using census data, and also in data from labour force surveys including the Labour Market Activity Survey (LMAS), the Survey of Labour and Income Dynamics (SLID), and others. Examples include the studies by the Ornstein and Sharma (1983), Li (1988, 1992), Economic Council of Canada (1991), Boyd (1992), Abbott and Beach (1993), Christofidies and Swidinsky (1994), Reitz and Breton (1994), Bloom, Grenier & Gunderson (1995), Baker and Benjamin (1997), Reitz and Sklar (1997), Pendakur and Pandakur (1998), Hum and Simpson (1999), Reitz et al. (1999b), and Thompson (2000), among others. These studies compare immigrant earnings with the earnings of native-born Canadians, and examine how earnings differences are affected by gender and by years and types of education, work experience, language knowledge, and ethnic or racial background, and for immigrants the studies typically take account also of period of arrival or time in Canada. The findings are a useful place to begin to assess immigrant skill utilization.

The following discussion focuses on key findings common to all or most of these studies. They may be summarized as follows.

Finding No. 1: Immigrants receive a smaller earnings premium for formal education, compared to the native-born (net of other variables),

Finding No. 2: Immigrants receive a smaller earnings premium for work experience, compared to the native-born (net of other variables), and

Finding No. 3: Immigrants from particular origins groups receive lower earnings than immigrants from other origins groups (net of other variables).

The size of these earnings differences are described further below. Although the specific numbers vary somewhat among the studies, depending on the data source or the way in which the earnings equations are specified, for present purposes the results are substantially similar and differences are ignored.

Regarding each of the three findings, the question is how the immigrant disadvantages may be apportioned among the following three components:

1. *skill relevance or quality* — differences in the specific substance of educational or work experiences, which may affect the relevance of the skills to the Canadian workplace,
2. *skill utilization* — differences in the skill requirements of the occupations in which immigrants are employed (assuming equal skill quality), and
3. *pay equity* — differences in pay for equally-skilled work (assuming equal skill quality and occupational skill level).

Measurement problems represent a significant stumbling block, of course. One such problem is the assessment of the relevance of immigrant skills in the Canadian workplace. If the market-value judgments of professional licensing bodies or employers are accepted as representing the "true" value of immigrant credentials, then obviously the skill relevance component explains all the difference, and the other two components (including skill underutilization) are zero. However, if these market-value judgments are *not* accepted as representing true value, then the other two components are not zero, and depending on the significance of the departure of market value from true productive value, they may become quite large.

This measurement problem is essentially the same as the problem arising in the measurement of employment discrimination in labour force data generally. Whether bias or lack of significant knowledge clouds the decisions of employers may not be known with any degree of accuracy or reliability. In the contemporary world in which discrimination against minorities is illegal, any instances of discrimination are likely to be supported by some kind of rationale related to qualifications, whatever the actual impact of qualifications on the decision. Often, non-recognition or discounting of immigrant skills may occur without justification by reference to objective evidence of their inferiority as an indicator of productivity in the Canadian workplace. This discounting may occur in

the absence of any information at all, and not only in the presence of negative stereotypes. In the presence of competing applicants presenting well-known Canadian qualifications, the practice of discounting foreign qualifications may be seen as an effort to reduce risk arising from ignorance of the credential in question.

Even though it is not possible to address the measurement of skill quality definitively in labour force data, some census-based studies have made attempts in this direction, and the results may help to refine our estimates of the impact on immigrant earnings. Other data sources also may be useful, by providing better measures of immigrant education and skill. These include the immigrant longitudinal data base (IMDB) in which immigrant landing records are linked to data from income tax returns files (Dougherty, 1999; see also Green, 1995), and special-purpose surveys of including data on minority communities (Breton, Isajiw, Kalbach & Reitz, 1990 and Reitz & Sklar, 1997). Results from these studies will be considered as well.

To distinguish the skill utilization component from the pay equity component, it is necessary to measure the levels of skill required by specific occupations. This also presents difficulties, but it is a matter to which much more attention has been given. Standard occupational classifications are available which are intended to reflect variations in the levels of skill required. Although these categories are somewhat heterogeneous, they may be considered as useful in the present context because they reflect important information about skill utilization in the workplace.

Clearly, the use of findings from human-capital earnings analyses in census data will involve limitations because of measurement problems. The strength of this approach is that it provides an overall quantitative estimate of the potential size of the skill underutilization problem, as manifested in all of the various types of situations listed earlier. Furthermore, it helps place this issue in the context of other sources of immigrant disadvantage, such as pay inequity. Errors will exist but their size is subject to quantitative estimate, so that future work may focus on the most significant unresolved issues.[1]

Analysis of the 1996 Canadian Census

To avoid the need to cite each previous study in detail, and as an aid to illustration, a conventional earnings analysis will be provided using data from the 1996 Canadian census. This analysis is based on the micro-data sample, selecting immigrant and native-born men and women aged

20-64 with positive earnings during the previous year (N=373,222). The analysis shows how the earnings of immigrants and native-born Canadians in 1996 were affected by education (total years of education, and possession of a university degree), work experience (using the usual derived measure[2] and providing a quadratic component to reflect declining seniority increments during the course of a work career), and minority origins: Black, Chinese, South Asian, Filipino, and other Non-European origins. Immigrants and native-born also differ with regard to language knowledge and urban area of residence, and immigrant earnings are affected by a period of adjustment, and rise significantly with time in Canada. To take account of these factors, the analysis for immigrants incorporates variables measuring knowledge of official languages in Canada, and years since immigration (with a quadratic component to reflect the more rapid rate of earnings increases in the first years following arrival). Residence in the major urban areas of Toronto, Montreal, and Vancouver also is included because immigrants more often live in these higher-earnings areas. Thus, in comparing the earnings of immigrants and the native-born with respect to the effects of education, experience, and origins, differences in these other characteristics may be ignored.

To identify earnings disadvantages specifically related to underutilization of skills in specific occupations, the overall earnings analysis is compared with an analysis incorporating occupational categories differing by skill level. The available categories distinguish senior managers from middle managers and supervisors, professionals from semi-professionals and technicians, skilled workers from semi-skilled and unskilled, and so on.[3] These categories measure skill requirements of occupations, but they are fairly broad, and some occupational variation within these categories is not captured by the analysis. The impact of this within-category variation on the interpretation of results will be considered in the context of specific findings.

