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## **CANADIAN 'EXPERIMENTS' IN DIVERSITY: THE CASE OF IMMIGRANTS WITH ENGINEERING BACKGROUNDS WHO SETTLE IN ONTARIO**

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Canadian ‘Experiments’ in Diversity: The Case of Immigrants  
with Engineering Backgrounds Settling in Ontario

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**ABSTRACT**

Canadian immigration is unique in the world as a major ‘experiment’ in accommodating and integrating diversity based on economic and humanitarian imperatives. The uniqueness lies in Canada’s long-standing need to attract large numbers of increasingly diverse immigrants having different credentials, experience, and backgrounds to compete in the global market on the one hand, and a commitment to persons displaced by calamities on the other. The underutilization of skilled economic immigrants in the regulated professions has emerged as a significant issue in Canada. This paper presents a systematic, integrated, and strategic analysis (SISA) of this ‘experiment’ in diversity as it affects immigrants with professional backgrounds, especially in engineering. Using a community-based participatory action research approach focused on the case of immigrants with engineering backgrounds, a dynamic model of the contextual history of institutional, economic, regulatory and policy developments involved in this ‘experiment’ is presented. An analysis of this model is used as a tool for understanding the issues, constraints, and opportunities that influence immigrant access to the Profession of Engineering in Ontario. The conclusions of this analysis lead to the understanding that immigrants have come in waves that can be categorized as four clusters, the access to employment of each of which has been affected by developments in the preceding clusters.

**KEY WORDS:** Skilled workers, immigration, engineering, development, regulation, multiculturalism, contextual history, access to employment

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## INTRODUCTION AND BACKGROUND

As noted on the Canadian Heritage website:

Canada's experience with diversity distinguishes it from most other countries. Our 30 million inhabitants reflect a cultural, ethnic and linguistic makeup found nowhere else on earth. Approximately 200,000 immigrants a year from all parts of the globe continue to choose Canada, drawn by its quality of life and its reputation as an open, peaceful and caring society that welcomes newcomers and values diversity (Canadian Heritage 2004a).

Consequently, Canada holds the world in its backyard.

Between 1991 and 1996, the Canadian labour force grew by 608,000 individuals, of whom 431,000 were immigrants. As a result of demographic shifts, immigrants are expected to account for all net labour force growth by 2011, and for all net population growth by 2031 (Denton, Feaver, and Spenser 1999). According to Shields, foreign migrants to Canada enjoyed a considerable record of successful integration into the labour market until the 1980s when this record began to reverse (Shields 2003).<sup>1</sup> Since that time, immigrant earnings have fallen below those of the native-born population, while unemployment, underemployment, and poverty levels in this group have increased. This decline has happened in spite of the fact that immigrant English- and/or French-language skills upon arrival have been improving over time, and their education levels now exceed those of the native-born population.

As shown in Figure 1, immigrants have contributed significantly to recent population growth in Ontario, and this is expected to continue. It has been forecast that between 2001 and 2011 net migration will add more than one million people to the population of Ontario and account for 73 per cent of total population growth. Over the full projection period from 2001 to 2028, net migration will account for 75 per cent of total population growth and add 2.8 million people to Ontario's population. For this period, net international migration is expected to be the most important

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<sup>1</sup> According to Harvey and Reil (2000), "based on 1991 and 1996 Census data, this analysis of immigrants reveals a direct relationship between race and recency of immigration and the socioeconomic status of immigrants on a national level. Our analysis covers a period of 35 years of immigrant experiences and it demonstrates the persistence of high unemployment, low employment incomes and serious poverty for a core of ethno-cultural groups, mainly of visible minority backgrounds. The results of a comparison of immigrant experiences in Canada, Ontario and the Toronto CMA further reinforces this picture of the deteriorating status of visible minority immigrants during the 5 year period between 1991 and 1996 (in all three geographies). In 1991, visible minority immigrants experienced a higher unemployment rate, lower average employment income and higher poverty level than their non-visible minority counterparts. Five years later, their socioeconomic status was worse. Between 1991 and 1996, visible minority immigrants clearly experienced a lower rate of recovery from unemployment, a further lowering of their employment incomes, and an increase in their rate of poverty."

contributor to net migration (Ministry of Finance 2002). Based on figures reported by the Ministry of Training, Colleges and Universities, Lindy Walsh has concluded that:

- 60 per cent of all immigrants who come to Canada live in Ontario;
- Ontario receives over 100,000 immigrants from up to 180 countries each year;
- the unemployment rate of internationally educated professionals is over 300 per cent higher than for other people in Ontario;
- 47 per cent of employed immigrants work in jobs unrelated to their fields;
- 60 per cent of foreign-educated professionals take jobs not related to their training when they first came to Canada, and many hold the same job three years later; and
- less than 25 per cent of those who were actually employed were working in the field for which they had been educated.

Walsh also developed the immigrant profile contained in Table 1. According to this, immigrants with backgrounds in engineering, along with engineering technicians and technologists, make up 75 per cent of all skilled immigrants coming to Ontario (Walsh 2004).

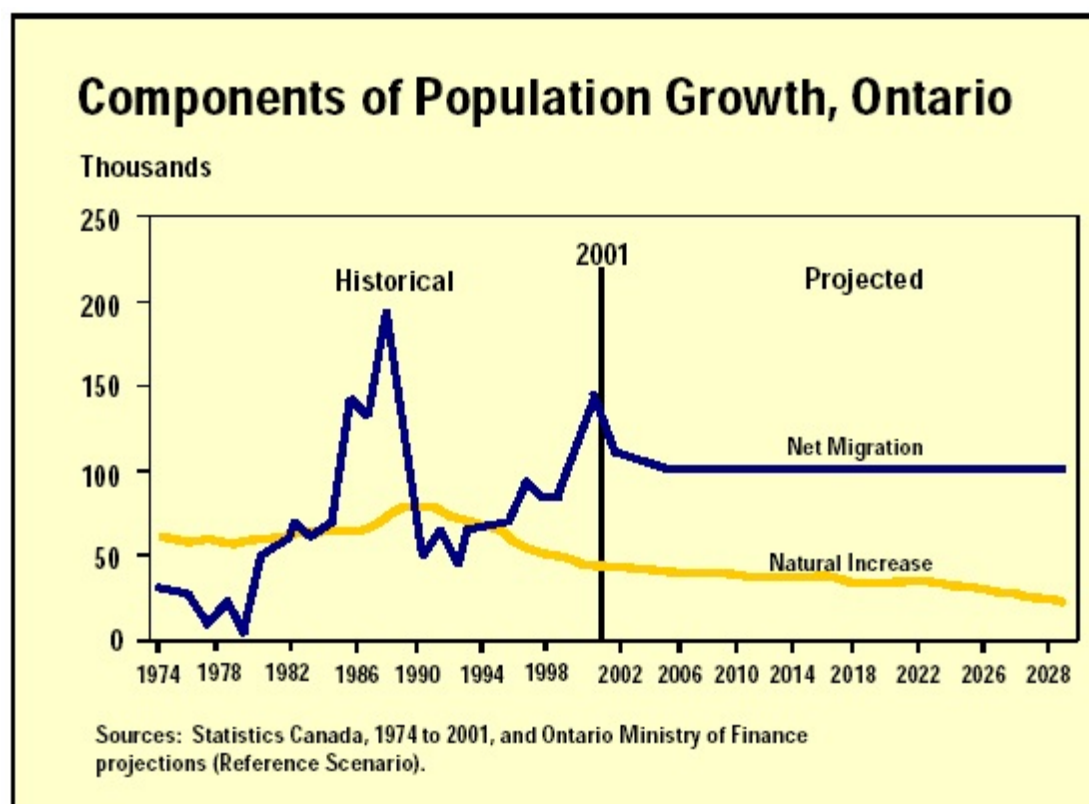
<b>Table 1: Breakdown of All Skilled Immigrants in Ontario</b>	
<b>Occupational Group</b>	<b>Proportion of Immigrant Cohort</b>
Engineers	60%
Engineering Technicians/Technologists	15%
Accountants	10%
Healthcare Providers	9%
Teachers	2%

## **IMMIGRANTS WITH ENGINEERING BACKGROUNDS (IEBs)**

Recent trends show that increased inflows of skilled-worker principal applicants arrive with the intention to find work in engineering and science occupations. Within the natural and applied science occupations, engineers stand out as the largest incoming cohort with over 12,000 skilled worker principal applicants in 2000 (see Appendix 1). Included in this occupational group are specialists in electronics and electrical, mechanical, civil, computer, and chemical engineering. As shown in Figure 2, the majority of recent IEBs have originated from Asia, with smaller but

significant numbers also arriving from Eastern Europe. China accounted for 39 per cent of the IEBs identified in this occupational grouping in 2000, a share which has risen significantly during the late-1990s. Compared to skilled worker principal applicants as a whole, the percentage of IEBs destined for Ontario in 2000 (72 per cent) is significantly greater than that for the total (59 per cent). Other regions that receive relatively high proportions of skilled-worker principal-applicant IEBs include British Columbia (17 per cent) and Alberta (7 per cent). Engineering is a heavily male-dominated profession: 86 per cent of the IEBs who landed in 2000 were male. By age, and irrespective of gender, immigrants in their prime working years (25-44 years) represent the largest group of IEBs (Citizenship and Immigration Canada 2003).

**Figure 1**





## **LITERATURE REVIEW**

The preliminary literature review revealed that most of the evidence on the employment situation of immigrants with engineering or other professional backgrounds was anecdotal and needed further investigation, data collection, and assessment in order to develop a factual basis for the present analysis. In addition, it is evident that the existing raw-data collection pools lack coordination; so, for example, if one organization has evaluated an applicant's credentials for immigration purposes, another organization may hold the information about the applicant's arrival, and a third has partial information about where this individual settles, while the licensing body only has information on the total pool of IEBs who apply for a license. Obviously these lacunae present problems in the coordination of information necessary for understanding the needs of IEBs.

For this research therefore, IEBs, as well as stakeholders concerned with integrating IEBs into the Ontario engineering workforce, had to be identified and a methodology developed to collect information about the situation and issues facing IEBs in Ontario. Taking a structured, action-based and participatory methodology, the systematic, integrated and strategic approach (SISA) developed by the author (Bambrah 1989; Bambrah 1998) over the last 15 years was adopted. This included:

- a situation analysis and background research to understand and identify on-going initiatives, stakeholders, issues, constraints, and opportunities to create an understanding of the situation of IEBs;
- community participation and stakeholder collaboration and consultation;
- partnership and coalition building;
- enhancing advisory and decision-support mechanisms; and
- strategic action planning.

## **ON-GOING PROJECTS**

### **From Consideration to Integration**

A national survey carried out by the Canadian Council of Professional Engineers (CCPE), in 2002, found that 12 per cent of Canada's professional engineers received their education in other countries. This survey also showed that the process from when an immigrant with an engineering background (IEB) first considers immigrating to Canada until she or he is integrated into the

engineering workforce is not necessarily smooth. Furthermore, according to the latest analysis of the skilled-worker principal applicants who identified an intended occupation, 44 per cent were pursuing work in a regulated occupation in Canada. Of those, 66 per cent indicated engineering as their intended occupation. Subsequently, at a meeting in Halifax in October of 2002 representatives of the engineering profession's regulatory bodies unanimously agreed to work together to facilitate the integration of "international engineering graduates" (IEGs) by ensuring they could obtain their professional license more efficiently, without compromising either admission standards or public safety. This resulted in the emergence of "From Consideration to Integration," a partnership between CCPE and Human Resources Development Canada (CCPE 2005).

According to the overview of this project, it is closely linked to the Government of Canada's Innovation Strategy. Moreover, the engineering profession has strongly endorsed, and is part of, an effort by the federal government to attract, develop, and maintain a world-class labour force. The project recognizes the important role that IEGs can play in helping Canada remain at the forefront of innovation. "From Consideration to Integration" is a three-phase project. The first Phase was focused on understanding the IEG experience, examining provincial and territorial engineering licensing procedures, and learning from those who work with and employ IEGs. Phase II analyzed the information obtained in Phase I, and determined where the process of integration needed improvement. This resulted in seventeen recommendations relating to research, information, culture and education, licensing, and employment. In Phase III (yet to be completed), the CCPE and its partners plan on working with key stakeholders to implement the recommendations and to develop supporting communications materials (for example, fact sheets and Power Point presentations).

## **Engineering Access**

In May 2003, the Council for Access to the Profession of Engineering (CAPE) received funding to carry out a community-based action research project entitled "Engineering Access." The purpose of the project was to document the barriers being faced by both employers who wished to hire them and the immigrants with engineering backgrounds (IEBs) who were attempting to access employment in this profession in Ontario. "Engineering Access" also was established to create a multi-stakeholder roundtable to develop strategies to integrate IEBs into the engineering profession in Ontario. It also sought to increase the capacity of IEBs to collectively voice their concerns and develop workplace curricula to promote cross-cultural understanding within the engineering field in Ontario.

## **SITUATION ANALYSIS**

### **Community Associations – Focus Group Sessions**

A methodological tool had to be adopted in order to develop a new coordinated flow of information that could represent a more integrated overview of the IEB situation. The initial step was IEB outreach. Ethno-cultural associations representing IEBs presented a useful conduit for this purpose, particularly since so many of them are community-based engineering associations. A telling observation readily presented itself: membership within certain ethno-cultural groups often was clearly dichotomous in that the demographics were representative of waves of immigration (as in the pre-1967 and post-1986 periods), and there was no overlap or succession of membership. Consequently, some of the pioneer ethno-cultural associations were disappearing as a result of natural attrition (an example of this is the now-defunct Latvian engineers' association formed in the early 1950s). The immigration boom of the post-1986 period contains members of the so-called 'knowledge' generation. This has been reflected in the establishment of a fresh wave of ethno-cultural associations, some of which have emerged to deal specifically with professional affiliations.

On 15 October 2003, representatives from nine ethno-cultural associations – having an approximate membership base of six thousand IEBs and other professionals – and three coalitions of community associations advocating on behalf of IEBs were invited to a focus group. This was a tremendous response considering representatives from a total of fifteen groups with a membership of some eight thousand individuals originally had been invited to the focus group. Such a rate of response clearly indicated the need for a collective voice for IEBs to be established. The focus group had a two-fold purpose:

- a) to identify community groups serving IEBs and establish the role played by these groups in servicing IEBs, and to identify barriers faced by these groups in providing the services to IEBs and
- b) to bring together CAPE and community groups to build some degree of synergy towards the common goal of integrating IEBs into the Ontario professional workforce (CAPE 2003).

Based on the findings shown in Table 2 below, the situations facing newcomers in the pre-1967 and post-1996 periods were found to be distinctly different. The economic situation and market demand clearly affected the accreditation process. Further investigation revealed a demographic shift in race and place of origin among immigrants had indeed taken place over this period, a change reflected in the influx of IEBs in the pre-1967 and post-1986 periods (Figure 2).

## **The IEB Survey**

Subsequent to the focus group session with the representatives from the various community associations, the Council for Access to the Profession of Engineering (CAPE) surveyed 907 IEBs from across Ontario. These individuals came from 69 countries, and the sample profile conformed well to the national profile of immigrant source regions. This survey showed that:

- 56 per cent of the sample were unemployed, 28 per cent were working outside of their field of expertise, and only 16 per cent held jobs that related to engineering;
- the average number of years of professional international experience held by the sampled IEBs was 12.2 years, while nearly 50 per cent had more than 10 years of work experience, and over 10 per cent had more than 20 years of experience;
- 65 per cent of the sample held at least a Bachelors degree, 25 per cent held a Masters degree, and over 4 per cent held doctoral degrees; and
- nearly 50 per cent of the sampled IEBs had been in Canada for over two years (CAPE 2004).

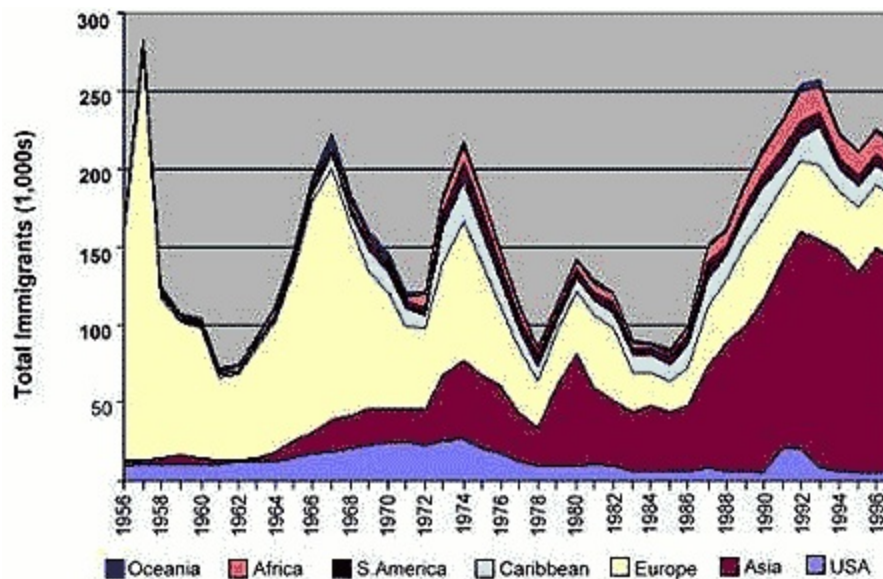
## **RESEARCH QUESTION AND APPROACH**

It was clear that a number of factors (immigration, ethnicity, culture, social and economic among others) had led to the formation of the community associations and to the emergence of newcomer employment-related, settlement-support services, and credential-assessment services. It is, however, widely felt that the employment outcomes for IEBs have been far from satisfactory for too many individuals. How, it might be asked, did these various factors combine to create the poor employment outcomes being observed for IEBs and other immigrant professionals?

Understanding the role of these factors through the lens of a contextual history which studies both the ‘design’ and the ‘context’ defining employment outcomes presented itself as a research methodology suitable for an inquiry such as this. Design here refers to the specific policy and institutional structures and the consequent issues, constraints, and opportunities that flow from them. Context includes a range of economic, social, political, and cultural factors. Such a contextual history of the immigration of IEBs is not only an intellectual challenge, and a topic of considerable interest to students of immigration, but also of great relevance for the wider public, policy-makers (in government and industry), and the engineering community as a whole.

<b>Table 2: Summary of Findings of Ethno-Cultural Associations Focus Group</b>		
<i>Criteria</i>	<i>Pre-1960</i>	<i>Post-1990</i>
Economy	Economic Boom times	Uncertain economic times and development paradigms
Language	Significant language disconnect	Partial language disconnect with some immigrants only; Middle-Eastern, East Asian and Eastern European groups
Place of origin and race	Mostly Northern and Eastern European	Mostly Asian
Religion	Mostly Judeo-Christian	Diverse – Islamic, Hindu, Buddhist, Agnostic, etc.
Skills and education	Mostly mixed technical and technician skills.  Country-of-origin experience	High-level academic and experiential skills Global experience

**Figure 2: Demographic Shift in Immigrant Origins between 1960 and 1995**



Source: Citizenship and Immigration Canada (1998).

Using this approach, the following will be investigated and analyzed to gain a better understanding of their role in defining employment outcomes for IEBs:

- multiculturalism and ethnicity (race, origin or ancestry, identity, language and religion);
- governance and institutional development;
- immigration and policy;
- socio-economic development; and
- regulation of the engineering profession.

## **MULTICULTURISM AND ETHNICITY**

Addressing the House of Commons in 1971, then-Prime Minister Pierre Trudeau explained that the Canadian government shared the view of the Royal Commission on Bilingualism and Biculturalism under Commissioners André Laurendeau and Davidson Dunton (Government of Canada 1971). This view held that there could not be one cultural policy for Canadians of British and French origin, another for the aboriginal peoples, and yet a third for all others. Although there were two official languages, there was no official culture of Canada, nor did any ethnic group take precedence over any other. No citizen or group of citizens was other than Canadian, and all should be treated fairly. Accordingly, a policy of multiculturalism within a bilingual framework commended itself to the government as the most suitable means for assuring the cultural freedom of Canadians. It was felt such a policy would help break down discriminatory attitudes and cultural jealousies. Trudeau emphasized that, in the government's view, a policy of multiculturalism within a bilingual framework was an expression of conscious support for individual freedom of choice in ethno-cultural matters.

Canada's multiculturalism policy provides for programs and services to both support ethno-cultural associations and to help individuals overcome barriers to their full participation in Canadian society (Canadian Heritage 2004b). It was introduced as a way to affirm the value and dignity of all Canadian citizens regardless of their racial or ethnic origins, their language, or their religious affiliation. The policy gained constitutional recognition in 1982 in Section 27 of the newly-adopted Canadian Charter of Rights and Freedoms. This specified that the courts were to interpret the Charter in a manner consistent with the preservation and enhancement of the multicultural heritage of Canada. By virtue of this section of the Charter, Canada became a constitutional multicultural state. When instituting this policy, Prime Minister Trudeau had stated his hope that:

...Canada will match its new legal maturity with that degree of political maturity which will allow us to make a total commitment to the Canadian ideal. I speak of a Canada where men and women of Aboriginal ancestry, of French and British heritage, of the diverse cultures of the world, demonstrate the will to share this land in peace, in justice and with mutual respect (Canadian Heritage 2004c).

## MULTICULTURALISM AND IMMIGRATION

Immigration of people into a country for the purpose of settlement has always played a central role in Canadian history. It has been an almost constant feature of the peopling of Canada throughout its history, from ancient times when the ancestors of Canada's native peoples migrated from Asia either by land, via Beringia, or by sea via the Japanese current, down to the present day, when immigrants from around the world come to this country in the thousands (Canada Immigration Visa 2003).<sup>2</sup> Before Confederation in 1867, Canada had no immigration policy. Over the next 100 years, Canadian immigration policy was developed, and has evolved into a set of rules, regulations, directives, policies, and an Act of Parliament that regulates the entry of each migrant into Canada. During the period when Canada pursued an immigration policy that had as its primary objective supplying a labour pool, first for settlement and agriculture, then to support industrialization, Canada favoured immigrants from Great Britain, the United States, and western and northern Europe. Mechanisms used in this period included laws, regulations, and racially-based quotas limiting numbers; but, by and large, Canada's economic and international humanitarian needs determined which and how many immigrants were accepted (Canada Immigration Visa 2003).

The 1950 report of the Massey-Lévesque Royal Commission on National Development in the Arts, Letters, and Sciences led Canadian governments only to respond to Canadian society's increasing willingness to accept cultural differences within the population in terms of the findings put forward that report (Cloutier 1951). It brought to the fore the need for a distinct cultural identity based on Canadian diversity in the face of growing concerns about 'permanent cultural dependence' based on and aided by American generosity.<sup>3</sup> In this context, as stated by Charlton and Baker, the

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<sup>2</sup> For example, Licensed Immigration Consulting (License No. M041221), a firm approved by the CSIC, was created under the Immigration and Refugee Protection Act to assist individuals, professionals, skilled workers, and business people to immigrate to Canada. The firm provides legal advice on a variety of issues, including how to immigrate to Canada.

<sup>3</sup> According to the Report of the Royal Commission on National Development in the Arts, Letters, and Sciences: "American influences on Canadian life to say the least are impressive. There should be no thought of interfering with the liberty of all Canadians to enjoy them. Cultural exchanges are excellent in themselves. They widen the choice of the consumer and provide stimulating competition for the producer. It cannot be denied, however, that a vast and disproportionate amount of material coming from a single alien source may stifle rather than stimulate our own creative effort; and, passively accepted without any standard of comparison, this may weaken critical faculties. We

diversity-based definition of multiculturalism proposed by Fleras and Elliot (1992) as “a set of principles, policies, and practices for accommodating diversity as a legitimate and integral component of society” gave rise to multiculturalism in Canada (Charlton and Baker 1994, 26). Based on this ideology, multiculturalism valued diversity, advocated equal treatment for those of varied backgrounds, and encouraged people to be tolerant, non-discriminatory, and respectful of others so that it was a positive resource and an opportunity for a society.

Reinforcing this, the 1960 Canadian Bill of Rights developed by Prime Minister John Diefenbaker, who was the first to hold that office without the benefit of either English or French heritage, barred discrimination by federal agencies on the grounds of race, national origin, colour, religion, or sex. Subsequently, changes to Canada’s *Immigration Act* in 1962 specifically stated that “any suitably qualified person from any part of the world could be considered for immigration to Canada, without regard to his race, colour, and national origin.” As Canada’s immigration policies gradually became less European-biased, and the mix of source countries shifted to Southern Europe, South America, Asia, Africa, and the West Indies (see Figure 2), the policy emphasis also shifted in favor of culture and race-based ideologies of multiculturalism

In 1967, Canada adopted a screening process called a points-test to ensure that potential immigrants would be judged by the same standards regardless of their country of origin. Figure 2 shows how the immigrant source countries switched from Great Britain, the United States, and Europe to non-traditional regions, such as Asia, as a consequence. In 1966, 87 per cent of Canada’s immigrants came from Europe but, during the 1980’s, only 27 per cent of Canada’s immigrants came from Europe, whereas 46 per cent came from Asia (the largest single group came from Vietnam), and 15 per cent arrived from the Caribbean and South and Central America (Baldwin 1994). In response to these changing demographic circumstances and the emergence of a greater understanding of human rights issues, provincial and federal governments in Canada established several legislative policies to recognize equity and diversity as fundamental characteristics of Canadian society. According to Leman, nation-building in the era preceding 1971 is best interpreted as a time of gradual movement toward acceptance of ethnic diversity as legitimate and integral to Canadian society, while the symbolic and cultural sense was oriented toward the replication of a British type of society which was reflected in Canada’s political, economic, and social institutions (Leman 1999).