Table 1 presents earnings regression of annual earnings[4] onto each of the variables except occupation, for native-born and immigrant men and women separately. This analysis reveals the size of the overall immigrant disadvantage. Table 2 presents the same analysis with the addition of the occupational categories. When occupational level is included in the analysis, the analysis reveals the immigrant disadvantage *within* occupational levels, and hence describes pay inequity. The difference between the two—between the overall immigrant disadvantage and the within-occupations disadvantage—represents the component

Table 1
Regression of Annual Earnings on Human Capital and Other Variables, Native-born and Immigrants, Men and Women, Canada 1996

Men

	Native-born			Immigrant		
	Mean	Unstandardized Coefficients, B	sig.	Mean	Unstandardized Coefficients, B	sig.
Annual Earnings (const.)	$33,887	-22,700.73	***	$ 33,934	-15,499.23	***
Years of Educ.	13.21	2,156.53	***	13.78	1,219.92	***
University Degree	0.1665	10,025.25	***	0.2432	12,499.71	***
Work Experience	19.30	2,413.28	***	22.64	1,704.28	***
W. Exp. Squared	514.60	-39.42	***	656.97	-29.40	***
Toronto	0.0980	6,715.32	***	0.3624	2,323.49	***
Montreal	0.1138	1,761.34	***	0.1129	-2,575.33	***
Vancouver	0.0512	4,650.16	***	0.1265	745.73	n.s.
Black	0.0022	-6,773.58	***	0.0577	-6,746.07	***
Chinese	0.0036	-3,896.67	***	0.1138	-6,016.87	***
South Asian	0.0017	-3,919.79	**	0.0928	-4,833.40	**
Filipino	0.0004	-9,218.03	**	0.0293	-8,739.50	**
Other Non-Euro. Origins	0.0200	-7,075.61	***	0.2039	-4,030.28	***
French	0.1298	-4,219.70	***	0.0252	-2,916.74	***
French and English	0.2236	-1,013.22	***	0.1364	230.35	n.s.
Neither Fr. nor English	-			0.0298	-969.29	n.s.
Years Since Immigration	-			20.16	957.74	***
Yrs. Since Imm., Squared	-			566.46	-12.31	***
Sample N	159548			39204		
Population Represented	5743728			1411344		
Total Earnings	$194.6 b.			$47.9 b.		

Table 1
Regression of Annual Earnings on Human Capital and Other Variables, Native-born and Immigrants, Men and Women, Canada 1996 (continued)

Women

	Native-born			Immigrant		
	Mean	Unstandardized Coefficients, B	Sig.	Mean	Unstandardized Coefficients, B	Sig.
Annual Earnings	$ 21,519	-19,578.17	***	$ 21,519	-13,787	***
Years of Educ.	13.54	1,815.07	***	13.56	956	***
University Degree	0.1785	6,154.08	***	0.2155	6,677	***
Work Experience	18.35	1,437.30	***	21.74	965	***
W. Exp. Squared	474.98	-25.12	***	614.50	-18	***
Toronto	0.1054	6,480.20	***	0.3729	4,446	***
Montreal	0.1166	2,272.27	***	0.1016	-758	*
Vancouver	0.0532	4,689.28	***	0.1329	2,931	***
Black	0.0023	-3,729.68	***	0.0680	78	n.s.
Chinese	0.0038	848.04	n.s.	0.1252	842	n.s.
South Asian	0.0018	-2,029.51	*	0.0841	-1,338	***
Filipino	0.0004	-6,264.51	**	0.0544	-1,029	***
Other Non-Euro. Origins	0.0188	-1,205.22	***	0.1887	-486	***
French	0.1391	-1,960.33	***	0.0262	50	n.s.
French and English	0.2192	454.46	***	0.1256	1,761	***
Neither Fr. nor English	-			0.0383	-256	n.s.
Years Since Immigration	-			19.53	707	***
Yrs. Since Imm., Squared	-			532.99	-9	***
N	140779			33691		
Population Represented	5068044			1212876		
Total Earnings	$109.1 b			$26.1 b.		

Source: 1996 Census of Canada, Public Use Micro-data.
Note: 'n.s.' means that the coefficient is not statistically significant, that is, $p \geq 0.05$; * means $p < 0.05$; ** means $p < 0.01$; and *** means $p < 0.001$.

Table 2
Regression of Annual Earnings on Human Capital and Other Variables, Plus Occupation, Native-born and Immigrants, Men and Women, Canada 1996

Men	Native-born			Immigrant		
	Mean	Unstandardized Coefficients, B	sig.	Mean	Unstandardized Coefficients, B	sig.
Annual Earnings	$33,887	-16,281	***	$ 33,934	-10,275	***
Years of Educ.	13.21	1,534	***	13.78	738	***
University Degree	0.1665	6,934	***	0.2432	7,658	***
Work Experience	19.30	2,165	***	22.64	1,537	***
W. Exp. Squared	514.60	-36	***	656.97	-27	***
Toronto	0.0980	6,035	***	0.3624	2,315	***
Montreal	0.1138	1,600	***	0.1129	-2,150	***
Vancouver	0.0512	4,161	***	0.1265	770	n.s.
Black	0.0022	-5,885	***	0.0577	-5,184	***
Chinese	0.0036	-3,925	***	0.1138	-6,331	***
South Asian	0.0017	-3,454	*	0.0928	-3,681	***
Filipino	0.0004	-8,360	**	0.0293	-5,194	***
Other Non-Euro. Origins	0.0200	-7,366	***	0.2039	-3,684	***
French	0.1298	-3,818	***	0.0252	-2,738	**
French and English	0.2236	-1,437	***	0.1364	-779	n.s.
Neither French nor English				0.0298	-894	n.s.
Years Since Immigration				20.16	877	***
Yrs. Since Imm., Squared				566.46	-12	***
Senior managers	0.0144	34,722	***	0.0168	33,969	***
Middle and other man.	0.1003	14,474	***	0.1112	12,560	***
Professionals	0.1249	11,974	***	0.1600	16,276	***
Semi-prof. and technicians	0.0605	5,490	***	0.0595	4,147	***
Supervisors	0.0113	7,109	***	0.0114	5,803	***
Superv., Crafts and Trades	0.0553	5,621	***	0.0402	7,430	***
Admin. and senior clerical	0.0159	7,461	***	0.0157	7,030	***
Skilled sales and service	0.0463	8,808	***	0.0584	1,695	**
Skilled crafts and trades	0.1407	5,298	***	0.1233	4,350	***
Clerical Personnel	0.0582	98	n.s.	0.0548	-287	n.s.
Intermed. sales and serv.	0.0721	1,442	***	0.0604	-1,285	**

Table 2
Regression of Annual Earnings on Human Capital and Other Variables, Native-born and Immigrants, Men and Women, Canada 1996 (continued)