In 1982, the Canadian Charter of Rights and Freedoms was proclaimed into law, and this was followed by passage of the Canadian Human Rights Act and the Ontario Human Rights Act (Ontario Healthy Cities Coalition 2004). With an accepted definition of multiculturalism as “the recognition of the cultural and racial diversity of Canada and the equality of Canadians of all origins,” Canadian multiculturalism became embedded in equality as opposed to opportunity (Department of the

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are now spending millions to maintain a national independence which would be nothing but an empty shell without a vigorous and distinctive cultural life. We have seen that we have its elements in our traditions and in our history; we have made important progress, often aided by American generosity. We must not be blind, however, to the very present danger of permanent dependence” (Cloutier 1951).



Secretary of State 1987). Analysts generally agree that the nature and characteristics of Canadian federal multiculturalism policy have evolved through three developmental phases (Table 3).

## **GOVERNANCE AND IMMIGRATION INSTITUTIONAL STRUCTURES**

The Dominion of Canada was born on the 1 July 1867, at which time Canada adopted a federal form of government. This federal form of democratic government brought together a number of different political communities under a common government for mutual purposes, and separate regional governments for the particular needs of each region (Government of Canada 2005). It takes into account Canada's geographical realities, the diversity of its cultural communities, and its dual legal and linguistic heritage. Under the Canadian system, the responsibilities of the central, or federal, government include immigration and national defense, inter-provincial and international trade and commerce, the banking and monetary system, criminal law, and fisheries and oceans. The courts also have awarded to the Federal Parliament such powers as aeronautics, shipping, railways, telecommunications, and atomic energy. The regional, or provincial and territorial, legislatures are responsible for education, property and civil rights, the administration of justice, the hospital system, social security, health, municipal institutions, and natural resources within their borders (Knights Canadian Info Collection 2005).

Following Confederation, the institutional structures responsible for immigration policy have included a distinct Immigration Foreign Service and what is presently known as the Department of External Affairs. The Immigration Foreign Service remained essentially independent of External Affairs and its predecessor offices until April 1981, when this service and its posts were transferred to External Affairs. Domestic immigration policy – especially in such areas as labour migration, refugee affairs, national/ethnic discrimination, standards of travel documentation, and the related sphere of nationality and citizenship laws – affects and is, in turn, shaped by Canada's general relations with foreign countries (Libraries and Archives Canada 2005). Over the years, a variety of government ministers have held responsibility for immigration, including the Minister of Agriculture until 1892, the Minister of the Interior from 1892-1917, the Minister of Immigration and Colonization from 1917-1936, and the Minister of Mines and Resources from 1936-1938. Following the enactment of the Citizenship Act of 1947, the Department of Citizenship and Immigration was created in 1950.

With rapid expansion in the demand for labour at the turn of the twentieth century, the government allowed businesses and large landowners (for example, the CPR) to recruit labour throughout Europe (Timlin 1960). After the First World War, immigration “inspection offices” (emigrant-recruiting agencies were not popular in many host countries) were opened – or reopened – in Europe. Other legations were opened by External Affairs before the Second World War and included Geneva in 1925; Washington in 1926; Tokyo in 1929; and Belgium and Holland (one legation) in 1939, but these performed no immigration duties (Library and Archives Canada 2000).

**Table 3: Evolution of Multiculturalism in Canada**

<i>Phase</i>	<i>Context</i>	<i>Policy Evolution</i>
<b>Incipient (pre-1971)</b>  Movement toward acceptance of ethnic diversity as legitimate and integral to <b>Canadian society</b> .	<ul style="list-style-type: none"> <li>The massive influx of post-Second World War immigrants from Europe prompted central authorities to rethink the role and status of “other ethnics” within the evolving dynamic of Canadian society.</li> </ul>	<ul style="list-style-type: none"> <li>Pressures for change stemmed from the growing assertiveness of Canada’s aboriginal peoples, the force of Quebecois nationalism, and the increased resentment of ethnic minorities towards their place in society.</li> </ul>
<b>Formative (1971-1981)</b>  Introduction of an innovative ethno-cultural policy.	<ul style="list-style-type: none"> <li>Strong emphasis was put on encouraging and facilitating the ways in which cultural minority groups could fully participate in Canadian society.</li> <li>The architects of the 1971 policy had perceived barriers to social adaptation and economic success largely in linguistic or cultural terms.</li> <li>Integration (not assimilation) into Canadian society of non-Charter ethnic groups with full citizenship rights and equal participation in Canada’s institutional structure.</li> </ul>	<ul style="list-style-type: none"> <li>Marked increase in the flow of visible minority immigrants whose main concerns were employment, housing, education, and fighting discrimination required a shift in policy thinking. This led to the introduction of an innovative ethno-cultural policy</li> </ul>
<b>Institutionalization (1982 to the present).</b>  Canadian institutions began to adapt to the presence of the new immigrant groups.	<ul style="list-style-type: none"> <li><b>Anti-discrimination programs.</b></li> <li>In large cities, immigration had, over a short period of time, noticeably changed the composition of the population.</li> <li>Emergence of a few groups promoting racist ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Entrenchment of multiculturalism in the <i>Canadian Charter of Rights and Freedoms</i>.</li> <li><i>Multiculturalism Act</i> adopted by Parliament.</li> </ul>

Hawkins has argued that the late 1950s can be seen as a period dominated by an institutional battle between the Department of Citizenship and Immigration and the Department of Labour (Hawkins 1972). The former did not consider a larger, less-skilled inflow to be a troubling outcome, while the point of view of the latter saw it as a disaster, because it was coming at a time of rising unemployment. This shift in attitude away from a need for unskilled newcomers toward skilled immigrants coincided with the government's need to steer the economy away from one based on resource extraction to one grounded in a modern manufacturing structure. As a consequence, the Pearson Government instituted an important structural change, namely, the establishment in 1966 of the Department of Manpower and Immigration, which was created by amalgamating the Department of Citizenship and Immigration with the Department of Labour. The purpose was to link the level and composition of immigration to the immediate needs of the domestic labour market (Hawkins 1972, 127-31).

The status of the overseas immigration offices was changed in April 1981. The Minister of Employment, Immigration and Citizenship (EIC) and the Minister of External Affairs signed a Memorandum of Agreement to transfer responsibility for the actual administration and delivery of immigration services abroad to External Affairs. External Affairs absorbed all of the overseas immigration missions and took over responsibility for enacting the policies and procedures set by EIC under the *Immigration Act*. As a final episode in this complex bureaucratic drama, the Ministry of Citizenship and Immigration Canada (CIC) was created in 1993, bringing together various programs and services which had previously been administered by several departments. The very creation of CIC served as concrete recognition of the significance of immigration to Canada. It also acknowledged the links between immigrant selection and the acquisition of Canadian citizenship as part of the settlement process (Citizenship and Immigration Canada 1997).

## **IMMIGRATION AND RELATED DEVELOPMENTS**

### **Policy Instruments**

Immigration policy instruments used by the Canadian government have included both those aimed at selecting immigrants and those encouraging immigrant settlement. With respect to the first set of instruments, Canada has used immigration acts and regulations to attract the kind of potential migrants it has sought at various points in its history. With regard to the second set of instruments, settlement services has been a key instrument, but one that sometimes has been influenced by political considerations. For example, Quebec has been given special funding to aid the adjustment of immigrants in that region of Canada, much to the chagrin of Ontario's political leaders who receive far less funding per migrant towards the costs of providing the same services.

## Country of Origin

The passage of the first Canadian *Immigration Act* in 1869 did not specify any guidelines regarding the class or category distinctions of immigrants. Until 1930, immigration policy in Canada must be viewed as a part of a general set of national policies that included the completion of three transcontinental railways, high levels of protection on the import of secondary manufactured goods, and the adoption of a land policy aimed at inducing immigrants to settle in the West (Green and Green 1996).

In 1910, the government replaced the *Immigration Act* of 1869 with new legislation which focused on a prospective immigrant's country of origin. The stated goal of immigration policy until the First World War was to secure farmers, farm workers, and female domestic workers, mainly from Great Britain and the United States (Heritage Community Foundation 2005; Library and Archives Canada 2000). Revisions to this *Act* in 1919 formalized immigration guidelines based on preferred cultural and ideological traits by establishing a literacy test for all prospective immigrants and allowing the government, through an Order-in-Council, to limit the number of immigrants admitted in a given period (Government of Canada 1919; Kitzan 2001). This effectively closed the doors to admission for many.

## Sovereignty and Region of Origin

The *Statute of Westminster*, passed by the government of Great Britain in 1931, established a legislative context that provided equal status for the self-governing Dominions of the British Empire and the United Kingdom. The *Statute* applied to the Dominions of Canada, New Zealand, and Newfoundland, the Irish Free State, the Commonwealth of Australia, and the Union of South Africa (Dawson 1965). When Canada emerged from the Great Depression and Second World War, the majority of Canadians wanted the rest of the world to recognize the country's sovereign status. This meant that any emblems of colonialism had to be removed, and symbols of independent nationhood substituted. Consequent to this, Canada's immigration policy direction was set through a series of six Orders-in-Council. Two widened sponsorship rights; a third one suspended the provision that limited the class of workers who could enter as contract labour; the fourth allowed admission of Polish war veterans and Dutch farm families, and set up the procedures for handling large inflows of displaced individuals; the fifth expanded the immigration search across Europe;<sup>4</sup> and the final one widened the admissible classes so that prospective immigrants who met the labour market needs from virtually all regions of Europe were eligible (Saks 1994). The *Canadian*

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<sup>4</sup> This was done so that applicants from Northwest Europe could include a broad range of trades, while those from Germany, Austria, Greece, and Finland were limited to agriculturists, farm workers, domestics, nurses, and nurses' aides. Legal residents from these countries could also sponsor a fairly broad range of relatives that included brothers, sisters, together with husband or wife, unmarried children, and dependents. Nationals from Italy were limited to those entering under special orders and close relatives of Canadian residents. Prospective immigrants from the rest of the world mainly were limited to close relatives of Canadian citizens.

*Citizenship Act* of 1947 eased the immigration process, and the 1952 *Immigration Act*, simplified the administration of immigration and defined the wide-ranging powers of the Minister and his officials.

### **Skills and Education (Points-based)**

In 1962, revisions to the *Immigration Act* eliminated discrimination based on race and ethnicity, and in 1967 a points-based selection process was introduced. The 1976 *Immigration Act*, which remains as the cornerstone of present-day immigration policy, came into force in 1978. This established three categories of immigrants: a) the refugee category, b) the family category, and c) all other immigrants judged on a points system that was based on education, language proficiency, employment experience, age, and adaptability (Green and Green 1996). More recently, the *Immigration and Refugee Protection Act*, which came into force on 28 June 2002, replaced the *Immigration Act* of 1978 (Government of Canada 2002a).

### **Immigration, Post-Secondary Education, Language Training, and Settlement Services**

At the time of Confederation in 1867, there were very few universities in Ontario. Government involvement in these was minimal, but this started to change when the four Western provinces began to set up provincially-chartered universities early in the 20th century (Canadian Information Centre for International Credentials 2004). Following the end of the Second World War, through a federally-funded veterans' rehabilitation program, an influx of war veterans descended upon Canadian university campuses. This led to increased government participation in university funding. Consequently, new institutions of higher education were established across the country, and existing postsecondary institutions expanded throughout the 1950s, 1960s, and 1970s (Saks 1994).

Before the First World War, very few organizations specialized in the provision of services to immigrants. A handful of organizations, such as the Jewish Immigrant Aid Society that was formed in 1922, came into being after the First World War. Major changes after the Second World War led to the development of formal settlement services for the large numbers of refugees who came to Canada during this period, and some of the existing agencies expanded their roles. The Jewish Immigrant Aid Society, for instance, became the first agency to hire professional social workers and to develop a specialized program of social services for newcomers. In 1947 in Montréal, the Centre social d'aide aux immigrants (CSAI) began to offer material assistance and temporary emergency housing and employment, as well as medical, legal, and credit assistance to help newcomers to bring their families to Canada. The Manitoba Interfaith Immigration Council (MIIC), created by various denominations seeking to help their own groups to integrate in Canada, was another service agency that developed in the late 1940s. Moreover, the Federal Settlement Service

initiative was started in 1948 with federal settlement officers hired to help settle Canadian soldiers and war refugees. The Italian Immigrant Aid Society, which was formed in 1952, initially provided services run by women volunteers. In 1961, in response to the underutilization of skilled tradespersons who were primarily of Italian background, the Centro Organizzativo Scuole Tecniche Italiane (COSTI) was formed. It focused on providing training and retraining to members of the Italian community, and remains as a vital component of Toronto's social-service infrastructure for immigrants and refugees to this day. Gradually, then, a specialized settlement sector emerged based on these practices (Handford and Tan 2003).

With the creation of the Department of Manpower and Immigration in 1966, the government withdrew from the direct provision of settlement services and began to focus its attention on funding immigrant-serving voluntary agencies to provide initial settlement services. At the same time as this policy shift was taking place, community colleges began operation in Ontario 1967, with other provinces following suit later, and several new public universities were established in the 1960s and 1970s. The Community College system, which now numbers 24 institutions, was created by the Ontario government in order to provide vocationally-oriented alternatives to university study, though some of these institutions also provided university transfer programs. Elsewhere, a significant change in post-secondary education took place in Quebec whereby that provincial government undertook to reconstitute some 200 existing classical colleges, instituts familiaux, and several technical institutes into a single Cégep system. The Cégeps (collèges d'enseignement général et professionnel) serve as an intermediate level between secondary school and university, while providing education and training programs directly related to the workplace (Osborne and Bell 2004).

In 1974, the Department of Manpower and Immigration expanded its settlement mandate from the mere reception of immigrants to their employment, accommodation, and settlement assistance. It also took over responsibility for the overall coordination of voluntary organizations providing immigrant adjustment and settlement assistance. This led to the establishment of the Immigrant Settlement and Adaptation Program (ISAP), which was started to fund initial settlement services, such as information provision, orientation, and referral to mainstream service agencies.

No significant national language programs existed prior to the Second World War, either for children or for adults. In 1978, the federal government, through EIC, started the first national language-training project as part of its Canadian Job Strategies (CJS) program to provide language training for adult migrants and native Canadians who could not find employment because they lacked proficiency in English or French. Following a court challenge sponsored by several immigrant organizations, the federal government created three new language-training programs. Two of these, the Secretary of State Citizenship and Language Training Program and the Citizenship and Community Participation Program were short-lived. The third program, the Settlement Language Training Program (SLTP), was more persistent. Created in 1986, it was designed to meet the needs of adult immigrants, primarily women and seniors, who were not destined for the labour force. Immigrant organizations received substantial funding to enter the field, with school districts and colleges serving as the actual language-training providers. Many agencies formed alliances with

already existing providers in the development of new and innovative programming, particularly in the Toronto region, where a number of agencies partnered with local school boards. Over time, deficiencies also became apparent in the SLTP. Many immigrant organizations and providers complained that the program was chronically under-funded, with a variety of inequities including the application process, inferior facilities, poorly-trained staff, and inconsistent curricula and instructional methodologies. In 1992, two new immigrant-training programs for adults were initiated by the federal government: Labour Market Language Training (LMLT) and Language Instruction to Newcomers to Canada (LINC). LMLT focused on higher levels of English proficiency, and was modeled on language training programs in Australia that were career specific. It was short-lived. LINC has become the dominant adult second-language-training structure in Canada. It has gradually replaced almost all other English training programs in the country, and has been instrumental in the development of a myriad of national assessment and curriculum projects (Fleming 2004; Sadiq 2004; Lim, Lo, Siemiatycki, and Doucet 2005).

Canada's post-secondary education system changed significantly in the 1990s. Some public colleges were given applied degree-granting authority by provincial governments, and a small number of private post-secondary institutions also obtained permission to offer degree programs. Information technology in program delivery became readily available, and increasingly became blended with traditional delivery mechanisms. In the college sector, "learning outcomes" became a mainstream standard for measuring student learning. Recruitment strategies to attract international students from other countries rose dramatically after 2000. These activities sparked new branding and marketing initiatives. For example, new mechanisms were established to expand and facilitate college/university credit transfer in a number of provinces. The increased importance of immigration in Canada's strategy to grow its labour force and address skills shortages placed additional pressures on institutions to recognize credentials acquired in other jurisdictions (Tyrrell 1999).

Between 1991 and 1995, through the Federal Immigrant Integration Strategy, a new emphasis began to be placed both on helping immigrants learn about Canadian values and on helping Canadians understand the diverse backgrounds of newcomers. This led to the expansion of the 'Host' Program (originally set up to link refugees) to provide the same service to newcomers (Tyrrell 1999; Anisef et al. 2005).

In 1991, the government of Quebec took on responsibility for settlement services in that province, and began receiving funding from CIC under the Canada-Quebec Accord. By 1995, the federal government had launched the Settlement Renewal Process to devolve the administration of settlement services to the rest of the provinces. In 1998, agreements were signed with the provinces of British Columbia and Manitoba to transfer funds for the administration of settlement services. In 2004, Ontario joined this trend by signing a letter of intent with respect to a Canada-Ontario immigration agreement.

## Hiring Practices

Technological developments have increasingly divorced physical labour from material rewards, while competency requirements for accessing these rewards have risen. Even at the end of the First World War, cultural interpretation still controlled access to “work” by a number of means; for instance, women could only access specific jobs and professions, while men were given professional positions and retained through “loyalty for security” social contracts. This practice persisted until the late 1970s when job-search strategies based on credentialization and networking were introduced. The advent of relatively inexpensive mini-computers in the early to mid-1970s permitted the computerization of many human resource management (HRM) practices in a broad range of organizations that had previously been unable gain access to a mainframe. For our purposes, this period, which crystallized around 1982 in Canada, marked a change in candidate-search practices both as the new job-search practices spread and as human resources (HR) departments began to be swamped with resumé. From this period onwards, credentialization centered on matching predefined candidate search requirements in such areas as degrees, work experience, and “bare-bones” resumé with formal candidate search procedures. Networking required appropriate credentials, but relied on additional opportunity information via personal and professional networks. Networking increasingly took advantage of informal candidate search procedures (Tyrrell 1999).

A number of studies on the effects of different sources of recruitment in the 1990s clearly showed that informal sources of recruitment tended to produce candidates who had a lower turnover rate and were a better “fit” than recruitment through more formal channels (Saks 1994). These were less expensive than formal processes and dovetailed nicely with the emphasis on networking in the new job-search practices (Bolles 1993).

From early 1980s to the early 1990s, increasingly desperate job-search tactics began to emerge and informal networking techniques expanded into the newly emerging bulletin board systems (BBS) that began spreading throughout North America. These BBS provided not only job opportunities but, more importantly, access to information about projects, companies, and future opportunities. Continued HR cost-cutting pressure interacted with newer computer technologies, primarily scanning software and web development, and ensured that HR departments became the driving force behind many corporate websites. The resulting shift towards internet-based recruiting concerned not only the restructuring of HR departments and the ability to cut costs, but also the ability of recruiters to both find appropriate candidates and keep abreast of current issues. This has served to distance the potential job-seeker from the employer, and has placed the onus for understanding employer needs squarely on the shoulders of the recruiter. In combination with the development of email, OCR scanners, and web-based application systems to automate initial cuts on candidates, such developments have allowed recruiters to readily scan out entire groups of job-seekers, such as skilled immigrants, through the use of such terms as ‘Canadian experience’ and ‘P.Eng’ (Bolles 1993).



## CONTEXTUALISING IMMIGRATION POLICY

### Immigration as a Development Strategy

As a set of policies meant to tie Canada together into an integrated whole with a strong eastern manufacturing sector selling its wares to an expanding western resource sector, immigration policy after Confederation was an important element in the country's development strategy (Green and Green 1996). Despite the efforts of Sir John A. MacDonald's Conservative government, however, large-scale immigration failed to become a reality in the first three decades after Confederation. Canada's immigration prospects started to look up in the 1890s, when the economic depression that had gripped Europe and North America ended, and demand soared for Canadian foodstuffs, particularly hard wheat (Fine-Meyer 2003).

Immigrants who came to Canada between the 1890s and the outbreak of World War I were mostly from Britain and the United States, although a few were from countries in Western Europe. During Sir Wilfrid Laurier's term as Prime Minister (1896-1911), the actual distribution of immigrants was about equal among those intending to work in agriculture and in manufacturing and trade, and immigrants found their way to all regions of Canada (Green and Green 1993).

Optimism increased with the first large-scale immigration into the Prairies in the early twentieth century. In fact, then-Prime Minister Wilfrid Laurier predicted that "as the nineteenth-century was the century of the United States, so shall the twentieth century belong to Canada." (Kitzan 2001). This immigration wave prompted several developments in Canadian immigration policy:

- when excess demand for labour increased, the government expanded recruitment beyond preferred source countries;
- such actions were undertaken through Orders-in-Council without the possibility of public debate; and
- businesses and landowners were the beneficiaries, while labour, and especially unskilled workers, were the potential losers – for example, the *Alien Labour Act* of 1897 that was intended to limit the importation of contract labour into Canada was ignored by railway companies (Green and Green 1993).

## Selective Immigration

After the First World War revisions to the *Immigration Act* of 1910 identified preferred immigrant source countries, a list that included Britain, the United States, the Irish Free State, Newfoundland, Australia, New Zealand, and South Africa. Immigrants from northern and western Europe could become preferred if they were interested in establishing farms or working as farm labour. Immigrants from eastern and southern Europe faced stricter regulations, and tended to be admitted only under family sponsorship. Until 1923, the division of immigrant source countries between these two broad groups was decided by the Minister of the Department of Immigration and Colonization. Through the 1923 Order-in-Council PC 183, admission based on country of origin formed the core of immigration policy, and the goal of securing farmers, farm labourers, and domestic workers remained intact until the onset of the Great Depression of the 1930s during which almost all immigration to Canada ceased. It would not recover until after the end of the Second World War in 1945 (Timin 1960).

Following the end of World War II, six components of immigration policy were defined by then-Prime Minister Mackenzie King before the House of Commons in May of 1947 (Green 1976, 21). These were to:

- promote population growth as Canada was an under-populated country;
- enlarge domestic markets to promote economies of scale and improve the standard of living of the extant population;
- be selective;
- relate to the absorptive capacity of the economy;
- be a matter of domestic policy, i.e., national concerns were paramount; and
- not change the basic character of the Canadian population, meaning that restrictions on Asian immigration must remain in place (Hawkins 1972, 91-95).

Subsequently, policy would be shifted dramatically to extend coverage to immigrants from anywhere in Europe, including, for the first time, immigrants from southern Europe. The extension of sponsorship rights to landed immigrants from non-preferred source countries, where the concept of extended families was very different from that associated with the homelands of earlier arrivals, meant landed immigrants from southern Europe, and Italy in particular, were more likely to make use of these new sponsorship opportunities (Green and Green 1995). The immigrants of late 1940s and 1950s were more heterogeneous than in earlier periods, and had a greater diversity of skills, training, and occupations (Citizenship and Immigration Canada 2000a). It is noteworthy that all Canadians were defined as British subjects until the passage of the *Canadian Citizenship Act* in

1947, which coincided with the post-war rise in immigration (Leman 1999). During the years under Prime Minister John Diefenbaker (1957-1963), a general reluctance to take action on immigration issues meant that an immigrant's country of origin remained the focus for admission until a non-discriminatory set of regulations was put in place in 1962 (Citizenship and Immigration Canada 2000b).

### **Immigration as a Non-Discriminatory Labour Market Policy**

When Lester B. Pearson came into office as head of a Liberal minority government in 1963, the Canadian economy was undergoing significant change. The quickening pace of technological innovation meant that certain skills were becoming obsolete, and affected workers needed training to adapt to these changes. In spite of the improved economy, the unemployment rate remained unacceptably high, and, not surprisingly, the largest component of the reservoir of unutilized labour consisted of unskilled and under-educated workers. These harsh economic realities had a bearing not only on worker training but also on immigration. Pearson's government believed that the dearth of skilled workers could be solved by some combination of an increase in the flow of skilled workers to Canada and adoption of manpower development programs offering specialized training. One department, it was believed, should deal with both issues (Citizenship and Immigration Canada 2000b).

Consequently, a sweeping review of all aspects of immigration was undertaken in the 1960s. It led to the introduction of the points system in 1967, which defined an objective scale based on education, age, language, and the like, against which applicants for immigration could be assessed. As argued by Green and Green, the very existence of the point system indicated success for those who viewed immigration as an immediate labour-market policy (Green and Green 1995; Green 1996, 18-19). The points assigned to specific occupations were kept under constant review, and changed as new information on vacancies became available. The changes in point levels assigned to specific occupations were distributed to overseas agents on a quarterly basis, and underscored the widely-held belief in official circles that immigration policy could be micro-managed.

When it was introduced in 1967, the points system did not place much emphasis on occupational skill levels, including education. As a result, the required points could be accumulated based entirely on other criteria: age, language requirements, a job offer, willingness to settle in an area of strong labour demand, and the discretion of the immigration officer. In spite of the sweeping revisions to Canadian immigration policy in 1967, little changed during the first four years of Pierre Trudeau's administration, from 1968 to 1972 (Reitz 1998). The situation did change, however, with the appointment Robert Andras as Minister of Manpower and Immigration in November 1972. Under his tenure, the groundwork was laid for a new *Immigration Act* that would be radically different from earlier immigration statutes. The impact of these changes was both immediate and measurable. From a total of 122,006 in 1972, the number of landed immigrants climbed to 184,200 in 1973 and then to 218,465 in 1974 before dipping to 187,881 in 1975, and to 149,429 in 1976.