Women

	Native-born			Immigrants		
	Mean	Unstandardized Coefficients, B	sig.	Mean	Unstandardized Coefficients, B	sig.
Annual Earnings	$21,519	-11,585	***	$21,519	-7,897	***
Years of Educ.	13.54	1,050	***	13.56	437	***
University Degree	0.1785	4,034	***	0.2155	3,984	***
Work Experience	18.35	1,157	***	21.74	841	***
W. Exp. Squared	474.98	-21	***	614.50	-15	***
Toronto	0.1054	5,879	***	0.3729	4,153	***
Montreal	0.1166	2,024	***	0.1016	-501	n.s.
Vancouver	0.0532	4,314	***	0.1329	2,737	***
Black	0.0023	-2,728	***	0.0680	328	n.s.
Chinese	0.0038	445	n.s.	0.1252	475	n.s.
South Asian	0.0018	-2,045	*	0.0841	-677	n.s.
Filipino	0.0004	-4,760	**	0.0544	1,051	**
Other Non-Euro. Origins	0.0188	-1,611	***	0.1887	-148	n.s.
French	0.1391	-1,727	***	0.0262	228	n.s.
French and English	0.2192	163	n.s.	0.1256	794	**
Neither French nor English				0.0383	17	n.s.
Years Since Immigration				19.53	596	***
Yrs. Since Imm., Squared				532.99	-8	***
Senior managers	0.0045	21,768	***	0.0043	27,177	***
Middle and other man.	0.0588	14,987	***	0.0573	11,925	***
Professionals	0.1752	13,165	***	0.1542	13,809	***
Semi-prof. and technicians	0.0586	6,981	***	0.0462	6,963	***
Supervisors	0.0162	9,987	***	0.0137	8,741	***
Superv., Crafts and Trades	0.0108	4,429	***	0.0098	4,370	***
Admin. and senior clerical	0.1094	7,214	***	0.0867	7,054	***
Skilled sales and service	0.0419	4,472	***	0.0423	2,985	***
Skilled crafts and trades	0.0072	3,394	***	0.0106	460	n.s.
Clerical Personnel	0.1791	5,379	***	0.1579	3,760	***
Intermed. sales and serv.	0.1717	-182	n.s.	0.1624	-1,059	

Source: 1996 Census of Canada, Public Use Micro-data.
'n.s.' means that the coefficient is not statistically significant, that is, $p \geq 0.05$; * means $p < 0.05$; ** means $p < 0.01$; and *** means $p < 0.001$.

related to inequality in access to occupations. This is our measure of skill underutilization.

Finding No. 1. Immigrants receive lower earnings premiums for education. On average, highly educated immigrants receive a much smaller earnings premium for their education than do native-born Canadians. The size of this difference varies from one study to another, but as a generalization it may be said that the education premium for immigrants on average is *about half* of what it is for the native-born. For native-born Canadians, each additional year of education yields somewhere between 5 and 7% greater earnings, with those at the upper end of the education spectrum receiving somewhat more than this figure, and those at the lower end receiving somewhat less. For immigrants, the yield is in the range of 2 to 4%, again with those at the upper end benefiting somewhat more, and those at the lower end somewhat less.

These very unequal education premiums also are reflected in the 1996 census data presented in Table 1. Among men, the earnings of the native-born rose $2,157 for each additional year of education—or about 6%. The earnings of immigrant men rose $1,220 for each additional year of education, which is about half of the premium for the native-born. These differences are offset to a degree by a somewhat lower premium for a university degree among native-born men: $10,025 compared to $12,500 for immigrant men, a difference equivalent to about one year's worth of education for the native-born men. Among women, the earnings of the native-born rose $1,815 for each additional year of education, which in dollar terms is less than for native-born men but represents an additional 8% of the average earnings of native-born women. This education premium for native-born women is about twice what it is for immigrant women, $956. The premium for a university degree for native-born and immigrant women was about the same, $6,000 to $7,000. Overall these patterns conform to what has been observed in other analyses.

As discussed above, this overall difference in education premium may be decomposed into three components, related to: (a) differences in skill quality, (b) underutilization of immigrant skills in gaining access to occupations demanding greater skill, and (c) inequities in pay within occupations, respectively. Let us temporarily ignore the question of skill quality, and consider the distinction between access to highly skilled occupations and pay inequities within occupations.

Among census-based studies including controls for occupational categories, results show that compared to immigrants, greater native-

born access to skilled occupations such as senior manager or professional accounts for about 15 or 20% of the greater earnings premium for higher levels of education; the balance of the higher earnings premium results from higher pay within the occupational categories. Again these results correspond closely to the 1996 census data reported here. A comparison of Tables 1 and 2 shows that after taking account of immigrant representation in various occupational categories, there remains a substantial difference in the education premium between immigrants and native-born.

Among men, after taking account of access to skilled occupations, the immigrant/native-born difference in the earnings premium for a year of education was reduced from $937 to $796, or about 15%. This shows that 15% of the overall difference in earnings premium was due to a lower immigrant access to occupations, that is, to skill underutilization.

Among women, skill underutilization is a larger part of the overall immigrant/native-born difference in the earnings premium for education. For them, the control for occupational skill reduced the earnings premium for a year of education from $859 to $613, a reduction of 29%. This represents the skill underutilization component.

Overall, skill underutilization seems to be smaller than the pay inequity component of the overall immigrant disadvantage in the education premium. However, the relative size of the two components might depend on the adequacy of the census occupational categories as a measure of skill. If there is significant *variation in occupational skill levels within those categories*, then some of what appears here to be pay inequity might actually be differences in access to occupations. If such variation were taken into account in the analysis, the relative size of the component related to occupational skill might be larger.

Now consider the question of educational quality or relevance. How much of the lower earnings premium for immigrant education may be due to the fact that most immigrant education is acquired abroad and may be less relevant to the Canadian workplace? Some studies have attempted to explore this question by distinguishing immigrants according to whether their education was completed abroad or in Canada. These studies have found that immigrants who completed their education in Canada (because they arrived at a fairly young age) receive education earnings premiums that are at least a bit closer to what native-born Canadians receive (Economic Council of Canada, 1991; Reitz & Sklar, 1997; Pendakur & Pendakur, 1998).

If Canadian employers discount foreign education, as they apparently do, then the issue remains whether this discounting is justified based on less actual relevance, or whether it occurs because Canadian employers are unaware of the true value of such foreign qualifications. The fact that immigrants with Canadian education receive higher earnings returns to education than immigrants with only foreign education measures only the relative market value of the two types of education, and if there is a difference between market value and true productive value we can only speculate. These analyses do not address this question.