The 1976 *Immigration Act*, which took effect in 1978, broke new ground by spelling out the fundamental principles and objectives of Canadian immigration policy. These included promotion of Canada's demographic, economic, cultural, and social goals; family reunification; the fulfillment of Canada's international obligations in relation to the United Nations Convention (1951) and its 1967 Protocol relating to refugees, which Canada had signed in 1969; non-discrimination in immigration policy; and cooperation between all levels of government and the voluntary sector in the settlement of immigrants in Canadian society. The 1977 *Citizenship Act* defined a "citizen" as a "Canadian citizen." Furthermore, it declared that not only were naturalized and native-born citizens equally entitled to all the powers, rights, and privileges of a citizen, but that they also were equally subject to all the obligations, duties, and liabilities of citizenship. These provisions still stand today. Moreover, it was a provision in the 1976 *Immigration Act* that would inspire the negotiation of several federal/provincial immigration agreements in the 1970s (Green and Green 1995).

### **Immigration as an Economic Tool**

Veugelers has argued that the founding in 1976 of a pressure group known as the Business Council on National Issues, was an example of "one of many initiatives taken in advanced capitalist countries to reduce the autonomy of the state (Veugelers 2000; Langille 1987). In 1984, the newly-elected Progressive Conservative government under Prime Minister Brian Mulroney began to pursue an ideology that was associated with privatization and support of private enterprise. This pro-business image, combined with the fact that Progressive Conservatives ended the unemployment-immigration linkage, has led some to conclude that their high-immigration policy might have been advanced by the business lobby, perhaps to drive down the cost of labour under the waning post-war boom (Green and Green 1996, 21).

Table 4 shows how the distribution of points across assessed categories has changed over the years since 1967. Overall, the pass mark has increased over time. Some criteria, such as education, language proficiency, and experience, have received increased emphasis over this period, while others, such as occupational demand and destination, have been deemed to be less important. During the years in question, changes to the points system were successful in reducing the number of unskilled workers admitted to Canada between 1974 and 1985 without significantly increasing immigration rates. (Veugelers 2000).

<b>Table 4: The Points System over Time</b>							
<b>Factor</b>	<b>'67</b>	<b>'74</b>	<b>'78</b>	<b>'86</b>	<b>'93</b>	<b>'96</b>	<b>'03</b>
Education	20	20	12	12	15	20	25
Experience	-	-	8	8	8	9	21
Specific Vocational Preparation	<b>10</b>	<b>10</b>	<b>15</b>	15	17	-	-
Occupational Demand	<b>15</b>	<b>15</b>	<b>15</b>	10	10	-	-
Labor Market Balance		-	-	-	-	-	10
Age	<b>10</b>	<b>10</b>	<b>10</b>	10	10	12	10
Arranged Employment	<b>10</b>	<b>10</b>	<b>10</b>	10	10	4	10
Designated Occupation.							
Language	10	10	10	15	14	20	24
Personal Suitability	<b>15</b>	<b>15</b>	<b>10</b>	10	10	16	10
Levels	-	-	-	10	8	-	-
Relation in Canada	0/3/5	0/3/5	5	-	-	5	-
Destination	5	5	5	-	-	-	-
Total	100	100	100	100	100	100	100
Pass Mark	50	50	50	70	67	75	67

Sources: Green and Green (1999) and Citizenship and Immigration Canada (2003b).

Shortly after the Mulroney Government was elected in 1984 several reports raised demographic concerns in relation to Canadian fertility rates and their consequences for future population growth (Employment and Immigration Canada 1985a and 1985b). Consequently, the focus of Canada's immigration policy shifted to bolstering population growth and age structure. Under the Conservatives, economic migration was encouraged. Admissions under this category represented 39 per cent of total immigration between 1981 and 1985; their numbers nearly doubled over the next five years, reaching 48 per cent of total immigration to make this component the most important of all (Veugelers 2000).

## Immigration as an Economic, Demographic, and Knowledge-Worker-Driven Tool

As seen from Table 4, in 1986 the point system was changed to increase the importance of language and occupational demand and to remove the prerequisite for arranged employment for independent applicants. The number of landed immigrants jumped from 83,402 in 1985 to 99,219 in 1986, and continued to increase until it peaked at 256,741 immigrants in 1993. Reitz has argued that in the recession of the early 1990s, the Progressive Conservative government maintained higher immigration levels than expected, based on the view that immigration stability had long-term benefits that outweighed any possible short-term difficulties (Reitz 2002). When a Liberal government under Prime Minister Jean Chrétien was elected in 1993, five arguments were being made about immigration:

- migration was a constant phenomenon in human history, and never was it so significant in terms of the diversity (Castles and Miller 1993);
- at levels of slightly more than 200,000 per year, immigration could, at prevailing levels of fertility, effectively prevent an overall population decline, stem the aging of the Canadian labour force, and stabilize around 2016;
- in Beaujot's view, immigration had a supportive, rather than an essential, role in influencing the future demographics of Canada as population renewal through migration, rather than through births brought too much change (Beaujot 1998). This was even more clearly stated in *The Fear of Population Decline*, in which Teitelbaum and Winter proposed that rapid changes in cultural and ethnic composition would generate opposition so that large-scale immigration might not be a politically viable response to declining population (Teitelbaum and Winter 1985, 150);
- environment-related arguments favored smaller populations (Barrett et al 1987); and
- rather than demographic or economic terms, it was especially socio-cultural terms that needed to be the basis of a case for immigration (Economic Council of Canada 1991).

In spite of such arguments, the Chrétien government set as its objective an even more elevated annual immigration rate equal to 1 per cent of the total population of Canada. While family-class immigrants in Canada were the foundation of recruitment in the slow years of the 1980s, by the 1990s economic-based immigration dominated, so that by 2001, 61 per cent of all immigrants were skilled knowledge workers or business class migrants, only 27 per cent were in the family-class category, and 11 per cent were found in the refugee category (OECD 2001, 142; Thompson 2002, A3).

In 1997, the combined immigration of people intending to work as computer scientists, engineers, and natural scientists surpassed 20,000. According to researchers at Statistics Canada, about 39,000 degree holders entered Canada annually, both permanently and temporarily, from 1990 to 1996, including 11,000 who held graduate degrees (Statistics Canada 2000). In comparison to the Canadian-born population, the immigrants in this period had higher levels of education. Indeed, the 1996 Census showed that new immigrants who arrived between 1991 and 1996 were 1.6 times more likely to have a university education, 2.2 times more likely to have a master's degree, and 4.3 times more likely to have a doctorate (Zhao, Drew, and Murray 2000). One distinguishing feature of this current wave of knowledge workers is its global character. It arrived during a period of unprecedented compression of time and space due to technological advances. Moreover, the majority of immigrants in this wave arrived from Asia and Africa.

The *Immigration and Refugee Protection Act* that came into effect in June 2002 stated that, for the purpose of determining whether an individual defined as a member of the skilled-worker class, would be able to become economically established in Canada, the applicant must be assessed on the basis of the following criteria: education, proficiency in the official languages of Canada, experience, age, arranged employment, and adaptability (Table 4). According to Citizenship and Immigration Canada, a significant proportion of recent immigrants to Canada appear to have been unable to convert their foreign qualifications into jobs commensurate with their training. Not only are these immigrants increasingly likely to have higher skill levels and more credentials, they are also more likely to be trained scientists and engineers. One occupational group dominated the landed immigrant cohort of 2000, namely, professional occupations in the natural and applied sciences, which includes engineers, computer professionals, and other technological and scientific occupations. These occupations accounted for more than 13 per cent (over 30,000) of all immigrants who landed in that year, while no other occupational group accounted for more than 2 per cent. Within the natural and applied sciences group, engineers were the dominant occupational category. In recent times, Asia has been a major source of these professions, with China alone accounting for 37 per cent of all skilled principal applicants in these occupations. Overall, there has been a rapid increase in the yearly number of immigrants to Canada who intend to enter a regulated profession (engineers, accountants, physicians, lawyers, and the like), from less than 10,000 in the 1980s to over 25,000 in 2000. (Citizenship and Immigration Canada 2003a).

## **DEVELOPMENT, IMMIGRATION, AND ENGINEERING EMPLOYMENT IN ONTARIO**

A summary of the economic development of Canada is presented in Appendix 1 to this paper. This draws on work done by Professor Mac Urquhart of Queen's University and the colleagues who helped him create the historical extensions of Canadian national accounting data (Urquhart, Buckley, and Lacey 1983). Following from Urquhart, the development of the Canadian economy can be divided into six main periods of history.<sup>5</sup> By aligning this investigation into the development of

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<sup>5</sup> Unless otherwise stated, the history presented in this section draws from Gillmor and Turgeon (2000).

engineering and immigration trends with recognized periods of Canadian economic and development history, comparative trends can be derived for a multi-dimensional analysis of the development considerations that have influenced the access of immigrants with engineering and other professional backgrounds into the Ontario workforce.<sup>6</sup>

### **Colonial Beginnings and the Introduction of Engineering to Canada (1500-1867)**

In the seventeenth and eighteenth centuries, French military engineers had started constructing forts to protect their colonial settlements from attack. After 1850, widespread railway construction (Inter-colonial Railway and the Canadian Pacific Railway), required a considerable influx of immigrants with engineering skills, who primarily came from Britain and the United States in keeping with the immigration policy at that time. Preceding this, British military engineers had already begun building roads and canals in Upper and Lower Canada. The nineteenth-century was a period of infrastructure development in Canada, including roads, canals, railways, and other public works. In such projects, it is easy to see definite inter-relationships among politics, development, immigration, and the professionalization of engineering in Canada. Indeed, the promise of a transcontinental railway within 10 years had, in fact, convinced the citizens of British Columbia of the merits of joining the Dominion of Canada in 1870. In keeping with trends in Britain, a movement began in this period to organize an engineering society, a process led by Sir Sanford Fleming, himself a Scottish immigrant (Engineering Institute of Canada 1927; Engineering Institute of Canada 1937; Hart 1997).

### **The National Policy Era and the Emergence of Learned Engineering Societies (1867-1896)**

Confederation proved to be a turning point in the development of engineering regulation in Canada. Under the British North America (BNA) Act of 1867, provincial governments were delegated legislative responsibility for education (Gillmor and Turgeon 2000). Educational institutions began to offer engineering studies in Canada around the middle of the nineteenth century, with the first civil engineering program in Canada offered at King's College in Fredericton, New Brunswick in 1854 (Morris 1990).

Two new transcontinental railways began to be built between 1873 and 1897. The first of these, the Canadian Pacific Railway, linked the country from east to west and opened the Prairies

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<sup>6</sup> In his MA thesis submitted in May 2005, which contains a history of engineering professional organization in Canada, Erik Girard (2005) has reviewed Canadian engineering professional publications including the *Journal of the Engineering Institute of Canada (JEIC)*, *The Contract Record & Engineering Review (CRER)*, *Canadian Engineer (CE)*, *Engineering Journal*, *Engineering & Contract Record*, *Canadian Civil Engineer*, *Engineering Journal* and *Engineering Dimensions*. His literature review has been used as a source document for this paper.



to new waves of immigration. The exploitation of natural resources made accessible by the railways and the construction of canals, led to a further influx of immigrants with engineering skills into Canada, especially for the mining industry.

The Institution of Civil Engineers in Great Britain had received its Royal Charter in 1825, well before Confederation, and, in the United States, the American Society of Civil Engineers was organized in 1869. Following a similar trend, the Canadian Society of Civil Engineers (CSCE) obtained its Charter as a learned professional society in June 1887 under the guidance of a number of well-known engineers who were primarily located in Montreal (Hart 1997). Initially, this small group of prominent senior engineers controlled the CSCE. As a learned society, it would serve to raise the standard of engineering practice through the exchange of knowledge and the development of admission criteria which were set to attract capable engineers as members (Millard 1988).

### **Industrialization and Provincial Engineering Chapters (1896-1929)**

According to the 1905 by-laws of the CSCE, admission to this ‘learned’ society set out experiential requirements which only called for ten years of extensive engineering work experience, which could include university-level academic training or apprenticeship and a minimum of five years of work experience in a responsible role designing and directing engineering works (Canadian Society of Civil Engineers 1905). Notwithstanding their qualifications or experience, any person could perform engineering work at this time, and CSCE membership was not mandatory in order to work in Canada as an engineer. As a result, CSCE members continued to face competition from both immigrants with engineering backgrounds and their domestic counterparts who chose not to join the CSCE (Wood 1936; Professional Organizations Committee 1978).