Finally, the possibility should be noted that the education premium for immigrants, while lower than what is observed for the native-born, may actually *over* estimate the recognition of foreign qualifications by Canadian employers. In general, better-educated persons have higher earnings not only because of the importance of credentials and qualifications to employers. They are more successful at work in part because of certain "background abilities", such as higher innate academic ability, or more individual resources and the personality necessary to function in schools as bureaucratic settings. These background abilities are one reason for their higher educational attainment in the first place, and to some extent it may be these abilities which produce their greater success in the labour market, and not only the educational credentials themselves. This may be true as much for immigrants who attain their education abroad as it is for native-born Canadians. So if such "background abilities" matter for immigrants, then it may be that their credentials have even less significance than the 2 to 4% reflected in the earnings analysis. It is possible that foreign educational credentials (as distinct from the underlying aptitudes and abilities they reflect) actually count for little or nothing at all in Canadian labour markets.

Finding No. 2. Immigrants receive lower earnings premiums for work experience. Most studies show that immigrants with greater work experience have higher earnings, but the earnings premium related to work experience is smaller than for the native-born. Again the differential effect of work experience on earnings varies from one study to another, but as a summary it may be said that immigrant men and women receive about one-half to two-thirds as much benefit from work experience as do the native-born of the same gender. Again this corresponds to the 1996 census data in Table 1. The earnings premium for a year of work experience for immigrant men is $1,700, which is only about 71% of the figure for native-born men, $2156. For immigrant women the premium for a year

of work experience is $965, which is 67% of the figure for native-born women, $1,437.

Again this difference in earnings premium may be decomposed into components based on skill underutilization and pay inequity. The human capital research clearly shows that most of the immigrant/native-born difference in the impact of work experience on earnings is realized not in the process of entering high-skilled occupations, but rather in the process of moving up the earnings hierarchy within occupations. This finding is reflected in the 1996 data, comparing the earnings coefficients for work experience in Tables 1 and 2. Among men, of the overall difference in earnings premium for experience of $709, the part remaining after taking account of access to occupations is $628, or 88%. Hence pay inequality within occupations accounts for 88% of the difference in the earnings premium for experience. Less recognition of immigrant experience as a qualification affecting access to occupations accounts for the remaining 12%. Among immigrant women, the skill underutilization component is relatively larger. Of the overall immigrant/native-born difference in earnings premium for experience of $472, the part remaining after taking account of access to occupations is $316, or 67%. Hence pay inequity within occupations accounts for 67% of the lower earnings premium for experience among immigrant women, and underutilization of experience in determining access to occupations accounts for the remaining 33%.

It must again be noted that the occupational categories used in these analyses are broad, and may hide some skill variations in types of work. Much earnings mobility within occupations reflects seniority, with little real change in work responsibility. However, at least some of it reflects promotions and increased administrative or other responsibilities, which are not measured in the broad census occupational categories. To the extent that an immigrant's foreign experience is not taken into account in allocating these increased responsibilities, there is an underutilization of skills.

Now turn to the question of the quality or Canadian relevance of immigrant work experience. How much of the lower premium for immigrant work experience might be explained in this way? In the human capital research there has been an effort to distinguish foreign and domestic work experience among immigrants. This research shows that the labour market value of foreign work experience in Canada is effectively zero. This finding may seem startling, but it is reported consistently for census data, where foreign experience must be measured indirectly,[5]

and also in survey research where it is measured directly (Ornstein & Sharma, 1983; Reitz & Sklar, 1997). Canadian employers essentially place little value, or no value whatever, on work experience gained outside Canada. The finding lends credence to the often-expressed complaint that Canadian employers demand "Canadian experience". It is not that employers always refuse to hire anyone without Canadian experience, though this undoubtedly happens in some cases. It is rather that, when it comes to the issue of experience, immigrants who have not worked in Canada, regardless of their age or work experience in their homeland, are generally compared to young Canadians who have just completed their schooling.

In assessing implications for skill utilization, one question is whether the true productive value of foreign work experience in Canada is appreciably different from the measured "market value" of zero. Without direct evidence, of course, there is no way to be sure. However, many informed observers have expressed the view that in many occupations, particularly those at high levels of skill, prior experience is quite valuable regardless of where it was obtained, and that hiring professionals with no such experience carries significant risks.

It is important that this view of the true value of foreign experience is held by no less an authority than the Canadian immigration department itself. This departmental view is reflected in the immigrant selection criteria. Foreign experience was introduced early in the development of the points system for selecting skilled workers, and has received weight comparable to the weight accorded other important items such as knowledge of an official language, or possession of an offer of employment. Further, foreign experience continues to be included in the recently enacted revisions to the selection system which attempt to increase the emphasis on general human capital. This program emphasis on foreign experience comes at a significant cost, given that the selection system also gives weight to competing considerations of education and youth. Persons with more work experience at the time of application to Canadian immigration inevitably are, other things being equal, either older or left school to work at an earlier age. Citizenship and Immigration Canada officials are aware of research findings that Canadian employers do not value foreign work experience; their continued inclusion of this item in the selection system represents a strong assertion of their own belief that foreign experience measures significantly positive productive potential.[6]

Finding No. 3. Immigrants from some origins groups earn less than immigrants from other origins. It is a consistent finding from all labour force studies of immigrant earnings that there are wide variations in earnings among immigrant origins groups, after taking account of human capital and other personal characteristics that can be measured in the census. In general, immigrant men from origins groups outside Europe—Blacks from Africa and the Caribbean, plus Chinese, South Asians, Filipinos, and other Asians—earn anywhere between 15 and 25% less than most of the European origins groups earn. As well, some European groups, such as for example Greeks, earn significantly less than others. There are also origins-group differences for immigrant women, but they exist in the context of the lower overall earnings of women and are much less than the group differences for men. These origins-group differences in earnings exist both for the high-skilled and low-skilled immigrants. They cut across groups at all levels of education and work experience.

These patterns are reflected for 1996 census data in Table 1. Among immigrant men, the earnings coefficients show a deficit for all non-European groups: Blacks ($6,746), Chinese ($6,017), South Asians ($4,833), Filipinos ($8,740), and Other Non-European origins ($4,030). Among immigrant women, the disadvantages related specifically to origins are much less in dollar terms, and are significant only for South Asians, Filipinos, and others, but not for Blacks or Chinese.

In each of the disadvantaged groups, a small part of the earnings deficit, about 3 to 5% of the overall disadvantage of 15 to 25%, is related to lower access to high-skilled occupational categories such as senior manager, professional, and so on. The rest arises from earnings differences within categories at all skill levels. This suggests that the origins-group earnings deficits which reflect skill underutilization are at most 3 to 5%, with the remainder reflecting lower pay for persons doing the same or similar types of jobs. Of course, some of the earnings differences within categories also may well be related to variations in skill levels of work within those categories, and to this extent they should also be considered potentially to represent skill underutilization.

This finding is similar to what is seen by comparing the earnings coefficients for minority origins in Tables 1 and 2. Among Black men, for example, the overall deficit of $6,746 is reduced to $5,184 after taking account of access to occupations. Hence about 77% of the overall deficit is related to pay inequities within occupations, and 23% to differences in access to occupations.

Foreign schooling in specific areas of the world has been considered as an element in overall origins-group differences, just as it was considered in the earlier discussion of the general earnings premium for education. Attention has focused on comparisons of racial minority immigrants who completed their education in Canada (Economic Council of Canada, 1991), and on racial minority persons born in Canada (Hum & Simpson, 1999). These studies suggest that at least some part of the earnings disadvantages of non-European origins groups are related to foreign rather than Canadian education, though because of statistical problems they remain inconclusive regarding its size (the Economic Council study was based on 1986 census data, see Reitz, 1993; the Hum & Simpson data are relatively small samples from the Survey of Labour and Income Dynamics). If foreign education explains part of the earnings disadvantages of specific groups of immigrants, it means that Canadian employers treat schooling in certain countries of origin, mostly in Asia, Africa, the Caribbean, and Latin America, differently from the way they treat schooling in other countries of origin, mostly European.

The 1996 census micro-data may be a better source of data on the relative earnings of Canadians of racial minority origins educated in Canada, because the sample sizes are relatively larger. These data show very significant racial disparities in earnings among the native-born, for example. In Table 1 it is clear that among men born in Canada, those from all racial minority origins earn significantly less, net of all measured human capital. In the case of some groups, such as Blacks, this disadvantage is about the same as is observed for immigrants. In the case of others, such as Chinese and South Asians, the disadvantage among the native-born is not as large as it is among the immigrants, though it is substantial and significant. Overall, the disadvantage for racial minorities born in Canada is only somewhat less than what is observed for racial minority immigrants.

Hence on the basis of these data it is difficult to conclude that more than a small portion of the net disadvantage of foreign-born racial minorities is attributable to lower quality education in their specific areas of origin outside Europe. This makes sense, in that it would be difficult to argue that educational institutions in virtually all areas outside Europe and at all levels are in general inferior to those in Canada. Today, economic development in many areas outside Europe, particularly in parts of Asia, has advanced to the point that professional standards in key fields seem quite high. In at least some of these places one might assume that professional standards are at least comparable to what exists

in Canada. And yet over time the degree of earnings disadvantages for immigrants from those areas has changed very little.

It seems striking that race seems to be a more reliable predictor of how foreign education will be evaluated in Canada than the specific location of the origin immigrant from outside Europe. Perhaps more detailed census analysis might clarify this issue. In any case, if educational institutions in all these locations of origin are not systematically inferior to those in Canada, and if immigrants with those qualifications are denied jobs in the fields in which they were trained, then the resulting earnings disadvantages would represent the impact of skills underutilization.

The Magnitude of Immigrant Skill Underutilization.[7]

Earnings analysis provides a metric for estimating the aggregate economic impact of various determinants in quantitative terms. We may estimate the amount of earnings immigrants would have if they received premiums for their education and work experience at the same rate as for the native-born, and if they experienced no disadvantages related to origins. This can be done by substituting immigrant characteristics into the earnings equations for the native-born, and by eliminating the origins terms.[8] Results may then be summed across the population, using prescribed weights.[9] Based on this procedure, if immigrants earnings profiles matched those of the native-born of European origin, then for men the estimated annual earnings would increase $47.9 billion to $58.1 billion,[10] or 21%. For women, estimated annual earnings would increase from $26.1 billion to $30.9 billion, or 18.4%. Overall, if immigrants received full compensation for their years of education and work experience, and with no discounting based on origins, their annual earnings would increase by $15.0 billion and would be about 20% higher than they were in 1996.[11]

This estimate may be decomposed into components based on skill quality, skill utilization, and equal pay. First setting aside the issue of immigrant skill quality (i.e., assuming it to be comparable to native-born), we can consider the decomposition into skill utilization and pay equity components. When these proportions are applied to the total cost estimates, the results, shown in Table 3, suggest that the immigrant earnings deficits due to pay inequity is $12.6 billion annually, and the component due to skill underutilization amounts to $2.4 billion annually.

The relative size of the skill underutilization component, compared to the pay-equity component, is affected by the broadness of the occupational skill categories used in the analysis. Some of what appears

Table 3
Estimated decomposition of immigrant annual earnings deficits into components based on skill under-utilization and pay inequity (billion $).

Gender and Basis for Earnings Deficit	(1) Total Immigrant Annual Earnings Deficit	(2) Deficit due to pay inequity within occupations	(3) Deficit due to working in less-skilled occupations	(4) Human capital quality/ relevance discount	(5) Net Immigrant Earnings Deficit	(6) Net Deficit due to skill under-utilization
Men						
Different Earnings Determinants	6.1	5.4	0.7	?? 30%	?? 4.3	?? 0.5
Minority origins	4.1	4.0	0.1	?? 10%	?? 3.7	?? 0.1
Total	10.2	9.4	0.8		?? 8.0	?? 0.6
Women						
Different Earnings Determinants	3.7	2.2	1.5	?? 30%	?? 2.6	?? 1.0
Minority origins	1.1	1.0	0.1	?? 0%	?? 1.1	?? 0.0
Total	4.8	3.2	1.5		?? 3.7	?? 1.0
Men and Women, Total						
Different Earnings Determinants	9.8	7.6	2.2		?? 6.9	?? 1.6
Minority origins	5.2	5.0	0.2		?? 4.8	?? 0.1
Total	15.0	12.6	2.4		?? 11.7	?? 1.6

Source: Figures based on 1996 census estimates, Tables 1, 2.

(1) Additional earnings of immigrants assuming the native-born coefficients, and assuming no effect of minority origins, weighted by population represented, based on Table 1.
(2) Analysis similar to column (1), where earnings effects are estimated with occupational skill level in the equation, based on Table 2.
(3) Column (1) minus Column (2).
(4) Discounts for possibly lower quality or Canadian relevance of human capital associated with sources of earnings deficits are "guesstimates" based on considerations discussed in the text, and are included for purposes of illustration. See text.
(5) Proportions in column (4) applied to column (1).
(6) Proportion of column (5) based on the ratio of column (3) to column (1).

here as pay inequity within occupations would, with the use of more refined occupational categories, likely appear as unequal access to occupations. In this case, the estimate of the skill underutilization component would increase.