In 1899, the CSCE proposed a bill calling for the establishment of an Ontario self-governing regulatory body whose members would enjoy both restricted use of the title “Civil Engineer” as well as reserved access to provincial engineering projects (Professional Organizations Committee 1978). This proposal encountered stiff opposition from Ontario’s mining industry and others, and was withdrawn (Hamilton 2001a). The mining engineers, who had formed a separate professional association, the Canadian Mining Institute (CMI) in 1898, opposed the prospect of a CSCE monopoly in order to practice engineering in Ontario (Professional Organizations Committee 1978). The mine owners took the stance that the CSCE-backed legislation would restrict the choice of employees for engineering work, and would discourage foreign investment in Ontario’s mineral sector because foreign technical staff would be barred from practicing in Ontario (Hamilton 2001a). A number of universities in Ontario also expressed concern that such a bill would allow the new regulatory body to control university engineering education through its power to recognize degrees and admissions standards (Professional Organizations Committee 1978). At the same time, Canada had begun to suffer from a widely-recognized oversupply of engineers:

we are told that in Canada there are ten or twelve colleges grinding out young engineers, presumably for employment in this country. In addition to this we have a number of young men entering the work without technical training; and also an influx of foreign engineers, draughtsman, etc. Decidedly we are suffering from over-production.... According to the law of supply and demand it means lower salaries, which have for some time been declining (Hagarty 1909).

By 1914 eight chapters of CSCE had sprouted across the country, with over 3,000 total members (Engineering Institute of Canada 1927). The five-year period between 1910 and 1914 saw the highest intake of immigrants of any five-year period in Canada's history, with over one and a half million arrivals in this interval, and 400,870 in 1913 alone (Citizenship and Immigration Canada 2002). Canadian engineers were upset by this 'foreign invasion,' which even prompted an editorial in a 1912 issue of *The Canadian Engineer*:

there is certainly no objection to men from other countries coming to Canada and taking up their abode here.... On the other hand, it will be found that there is strong objection to foreign consulting engineers doing work in this country which can be done equally well by our own engineers (Canadian Engineer 1912).

An interesting reaction of Canadian engineers to this immigration wave was captured in a 1915 letter to the editor of *The Contract Record & Engineering Review*:

the unfortunate Civil Engineer, where is he? The laws and statutes know him not. Nobody seems to know or care whether he is qualified or unqualified, competent or incompetent, registered or nameless. The man who has spent years and dollars in technical and scientific education is no better off than the man who does not know a logarithm from a log of wood; the man who knows not his right hand from his left, lands on our shores from Europe or the United States, and calls himself an Engineer (we have seen him) and he is an Engineer to all intents and purposes (Conway 1915).

The First World War effort generated significant technological and industrial development in Canada, and led to a further differentiation of engineering into disciplines beyond civil and military engineering (Engineering Institute of Canada 1937). At the end of this War, large cohorts of military engineers returned to Canada (Knowles 2000). Whereas the American strategy was to use demobilized individuals for large-scale public works, like draining Florida swampland or reclaiming California desert through construction of irrigation schemes, the inability of the Canadian economy to absorb the returning military engineers led to depressed salaries for engineers as a result of competition and, subsequently, reduced morale.

In 1918, the CSCE changed its name to the Engineering Institute of Canada (EIC) to admit mechanical and electrical engineers in addition to civil engineers, who still remained by far the largest cohort of engineers in the EIC (Hart 2001). Having devolved part of its original mandate to its provincial chapters, the EIC reverted to its origins as a 'learned' society, and immediately began

to push for provincial legislation to regulate the practice of engineering in Canada (Hamilton 2001b). In 1919, the EIC convened an Advisory Committee on Legislation to draft and introduce a standardized licensing bill to be sent to all provincial legislatures. This initiative advocated for both provincial self-governing engineering regulatory associations and mandatory registration with these newly-created provincial professional engineering associations. The proposed draft legislation was presented to the provincial branches of EIC, and by mid-1920 had been passed, in various forms, by all provinces except Ontario, Saskatchewan, and Prince Edward Island (Hamilton 2001a).

At the end of 1919, the Canadian government acquired the Grand Trunk Pacific Railway and the Canadian Northern Railway and merged them to create the publicly owned Canadian National Railways (CNR). Through the 1920s, the CPR and CNR together spent more money than the Canadian government on campaigns to attract immigrants. The 1920s were marked everywhere in Canada by a spiraling expansion of business. Moreover, technical and industrial advances raised the standard of living for many Canadians. The economic boom that followed industrialization, as well as agricultural and mining transformations, gave tremendous hope to Canadians that theirs would be the new century. This hope was shared by the thousands who fled Europe as a consequence of the First World War and chose Canada to be their home (Kitzan 2001; Foreign Affairs Canada 1999).

The larger civil engineering projects, such as canals and the transcontinental railways, had been substantially completed prior to the First World War, resulting in a reduced demand for civil engineers after the war (Millard 1988). At the same time the number of educated engineers graduating from Canadian universities was increasing. After the war, many returning soldiers also enrolled in engineering courses in Canada's growing universities, while others returning with engineering expertise and skills were ready to go back to work. (Morris 1990). Immigration, too, increased after the war, rising to 41,845 immigrants in 1918, while 107,698 and 138,824 immigrants arrived in 1919 and 1920, respectively. This heightened activity brought a wave of immigrants that included an influx of individuals with engineering backgrounds, mainly from Great Britain and the USA (Citizenship and Immigration Canada 2002). In the face of this trend, calls for employment preference for Canadian-born and/or Canadian-trained engineers surfaced yet again:

it is necessary for our own countrymen to stand together in strong nationalism ... and say emphatically that our first duty is to our own people, and that our own people can, if our authorities will patriotically support them, find within the ranks of the Canadian engineers the expert professional advice that Canada needs for her present and future development. (As quoted in Hart 2001).

EIC members also continued to support a preference for Canadian engineers after the War, as illustrated by the following:

under present conditions there is but little work available for engineers arriving in Canada from outside the country. During the past few years the publicity given to engineering and industrial achievements in Canada has resulted in a considerable

influx of young engineers from Britain and the continent of Europe, and this still continues.... [At] present the prospects in Canada for the employment of engineers from other countries are not favorable, since the supply of our own men is, just now, more than adequate to meet the demand.... Employers naturally take the very reasonable views that for such opportunities as do occur preference should be given to our own men. (Engineering Institute of Canada 1930).

Nevertheless, not all agreed with this stance. In a 1919 letter to the editor of the *Journal of the Engineering Institute of Canada*, R.W. MacIntyre stated:

I am absolutely opposed to any ‘closed shop’ legislation ... such legislation embraces the worst features of Trades Unionism and stands for a vicious principle, which is bound to react on the dignity and standing of our profession in Canada.... The spirit of the present age is decidedly against special privilege for any class of men.... If an engineer cannot stand on his own feet in competition with brother members of the profession, we certainly have no right to bolster him up by Act of Parliament and drag our profession downhill by so doing (MacIntyre 1919).

In spite of this and other strong opposition from the mining industry, on 14 June 1922, a small group of Ontario Engineers was able to celebrate the passage of the provincial Act to *Establish the Association of Professional Engineers of Ontario* (APEO). Under this legislation, the APEO was allowed to hold an exclusive jurisdiction over the title of “Registered Professional Engineer” (PEO 1997a). The committee of engineers behind this initiative had wanted the authority to license and discipline engineers, but members of the Legislature seem to have suspected the engineers were using the pretext of protecting the public to get monopoly powers for themselves, and refused to support the licensure provisions that had been proposed. As a result, the Act permitted only registration, not enforcement (Girard 2005).

### **Instability and Recovery – Closing the Profession of Engineering (1929-1950)**

Taking advantage of the rising nationalism in this period, EIC, and later APEO, members attempted to regulate the engineering labour market in Canada on the basis of national origin (Bauder 2003). In 1932, the attention of the EIC membership once again turned to protection of Canadian-educated engineers:

At the annual meeting of the Association of Professional Engineers of Ontario ... it was unanimously decided to introduce a bill at the next session of the Ontario Legislature with the object of restricting the practice of engineering to properly qualified persons.... The proposed legislation ... would prevent foreigners without qualifications from coming into the province and securing positions to the detriment

of graduates of our own Universities, on some of which government spends hundreds of thousands of dollars annually (Bartlett 1932).

The Bill to amend the *Professional Engineers Act* received Royal Assent on 25 March 1937, making APEO membership a requirement for practicing engineering in Ontario (PEO 1997a, 1). This amendment effectively closed the profession to foreign engineers by making both membership in provincial associations and licensing mandatory for the purposes of practicing engineering in the province. Following from this, in 1945, the APEO adopted the initials “P.Eng.” as the official abbreviation for the professional designation of its members (PEO 1997b).

### **The Post-World War II Boom – Regulation of Engineering Technicians and Technologists (1950-1967)**

The post-Second World War boom initiated an economy characterized by low unemployment and rapid technological change, which together stimulated demand for skilled labour in Canada (Avery 1995; Hamilton 2002). A relaxation of immigrant-selection criteria in the 1960s and 1970s brought both a short-term rise in numbers and a longer-term change in the sources of immigrants to Canada (Citizenship and Immigration Canada 2002). In this period, immigration was identified as an acceptable source of additional engineering ‘manpower’ in the face of skill shortages (Ripley 1966). Canadian immigration policy had shifted in the 1950s to encourage the “employment-creating immigration” of professionals and other highly-skilled immigrants, and, at the same time, to discourage any “employment-competing” inflows of unskilled laborers. In spite of this, the ethnic preferences of previous periods were still maintained (Green 1976).

Consequently, between 1946 and 1960, European engineers constituted the largest single group of immigrant professionals brought in to meet skilled labour shortages in the Canadian workforce (Casselman 1961). Prior to 1961, Ontario was the only province to take a direct interest in immigration matters. Ontario steadily received the greatest number of immigrants during the post-World War II period. In fact, over 52 per cent of all immigrants chose Ontario as their final destination between 1946 and 1971 (Fine-Meyer 2003, 32). Demand for skilled engineering candidates far exceeded domestic supply, and engineers’ salaries improved considerably during this era.

In 1956, the Association of Professional Engineers of Ontario (APEO), began a certification program for technicians and technologists (Mellor 1984). The aim was to relieve shortages of technical personnel by standardizing technicians’ qualifications and upgrading their status. Under this initiative, responsibility for certification rested with a PEO Certification Board and Panel of Examiners. The program defined five grades of engineering technician, and allowed for voluntary certification, renewable annually. Later, the five grades were narrowed to three, and the designation engineering technologist was added. When Ontario Premier Leslie Frost presented the first five certificates on 5 June 1957 to engineering technicians from across Ontario he stated that “Industry

has expressed interest in this program, since it will provide invaluable assistance in choosing competent personnel for any particular job if the standards of the applicant are known before employment.”<sup>7</sup> In 1961, the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) came into existence as an offshoot of the new certification program. PEO retained responsibility for certifying technicians and technologists, while the new association took charge of public relations, education programs, and organizing chapters for its members (Irwin 1997).

The post-Second World War period saw the formation of many small, specialized learned societies, which caused a degree of splintering within some of the more traditional engineering disciplines. Canada was not an exception to this trend, which, in some cases, was encouraged by reaction to the emergence of a plethora of such groups, largely based in the United States. The ECI was concerned about the possible fragmentation of the profession in Canada by foreign specialized groups, and, as a result, actively encouraged the formation of technical divisions within the Institute, covering civil, mechanical, electrical, chemical, mining, and hydro-electrical engineering (Canadian Civil Engineer 2001) Amendments to the *Professional Engineers Act* that were enacted in 1946, 1949, and 1960 expanded its provisions to include such modern developments as a requirement to pass by-laws to define a Code of Ethics, unprofessional conduct, gross negligence, and incompetence. In 1948, a well-defined Code of Professional Ethics was approved by the Attorney General. Overall, these amendments served to intensify PEO’s authority to enforce this code, and further emphasized PEO’s self-regulating power (Professional Organizations Committee 1978; Piper 1997).

### **Restructuring and Slowdown – Review of Engineering Self-Regulation (1967-1986)**

During this period, with the waning of the post-war boom, the Canadian economy experienced much turbulence. The proportion of the workforce in the primary (extractive) sector fell, while that in the tertiary (retail/service) sector increased. As well, changes to immigration policy began to alter the ethnic composition of Canada. Governments acknowledged these new social conditions by both adopting an official multiculturalism policy and enacting equity legislation. At the same time, pressures within the PEO led to the establishment of several successful splinter groups. Finally during this period, the Ontario government began to focus more attention on the functioning of self-regulating professions, including engineering.

In terms of the overall economy, primary or “extractive” industries in Canada continued to decline steadily in relative importance as sources of employment and output.<sup>8</sup> By the early 1990s,

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<sup>7</sup> As quoted in *The Professional Engineer*, June 1957, 18 (6), 7.