If immigrant human capital is of lower quality than Canadian education, or is of less relevance to the Canadian workplace, then both components would be reduced proportionately. As discussed earlier, there is little evidence which can be used to assess such matters with confidence. However we may use considerations discussed above to develop a "guesstimate." Let us take at face value the Canadian employers' preference for immigrants who completed their education in Canada, and agree that foreign education should be discounted. At the same time we may suggest a maximum discount, perhaps no more than 40 to 50%, because of other factors that affect the discounting of immigrant education. Regarding immigrant work experience, we may accept that Canadian employers attach less value to foreign work experience. Foreign experience represents about 40% of total work experience for the typical immigrant in Canada (according to Reitz & Sklar, 1997). If this foreign experience is discounted by 50%, then the total discount for immigrant work experience may be estimated at 50% of 40%, or 20%. Overall, the value of immigrant characteristics (apart from origins) may be plausibly discounted by perhaps 30%. Finally, the data suggest only slightly lower human capital quality for racial minority immigrants based solely on non-European origins, because native-born persons from non-European origins have Canadian education and work experience, and yet experience only slightly better labour market outcomes. This discount is set at 10% for men, and zero for women.

When these assumptions are applied to estimate for immigrant earnings deficits in Table 3, it is found that the total earnings lost across the immigrant workforce would be reduced from $15.0 billion annually to about $11.7 billion annually, and the deficit due to skill underutilization would be reduced from $2.4 billion annually to $1.6 billion annually.

Regarding the true quality and relevance of immigrant education, there is much work to be done in terms of research. If it strains credibility that immigrant university education has only half the value of Canadian, say, or that an education acquired in Asia is always an additional 20% worse across the board, the task of incorporating credible evidence into the human capital equations remains for the future. In this task, consideration should be given to the possibility that immigrant human

capital includes quite distinctive qualities such as knowledge of foreign languages and markets not fully accessed by Canadian business.

Despite the ambiguities, given the sheer size of the overall immigrant earnings disadvantages related to education, experience, and origins, and given the substantial nature of the component related to access to skilled occupations, it seems implausible to dismiss entirely the significance of immigrant skill underutilization in Canada. Clearly its potentially economic impact is large, worthy of further study and policy development. Whether immigrant skill underutilization costs $2.4 billion as estimated, or a somewhat different figure based on a refined occupational analysis or new information on immigrant skill quality, it is clearly a multi-billion dollar issue. Immigrant skill underutilization on this scale suggests that immigrants may be unlikely to fully compensate for significant losses associated with a brain drain to the US.

Causes and Policy Responses

Why are immigrant skills underutilized? What can or should be done to alleviate the problem? Many reasons have been offered to account for the occurrence and persistence of employment discrimination despite market pressures—deeply ingrained prejudices, ignorance, social conformity, and established bureaucratic practice are some of these. In the case of the underutilization of skills and work experience acquired abroad, there is the additional factor that the information for assessing the relevance to Canadian workplaces may be simply unavailable. It would hardly be surprising if Canadian employers found difficulty evaluating foreign educational credentials and work experience. Today's workplace is more complex than ever before, and the "global workforce" represents a relatively new challenge. It is far from a trivial matter to be able to understand the relevance of a great variety of foreign work experiences and personal work histories in Canada, to assess whether immigrants know "the ropes" of today's complex market place and the business practices and unwritten codes that take time for newcomers to learn, or to know how to help immigrants apply their own previous experience. The problem of gaining Canadian certification for foreign professionals involves many of these same challenges.

To illustrate these difficulties, one might point toward Canadian universities in their approach to foreign educational credentials. Foreign applicants to Canadian graduate programs present undergraduate

credentials from around the world. The capacity of these Canadian graduate programs to evaluate many of the degrees from Asian, African, and Latin American universities is actually quite poor. Few within Canadian universities know more than a few of these foreign universities well, and programs are forced to rely on ratings systems which are quite crude, distinguishing often only between "a" and "b" class universities. If universities who specialize in credentials have problems, it is not hard to imagine that employers would also have problems. Universities might be justified in being credential-conservative—tending toward negative decisions in the absence of definite knowledge, in order to protect academic standards. But the consequences of a wrong decision are not great. After all, university programs with foreign applicants are considering students essentially as customers, not as employees. It is employers who have more to lose from hiring a foreign worker who turns out to be unproductive.

In addition to ignorance and the desire to avoid making costly mistakes (or in organizations the desire to avoid being blamed for making mistakes, which may be more consequential for individuals), discounting foreign qualifications also may be linked to cultural or racial biases that definitely exist in Canada. Such biases also may reinforce a tendency to dismiss the issue of credential recognition.

Among the proposals to address the problem, some suggest the use of public or private service agencies which would evaluate immigrant qualifications and interpret them for employers. Such services have yet to be evaluated, and in this evaluation a major concern is the credibility they would have with employers. Immigrants using the services in large numbers would reflect their own urgency to solve the problem, but if the services provide certifications which themselves have little clout in the job market, there will be little impact on skill utilization. Mentorship of new immigrants also has been suggested (Silkowska-Masior & Szajkowski, 1998).

In the end, what is needed is a better mutual "orientation" for immigrants and for their potential employers. In the contemporary workplace, employers already invest of lot of resources in recruitment and orientation for new employees. When the prospective new employees are immigrants, the necessary orientation on both sides is likely to be more complex, because immigrants bring more diverse backgrounds and experiences. There is a role here not only for employers but also for remedial educational institutions, professional and employee associations, and for the federal immigration program itself. The goal

would be to ensure that when immigrants present their background and qualifications, employers can understand them and readily relate them to the requirements of the job at hand. Helping Canadian employers deal with the real and very practical problems of using the new global workforce could be a low-cost way of dramatically improving returns from our investment in immigration.

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Notes

1 Further analysis of the census itself may be useful. For example, the census measures each person's field of study, and this measure may be used to improve the measurement of the quality or an immigrant's education, or its relevance to the Canadian workplace. Such innovations are beyond the scope of the present discussion, however.

2 Work experience is measured as the potential time available for work after the completion of schooling, using the formula: age minus years of education minus 5 (the year that education is assumed to begin). Using potential time available for work as a measure of work experience ignores work interruptions, and hence affects women more than men.

3 The lowest skill level category is omitted, so the effects of the other categories should be interpreted in relation to the omitted category.

4 In similar earnings analyses, the earnings variable is sometimes presented in logarithmic form, with coefficients interpreted as reflecting proportional effects on earnings. Such a procedure can be misleading in the comparison of groups with differing mean earnings, as explained by Hodson (1986). Here, earnings are unlogged, and where appropriate proportional effects are calculated from the results, following the suggestion of Tienda and Lii (1987).