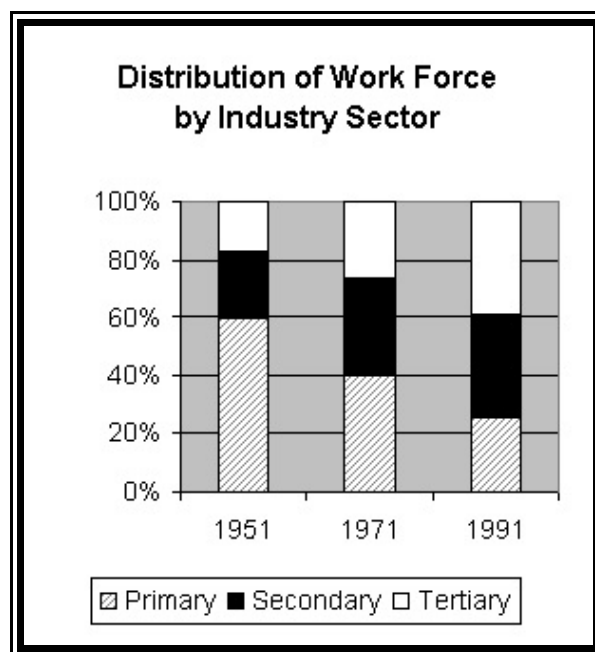
<sup>8</sup> The following are widely-accepted as definitions of the various sectors of the economy. Primary sector: agricultural and livestock production, fishing, hunting and forestry (at times also including mineral extraction) . Secondary

barely 6 per cent of the labour force worked in such industries as farming, forestry, fisheries, and mining. Secondary industries (manufacturing and construction) grew in this period, and construction activity changed the face of Canada in the immediate post-war years and beyond. Major investment in infrastructure development in this period saw the growth of suburban housing estates, high-rise apartments, new factories, other commercial structures, shopping malls, and massive military installations, including distant early warning systems in the North. Major engineering feats during this era included expressways, airports, improvements to the St. Lawrence Seaway, hydro-electric plants, and urban rapid transit systems. In spite of this, any net increase in employment and output in the Canadian economy (as in other industrialized countries during this period) primarily occurred in the retail and services (tertiary) sector, as shown in Figure 3 (Rea 2003).

On the policy side, a major revision led to a new *Professional Engineers Act, 1968-69* that came into effect on 1 August 1969. This legislation prescribed an improved regulation of engineering partnerships and corporations, gave a clearer definition of the Council's role in dealing with disciplinary matters, and provided for the recognition of members beyond the boundaries of Toronto. On this latter point, it provided for the election of Councilors from five Ontario regions to ensure adequate representation on the Council from across the province. In 1970, the role of the Council governing the Association of the Professional Engineers of Ontario was redefined in the *Professional Engineers Act* (Chapter 366, revised Statutes of Ontario 1970). The membership was expanded to include one layperson, and one member of the Ontario Bar.

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Sector Activities: manufacturing, processing industries/activities; they are not just involved in processing raw materials into products, but also, and increasingly so, "intermediate" products into other intermediate and final products (as part of a "vertical" product chain and the general process of "roundabout production" in an increasingly specialized and sub-divided manufacturing economy. Tertiary Sector: Economic activities concerned with the organization and coordination of production and other economic activities, and with the exchange (logistics, distribution, marketing, and the like), maintenance (repair etc.), and consumption (retailing, wholesaling) of goods and services. The rapid growth of the tertiary sector and the increased importance of information activities in the provision and as part of services, many suggestions have been made as to the need for further subdivisions, for example, the addition of the quaternary and quinary sectors.



**Figure 4Figure 3**

Also in this period, and in spite of attempts to stop it, the PEO began to splinter. For example, in 1974 OACETT established its own registration board (Hart 2001). A decade later, OACETT had its own governing legislation, which granted it full certification powers. Today, it has 20,000 members, grants three designations – certified engineering technologist (CET), applied science technologist (AScT), and certified technician (Ctech) – and is in the midst of a reorganization to separate its member services and certification functions (Irwin 1997).

In 1975, the Consulting Engineers Division of PEO, which provided business and technical support to Ontario's consulting engineers and operated semi-autonomously with member firms, also separated from PEO. This group became the Consulting Engineers of Ontario (CEO). Today, it has over 250 member firms, ranging from sole proprietorships to Ontario's largest engineering companies. Its mission is to actively promote the business and professional interests of its members to clients, regulators, and the public.

In 1976, the Canadian Society for Professional Engineers (CSPE), which also started as a division of PEO, became the Salaried Engineers Division. At the time, the PEO Council set a two-year limit on CSPE's existence as a PEO division because of the recognized difficulties of combining self-interest with licensing and regulation (Irwin 1997). When this split was formalized in 1979, PEO President Murray Patterson observed:

there is nothing unprofessional about self-interest. Indeed, an effective and responsible self-interest lobby can enhance the entire profession in the eyes of the



public.... It can shout in areas where it is prudent for the licensing body to remain silent (Patterson 1979).

At present, the CSPE is at a crossroads as evidenced from the following statement:

CSPE was created by Professional Engineers Ontario (PEO) in 1979, but times have changed since then. It is important that good relations with PEO be maintained so that OSPE can survive in Ontario and so that CSPE can move on to its goal to help create independent, viable and effective, advocacy and member-interest bodies for all Canadian engineers (Canadian Society of Professional Engineers 2005).

Also of significance in this period was Canada's involvement as the host of the first United Nations Conference on Human Settlements (Habitat I), which was held in 1976 in Vancouver. This led to the formation of the United Nations Commission on Human Settlements, consisting of 58 member states and which has been called a "landmark in focusing the attention of United Nations member nations on the beginnings of global urbanization and the need to act nationally and internationally to raise living standards, working conditions, and to assist in freeing the world of disease, unemployment and alienation" (Government of Canada 2002b) Such developments have had far-reaching implications for the engineering profession in Canada and elsewhere.

In 1976, Roy McMurtry, the then-Attorney General of Ontario, initiated a review of the effectiveness of the province's self-regulating professions – public accounting, architecture, engineering, and law – and their governing statutes. The Professional Organizations Committee (POC), which was appointed to carry out this review, submitted its report in 1980. According to Hamilton, the Ontario government's Professional Organizations Committee (POC) came to recognize that "no system of regulation, either entry regulation, post-entry regulation or some combination of the two, will ever be error free in the sense that the public can expect never to encounter a competence problem" (Hamilton 2003, 31). The POC study unfolded over several years through a series of briefs submitted by stakeholders, POC-commissioned expert papers, a POC staff study making recommendations on various issues within and among the professions, responses to the staff study, public meetings, and a final report. This report set out four principles to guide future regulatory policy:

- protection of vulnerable interests;
- fairness of regulation;
- feasibility of implementation; and
- public accountability of regulatory bodies.

On the demographic side, some disturbing trends began to emerge during this period. Studies carried out in early 1980s revealed that persons with origins in developing countries experienced

higher rates of unemployment, earned less than other Canadians, and had difficulty finding work in their chosen fields (John Samuel & Associates 1997; Samuel and Karam 1996). Although their absolute numbers were not particularly significant as a proportion of the total national population, immigrants from non-traditional source countries began to constitute over 50 per cent of all immigrants per year to Canada after 1980.

A number of policy initiatives in this period served to indicate at least some awareness of Canada's changing demography. In 1982, the Canadian Charter of Rights and Freedoms was established, followed by the Canadian Human Rights Act and the Ontario Human Rights Act (Ontario Healthy Communities Coalition 2004). Consequently, the Royal Commission on Equality in Employment was established in 1983.<sup>9</sup> In 1984, Judge Rosalie Abella, who headed this federal Royal Commission, tabled a report in which she coined the term "employment equity" to refer to measures to eliminate discriminatory employment barriers and procedures as a "strategy to obliterate the present and the residual effects of discrimination and to open equitably the competition for employment opportunities to those arbitrarily excluded." Also in 1984, the Parliamentary Committee on Participation of Visible Minorities in Canadian Society produced a report, *Equality Now!* In 1985, 'Visible Minorities' (people of colour) became a designated group within the federal Public Service.

The PEO response to these events and the POC report came in the form of a recommendation for a 1984 amendment to the *Professional Engineers Act* which revised the definition of professional engineering by incorporating protection of life, health, property, and public welfare in it for the first time. Other amendments to this *Act* at that time also included an expansion of the objects of the Association, the establishment of a formal complaints procedure, fees mediation and arbitration provisions, limited licensure, and a broader range of sanctions for incompetence and professional misconduct. Following this amendment, all engineers offering services directly to the public were required to hold Certificates of Authorization and, initially, mandatory professional liability insurance. This last provision, however, was later changed in order to allow a disclosure option that provided for firms practicing in areas where insurance was then unavailable (Piper 1997).

By 1980, the United States was accounting for some 70 per cent of Canada's exports and imports. Historical experience and prevailing sensitivities about the need to protect national sovereignty and an identity different from the United States, continued to deter elected politicians of all parties from endorsing free trade deals with the United States during this period. Amidst this opposition, the federal government, in 1982, established the Royal Commission on the Economic Union and Development Prospects for Canada, with Donald S. MacDonald, a former Finance

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<sup>9</sup> It was as a result of this 1984 report of the Royal Commission that Section 15 of the Charter of Rights and Freedoms on protection against discrimination came into effect. Sub section 15 (2) of this acknowledges that equality requires conditions of disadvantage to be addressed so that the argument that employment equity is 'reverse discrimination' is not legally valid. See <http://www.hrsdc.gc.ca/asp/gateway.asp?hr=/en/lp/lo/lsw/we/information/history.shtml&hs=wzp>

Minister in the Trudeau government, as its chair. MacDonald issued his report in 1985 and, among other things, recommended that Canada pursue comprehensive free trade talks with the United States, giving the recently-elected Mulroney Progressive Conservative government its justification for proceeding with negotiations on a Canada-US Free Trade Agreement (CUFTA or simply and more commonly, FTA).

### **Free Trade, Globalization, Sustainability, and Engineering Regulation (Post-1986)**

The talks leading to the FTA dragged on for 17 months between May 1986 and October 1987, and a successful conclusion remained in doubt until the very end (Cody 2003; Hart 1995; Ritchie 1997). Ten years of economic contrasts followed the signing of the FTA, beginning with a prolonged recession that was accompanied by the highest rate of unemployment since the Great Depression, and ending with the return of strong economic growth. The basic structure of the Canadian economy was reshaped during this era by forces felt around the world, including trade liberalization, globalization, and technological change. In Canada, as elsewhere, the basic strategy guiding macroeconomic policy shifted to a focus on price stability, with the primary objective to attain low inflation targets and high interest rates compared to many other countries. Federal and provincial governments moved aggressively to eliminate long-standing deficits through deep cuts to public expenditures. Important components of social policy were restructured by the resultant reshaping of a range of social programs inherited from the post-war generation, especially those affecting the labour market, such as unemployment insurance, social assistance, and child benefit programs. Canada's economic performance in the 1990s was generally poor relative to earlier decades. Growth in total and per-capita output was considerably slower than in earlier periods. The unemployment rate reached levels unseen in half a century.

Following earlier trends, the policy climate in Canada in the 1990s became more market-oriented and less reliant on state intervention, raising the specter of a more unequal society (Banting, Sharpe, and St-Hilaire 2001). The engineering community in Canada, perhaps not fully understanding the new role that was being defined for it under a pro-free-trade environment, continued to build ever more rigidity into its regulatory process. The *Professional Engineers Act* 1990, R.S.O. 1990, Chapter paragraph 28, and Regulation 941 were proclaimed on 31 December 1991. For the first time, these required that:

[an] applicant for a licence shall demonstrate that he or she has: At least 12 months experience in a Canadian jurisdiction, under the supervision of one or more persons legally authorized to engage in the practice of professional engineering in that jurisdiction. However, the Council could vary or waive this requirement in circumstances in which it considered it to be in the public interest to do so.

NAFTA (the North American Free Trade Agreement) was negotiated between summer 1991 and summer 1992. Concurrent with these trade agreements, the Brundtland Commission report,

entitled *Our Common Future*, laid the foundation for the 1992 Rio Earth Summit. This summit, convened by Habitat, the United Nations Human Settlements Programme, brought the issue of sustainability, and particularly ozone-layer depletion and global warming, into the living rooms of the world's population. The Rio Conference produced a series of actions entitled *Agenda 21*. This has come to be recognized as a global action plan for sustainable development for the 21st century. It attempted to lay the ground work for a balance of economic growth, international trade, equitable human development, and a healthy, productive environment.