5 In census analysis, the apportioning of work experience between Canada and the country of origin is based on age at immigration. Approximations are necessary because of imprecision in the measure of age at immigration.

6 Selecting immigrants based on foreign work experience may be justified on the grounds that, even if the foreign experience itself is not useful in Canada, its existence validates the value of the applicant's foreign educational credentials. Again, however, if this validation reflected human capital qualities recognized by Canadian employers, then the effect of these qualities would appear in the human capital analyses as higher earnings premiums for foreign work experience. No such effects appear.

7 The calculations in this section are corrected from an earlier draft, based on comments by Dan Hiebert and from Richard Wanner. I am grateful for the advice of these colleagues.

8 The native-born/immigrant differences in coefficients for characteristics such as urban area of residence are assumed to reflect differences in returns to human capital, just as are the differences in coefficients for explicit human capital attributes such as education and experience.

9 The estimates are based on individual earnings figures, multiplied across the entire sample, and then used to project population figures based on the micro-data weighting factor of 36.0.

10 These and subsequent figures reflect 1995 dollar values, of course, and may be adjusted for inflation (about 9% to 2000).

11 These numbers represent the size of the problem. A reallocation of earnings to eliminate the earnings disadvantage of immigrants would have a substantial labour market effect, of course, altering wage rates in many occupations.

References

Abbott, M.G., & C. M Beach. (1993). Immigrant Earnings Differentials and Cohort Effects in Canada. *Canadian Journal of Economics* (1993) 505-524.

Abella, R.S. *(1984). Equality in Employment: a Royal Commission Report.* Ottawa: Supply and Services.

Abt Associates of Canada. (1987). *Access to Trades and Professions in Ontario: Project Report.* Prepared for Cabinet Committee on Race Relations. Toronto, Ontario: Abt Associates of Canada.

Alberta. (1992). *Bridging the Gap: A Report of the Task Force on the Recognition of Foreign Qualifications: Summary Report.* Edmonton: The Task Force.

Arnopoulos, S. McL. (1979). *Problems of Immigrant Women in the Canadian Labour Force.* Ottawa: Canadian Council on the Status of Women, January.

Baker, M. Benjamin, D. (1997). Ethnicity, Foreign Birth and Earnings: A Canada/U.S. Comparison. In M. G. Abbott, C. M. Beach, & R. P. Chaykowski, *Transition and Structural Change in the North American Labour Market,* (pp. 281-313). Kingston, ON: John Deutsch Institute and Industrial Relations Centre, Queen's University.

Bloom, D., G. Grenier, & M. Gunderson. (1995). The Changing Labour Market Position of Canadian Immigrants. *Canadian Journal of Economics* 28,4b:987-1005.

Breton, R., W.W. Isajiw, W.E. Kalbach, & J. G. Reitz. (1990). *Ethnic Identity and Equality: Varieties of Experience in a Canadian City.* Toronto: University of Toronto Press.

Borjas, G.J. (1999). *Heaven's Door: Immigration Policy and the American Economy.* Princeton, NJ: Princeton University Press.

Brouwer, A. (1999). *Immigrants Need Not Apply.* Ottawa: The Caledon Institute of Social Policy.

Bowen, L. (1989). Speech by the Deputy Prime Minister at the launch of the National Advisory Committee on Skills Recognition. Sydney, November 3.

Boyd, M. (1992). Gender, Visible Minority and Immigrant Earnings Inequality: Reassessing an Employment Equity Premise. In V. Satzewich (ed.), *Deconstructing a Nation: Immigration, Multiculturalism and Racism in the 1990s Canada,* (pp. 279-321). Toronto: Garamond Press.

Canada. House of Commons. (1984). *Equality Now.* Report of the Special Committee on Visible Minorities in Canadian Society. Hull, Quebec: Minister of Supply and Services.

Canada, Joint Working Group on Graduates of Foreign Medical Schools. (1987). Report to the Federal/Provincial Advisory Committee on Health Human Resources. Ottawa: Secretariat of the Federal/Provincial Advisory Committee on Health Human Resources.

Castles, S., C. Mitchell, M. Morrissey, & C. Alcorso. (1989). *The Recognition of Overseas Trade Qualifications.* Canberra: Australian Government Publishing Service.

Christofides, L.N., & R. Swidinsky. (1994). Wage Determination by Gender and Visible Minority Status: Evidence from the 1989 LMAS. *Canadian Public Policy* 22,1:34-51.

Conger, S. (1994). *The Assessment and Recognition of the Occupational Qualifications of Foreign-trained Workers.* Ottawa: Heritage Canada.

Conger, S., & L. Bezanson. (1996). Review of Credential Assessment Services in Canada. Report prepared for the Departments of Canadian Heritage, Citizenship and Immigration, and Human Resources Development. Ottawa: The Canadian Guidance and Counselling Foundation.

Cumming, P.A., Lee, E.L.D., & Oreopoulos, D.G. (1989). *Access! Task Force on Access to Professional and Trades in Ontario. Toronto.* Ontario: Ministry of Citizenship.

Dawkins, J.S. (1989). *Migrant Skills: Improving Recognition Processes.* Canberra: Minister of Employment, Education and Training, Australian Government Publishing Service.

DeVoretz, D.J., (ed). (1995). *Diminishing Returns: the Economics of Canada's Recent Immigration Policy.* Toronto, Ontario: C.D. Howe Institute.

Dougherty, C. (1999). New Entrants to the Labour Market: A Comparison of the Labour Market Performance of Immigrants Landed in the 1980s and 1990s. Presentation at the 4th International Metropolis conference, Dec. 7-11, 1999.

Drew, D., T. S. Murray, & J. Zhao. (2000). Brain drain and brain gain: the migration of knowledge workers from and to Canada. Statistics Canada, Education Quarterly Review, 81-003-XPB, vol.6 no.03.

Economic Council of Canada. (1991). *Economic and Social Impacts of Immigration.* Ottawa: Supply and Services Canada.

Fry, R. G. (1989). *Recognition of Overseas Qualifications.* Sydney: Report of the New South Wales Committee of Inquiry.

Goldberg, M. (2000). *The Facts are In! Newcomers' Experiences in Accessin Regulated Professions in Ontario.* Ontario Ministry of Training, Colleges and Universities, Access to Professions and Trades Unit.

Globe and Mail. (1996a). Skilled immigrants meet job barriers: more trained people than ever are coming in but bureaucrats are not ready to handle them. November 19, p.A1, A6.

Globe and Mail. (1996b). Dentists alarmed by paradental surge: foreign trained professionals unable to get licenses in Ontario launch own practices. November 19, p.A6.

Globe and Mail. (1996c). Screening of foreign doctors criticized. December 16, p.A8.

Grant, M. L. (1999). Evidence of new immigrant assimilation in Canada. *Canadian Journal of Economics/Revue Canadienne d'Economique,* 32, 4: 930-55.

Green, D. A. (1995). Intended and Actual Occupations of Immigrants. In D.J. DeVoretz, (ed.), *Diminishing Returns: The Economics of Canada's Recent Immigration Policy* (pp. 331-378). Toronto, Ontario: C.D. Howe Institute.

Henry, F., & E. Ginsberg. (1985). *Who Gets the Work? A Test of Racial Discrimination in Employment.* Toronto: The Urban Alliance on Race Relations and The Social Planning Council of Metropolitan Toronto.

Hodson, R. (1986). Modeling the Effects of Industrial Structure on Wages and Benefits. *Work and Occupations,* 13,4: 488-510.

Hum, D., & W. Simpson. (1999). Wage Opportunities for Visible Minorities in Canada *Canadian Public Policy 25,3*: 379-394.

Iredale, R. (1988a). The Recognition of Overseas Qualifications and Skills. Canberra: Policy Option Paper commissioned by the Office of Multicultural Affairs.

Iredale, R. (1988b). *Wasted Skills: Barriers to Migrant Entry to Occupations in Australia.* Sydney: Ethnic Affairs Commission of New South Wales.

Langlois, C. and C. Dougherty. (1997). *The Longitudinal Immigration Data Base (IMBD).* Strategic Policy, Planning and Research, Citizenship and Immigration Canada.

Li, P. S. (1988). *Ethnic Inequality in a Class Society.* Toronto: Wall and Thompson.

Li, P. S. (1992). Race and Gender as Bases of Class Fractions and their Effects on Earnings, *Canadian Review of Sociology and Anthropology,* 29: 488-510.

Manibota, Working Group on Immigrant Credentials. (1992). *Issues, Trends and Options: Mechanisms for the Accreditation of Foreign Credentials in Manitoba.* Winnipeg: Department of Culture, Heritage and Citizenship.

Mata, F. (1994). *The non-accreditation of immigrant professionals in Canada: Societal Impacts, barriers and present policy initiatives.* Ottawa: Citizenship, and Immigration in Canada.

McDade, K. (1988). *Barriers to Recognition of the Credentials of Immigrants in Canada.* Ottawa, Ontario: Studies in Social Policy. Institute For Research on Public Policy.

Mitchell, C., D. Tait, & S. Castles. (1989). *The Recognition of Overseas Professional Qualifications.* Centre for Multicultural Studies, University of Wollongong.

Ornstein, M. D., & R. D. Sharma. (1983). *Adjustment and Economic Experience of Immigrants in Canada: An Analysis of the 1976 Longitudinal Survey of Immigrants.* A Report to Employment and Immigration Canada. Toronto: York University.

Pendakur, K., & R. Pendakur. 1998. The colour of money: earnings differentials among ethnic groups in Canada, *Canadian Journal of Economics* 31,3: 518-48.

Price Waterhouse. (1993). Occupational Standards and Certification. (Overview: Issues and Trends, and Report 4). Report prepared for Employment and Immigration Canada.

Price Waterhouse. (1998). *Foreign Academic Credential Assessment Services Business Assessment,* Final Report.

Reitz, J. G. (1993). Statistics on racial discrimination in Canada, *Policy Options* 14,2: 32-36.

Reitz, J. G. (1998a). Measuring Down. In C. Davies (ed.), *Post 2000: Business Wisdom for the Next Century* (pp. 157-163). Toronto: Key Porter Books,

Reitz, J. G. (1998b). *Warmth of the Welcome: the Social Causes of Economic Success for Immigrants in Different Nations and Cities.* Boulder, CO: Westview Press.

Reitz, J. G. (1999a). Immigrant Success in the Knowledge Economy: Institutional Change and the Immigrant Experience in Canada, 1970-1995. Paper presented at the International Metropolis Conference, Washington D.C.

Reitz, J. G., J. R. Frick, T. Calabrese, & G. G. Wagner. (1999b). The Institutional Framework of Ethnic Employment Disadvantage: A Comparison of Germany and Canada, *Journal of Ethnic and Migration Studies* 25,3 : 397-443.

Reitz, J. G. (2001). Immigrant Success in the Knowledge Economy: Institutional Change and the Immigrant Experience in Canada, 1970-1995, *Journal of Social Issues, 37,3:* 579-613; issue on Immigrants and Integration, edited by V.M. Esses, J.F. Dovidio, and K.L. Dion.

Reitz, J. G., & R. Breton. (1994). *The Illusion of Difference: Realities of Ethnicity in Canada and the United States.* Toronto: C.D. Howe Institute.

Reitz, J. G., & S. Sklar. (1997). Culture, Race, and the Economic Assimilation of Immigrants. *Sociological Forum* 12,2: 233-77.

Silkowska-Masior, B., & T. Szajkowski. (1998). *Mentorship Program for New Canadians.* Ottawa: Caledon Institute of Social Policy.

Skills for Change. (1995). *Identifying opportunities and overcoming barriers to employment for foreign-trained engineers in Ontario.* Toronto: Skills for Change.

Stasiulis, D. K. (1990). *Multiculturalism and the economic agenda in Australia: adult ESL, overseas skills recognition and anti-racist strategies.* Ottawa: Multiculturalism and Citizenship. Multiculturalism Sector, Policy and Research.

Thompson, E. N. (2000). Immigrant Occupational Skill Outcomes and the Role of Region Specific Human Capital, Unpublished ms., Human Resources Dev. Canada.

Tienda, M., & D.-T. Lii. (1987). Minority Concentration and Earnings Inequality: Blacks, Hispanics, and Asians Compared. *American Journal of Sociology* 93,1:141-165.

Toronto Star. (1995). Degrees don't mean jobs for Third World professionals. June 17, p.A2.

Training and Development Associates. (1999). *Reaching Our Full Potential: Prior Learning Assessment and Recognition for Foreign-trained Canadians.* Ottawa: Canadian labour Force Development Board.

Watt, D., & M. Bloom. (2001). *Exploring the Learning Recognition Gap in Canada. Phase 1 Report. Recognizing Learning: The Economic Cost of Not Recognizing Learning and Learning Credentials in Canada.* Ottawa: Conference Board of Canada.

Winnipeg Free Press. (1995a). Hard times in new world: Immigrant professionals struggle for new jobs. January 14, P. A1.

Winnipeg Free Press. (1995b). A great waste of potential: many immigrant professionals forced to subsist on low-wage jobs, welfare. January 14, p. A14.