Soon after the Rio Summit, the Canadian federal government amended the *Auditor General Act* in December 1995. These amendments established the position of Commissioner of the Environment and Sustainable Development, and Canada came face-to-face with global issues upon which sustainable development is founded. The term “sustainable development,” has been defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>10</sup> Engineering was not on the agenda at the 1992 Rio Conference, but subsequent to this, efforts by the International Federation of Consulting Engineers (FIDIC) and the World Federation of Engineering Organizations (WFEO) ensured that engineering and technology were featured prominently throughout *Agenda 21*. A new World Engineering Partnership for Sustainable Development (WEPSD) was created to outline a framework for taking action on sustainable development. Collaboration, both within the engineering community and with scientists, provided greater clarity concerning the role of engineers and technology in achieving sustainable development. Consequently, in 1997, at the Rio +5 Conference, the WFEO produced a document entitled *The Engineers Response to Sustainable Development* (World Federation of Engineering Organizations 1997).

The World Trade Organization (WTO) was established in 1995, and immediately became a cornerstone of Canadian trade policy, as well as an important foundation for Canada's relations with its trading partners. WTO provides its members with a forum in which to conduct trade negotiations, to review of members' trade policies and practices and other technical assistance activities, and to settle disputes between them. Canada is a signatory to two WTO multilateral agreements: the General Agreement on Trade in Services (GATS) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Several articles of the GATS are significant to the topics under discussion in this paper. For example, Article VI of GATS established that domestic regulation shall be administered in a “reasonable, objective and impartial” way. Furthermore, it required that measures related to “qualification and requirements procedures, technical standards and licensing do not constitute unnecessary barriers to the trade in services.” In addition, such rules should assure that requirements are based on “objective and transparent criteria, such as competence and the ability to supply the service,” and should not be “more burdensome than necessary to assure the quality of the service”

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<sup>10</sup> On sustainable development see *About Sustainable Development, History of Sustainable Development: The Road to Johannesburg*, [http://www.wssd-smdd.gc.ca/about/history\\_e.cfm](http://www.wssd-smdd.gc.ca/about/history_e.cfm) and *A Brief History of Sustainable Development*, [http://www.hrsdc.gc.ca/en/cs/fas/as/sds/sect2\\_sds3.shtml](http://www.hrsdc.gc.ca/en/cs/fas/as/sds/sect2_sds3.shtml).

(WTO 1995, 290). Regarding recognition, Article VII of the agreement proposes that “for the purposes of the fulfillment of standards or criteria for the authorization, licensing or certification of services suppliers.... Members [countries] may recognize the education or experience obtained, requirements met, or licenses or certifications granted in a particular country.” It also warned that a Member should not use recognition as a way of discriminating against countries or as a hidden procedure that was aimed at restricting trade in services. Finally, it postulated that recognition was to be based on “multilaterally agreed criteria” and, that Members were to work in “cooperation with relevant intergovernmental and non-governmental organizations towards the establishment and the adoption of common international standards and criteria for recognition,” which also should be applicable to the practice of relevant services and professions (WTO 1995, 291). This GATS article sought to eliminate countries’ validation requirements for courses, titles, and professional authorizations by substituting for them with international certification. UNESCO has been the main multilateral agency in this regard, acting toward the unification of national rules of certification, mainly in Europe, along with CRUE (Council of Rectors of the European Universities) through the Bologna Agreement (De Siqueira 2005).

Until 1994, when inherent conflicts of interest between regulation and self-interest came to the fore and engineers in Ontario began actively lobbying for a separate organization to advocate effectively for the interests of engineers, PEO regulated, as well as acted as an advocate for, its members. Following an address by Ontario’s then-Attorney General, Marion Boyd, to the PEO in 1995 about the necessity of separating regulation and advocacy, the PEO agreed to explore this idea.<sup>11</sup>

Knowledge-based occupations saw large increases in terms of permanent immigration to Canada from the mid-1980s until 1997. The knowledge worker concept derives its origin from the emergence of changes in the structure of jobs in large organizations. These changes were brought about by the higher complexity and increased quantity of information demanding attention in such settings (Roy, Falardeau, and Pelletier 2001). During this period, permanent immigration increased fifteen-fold among computer scientists, ten-fold among engineers, eight-fold among natural scientists, and four-fold among managerial workers (Statistics Canada 2000). According to Boyd, engineering is a professional occupation which not only plays an important role in the attempts of firms and nations to position themselves in the new world order, but one which also relies on a global labour supply (Boyd 2000). Worldwide, significant numbers of workers in engineering occupations are foreign born. In the United States, the foreign born account for almost 10 per cent and in Canada, the foreign-born were close to half (44.5 per cent) of those in the 1995-1996 experienced labour force who were aged 15 and older and who had engineering as a post-secondary major field of study. In the period 1951-1991, net migration accounted for about a quarter of Canadian population growth, and increased to 54 per cent of growth in the period 1991-1998. In spite of higher education and skill levels for the immigrants of this period, the self-governing bodies under provincial jurisdiction may well have introduced additional labour-market hurdles for these

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<sup>11</sup> On this point see *The Making of an Advocacy Body: OSPE Timeline* which can be accessed from: [http://www.ospe.on.ca/ospe\\_history\\_timeline.html](http://www.ospe.on.ca/ospe_history_timeline.html)

individuals (Citizenship and Immigration Canada 2003a). This idea is supported by the results of the focus groups conducted by CAPE, during which immigrants with engineering backgrounds (IEBs) have time and again expressed bewilderment at the expression ‘Canadian experience,’ the constituent elements of which, in their minds, have not been clearly defined by the PEO. Neither have they been able to reconcile the fact that three years of their foreign experience can be equated to Canadian standards, but four years cannot under current licensing requirements.

In a 1998 report to the Canadian Council of Professional Engineers, the International Affairs Committee of the Canadian Engineering Qualifications Board acknowledged that it had been caught off-guard by the frenzied pace of international trade initiatives. That the Canadian engineering community at large did not understand fully what was happening on the international front and needed to get proactively involved in these various international trade negotiations so as not to be lumped into the trade negotiations with other professions and services finally was acknowledged (Roter 2003).

In Ontario, Norbert Becker (President, The Becker Engineering Group, a PEO Councilor-At-Large, and the Chair of the PEO Globalization Strategic Planning Task Group) argued in 1998 that when the federal government joined more than 110 nations in signing the General Agreement on Trade in Services (GATS) in 1994:

... our federal government surrendered direct control over the schedule for its ultimate and inevitable implementation. By signing this agreement, pursuant to the rules of the GATS, Canada must ensure that all accreditation and licensing requirements for such self-regulating professions as engineering are open, transparent and non-discriminatory. Moreover, our systems of accreditation and licensing must encourage liberalization of trade by being objective and no more burdensome than necessary.... It was binding not only on our federal government, but also on provincial governments and non-governmental bodies acting in a regulatory capacity (e.g. PEO) (Becker 1998, 42).

Becker then proceeded to raise alarm that:

... although GATS was not intended to pressure any nation into compromising its existing standards for self-regulating professions, it seems destined to do so for the engineering profession in Canada.... Canadians who have practiced outside Canada can attest to the fact that engineering in most countries is either poorly regulated or not regulated at all: Anyone can claim to be an engineer with impunity in some jurisdictions (e.g. the U.S.); the accreditation requirements for engineers in many countries more closely match those of Canadian technologists or technicians than Canadian professional engineers; and the practice of engineering is regulated only in specific areas of practice in some other countries.... It is naive to believe that the unregulated and under-regulated world of engineering will agree to adopt Canadian standards for professional accreditation. In all likelihood, the Canadian federal

government will be pressured into making PEO an offer that it cannot refuse. Either PEO agree to harmonize its admissions standards with the rest of the world, or the engineering profession will be partially or entirely deregulated. After all, if the rest of the world doesn't need the protection afforded by a strict regulation of engineering, why does Canada? (Becker 1998, 43).

Even after this revelation, the PEO continued to both splinter and tighten its regulatory process. In 2000, it conducted a referendum of its members, and received an 80 per cent affirmative vote for the creation of a new member-interest advocacy body. In April 2000, the Ontario Society of Professional Engineers (OSPE) was born. The following year the PEO amended its by-laws to introduce open hearings for discipline cases and to establish provisional licenses, valid for one year, for qualified license applicants who had satisfied all legislated licensing requirements as a P.Eng., with the exception of obtaining at least 12 months of engineering work experience in a Canadian jurisdiction and under the supervision of a Canadian professional engineer. The latter represented a category of license that the PEO assumed would allow it to both maintain its high standards for qualification to serve and protect the Ontario public and benefit employers and immigrants with engineering backgrounds alike. It had done this because it recognized that access to practice in Ontario for foreign-educated professionals was an issue (Braddock 2003). Unfortunately, this initiative has unintentionally created a new obstacle for IEBs because it has placed a time limit on the acquisition of the required experience. The fundamental weakness of the provisional license, as well as an earlier OSPE program which failed to integrate immigrants with engineering backgrounds into Ontario, centres on a lack of "employer buy-in." Requirements for Canadian work experience link licensing and, in turn, foreign-credential and experience recognition, to the employment of immigrants with engineering backgrounds. The introduction of the twelve-month Canadian experience, which now links licensing to employment, thus has served to create a context of additional risk for already risk-averse employers.

Consequently, where there is no "employer buy-in," the PEO, even while seeming to grasp the need to make its foreign-credential and experience recognition processes no more burdensome than necessary, and open, transparent, and non-discriminatory as called for under GATS, still maintains policies and processes that appear to be somewhat flawed. Moreover, for the PEO "sustainable development," too, remains an elusive term, which it seems to understand purely as environmental protection. At the World Summit on Sustainable Development (WSSD) in 2002, Canada defined sustainable development to mean ensuring that environmental, economic, and social activities and policies were mutually reinforcing (Government of Canada 2002c). Moreover, at the same conference, the World Federation of Engineering Organizations produced *The Role and Contributions of the Scientific and Technological Community to Sustainable Development* (World Federation of Engineering Organizations 2002).

Canada's economic, political, and social diversity has led to different views about how to promote sustainable development. Some have emphasized the importance of economic growth, others the need for comprehensive environmental protection, and still others the need for increased equity in social conditions. Given the governance structure of this country, developing policies to

reinforce economic, environmental, and social objectives remains a challenge. In spite of this challenge, several governments have made changes in their organizational structure by, for example, merging resource ministries into sustainable development ministries, giving expanded mandates to existing ministries, and/or creating new permanent advisory bodies on sustainable development. Some governments also have instituted new policy processes either by introducing more comprehensive environmental assessment requirements or by broadening their public consultation processes.

In the case of Ontario, under the province's Environmental Bill of Rights, the government has also established an independent Environmental Commissioner. Furthermore, under the Environmental Bill of Rights, citizens of Ontario have the right to comment on government proposals, appeal certain government decisions, and ask for a review of current laws or request an investigation if they think someone is breaking a significant environmental law. This "Citizen Submissions on Enforcement Matters" mechanism enables the public to "blow the whistle" when a government appears to be failing to enforce its environmental laws effectively. It was established under Article 14 of the North American Agreement on Environmental Cooperation, which was part of NAFTA and the first environmental agreement connected to an international trade agreement (Government of Canada 2002d). In addition to being a signatory to NAFTA, Canada is also part of the currently-stalled negotiations for the Free Trade Area of the Americas (FTAA). The FTAA involves 34 democratic governments in the Americas, including Canada, and was started to ensure prosperity, democracy, and free markets for goods and services in the hemisphere by 2005 (Canadian Cultural Observatory 2005).

Predictably, Canada's trade dependence on the United States has grown since the FTA came into effect, so that it now relies on the United States for 85 per cent of its imports and exports (Cody 2003). Recognizing the importance of this market, Canada began a new initiative to secure even closer trade ties. With merchandise exports to its NAFTA partners having increased 95 per cent between 1993 and 2001 to \$580 billion CDN (only \$15 billion of it with Mexico), Canada knew that it must protect and advance its markets in the United States. Canada's \$96 billion CDN merchandise trade surplus of 2001 testifies to the benefits that Canada is deriving from its trade deals.

These developments seem to have escaped the attention of many members of the PEO, for the OSPE is once again obsessing about an oversupply of engineers in Ontario and an influx of immigrants with engineering backgrounds. They have particularly raised concerns about why many internationally-educated engineers and recent engineering graduates in the province are taking on jobs that do not utilize their skills and experience, rather than securing jobs within the engineering profession. The concern, according to OSPE, is that recent statistics indicate the problem stems from an oversupply of engineering graduates within certain disciplines. According to reports from Citizenship and Immigration Canada, over 10,000 internationally-educated engineers settled in Toronto alone in 2001. In March 2004, OSPE wrote a letter to Prime Minister Paul Martin, outlining these and other statistics, and emphasizing the critical importance of the implications of an oversupply of engineers in Ontario (OSPE 2004).



## **VISUAL DYNAMIC MODEL**

Given the disparate nature of the analysis presented above, a systematic matrix was developed to depict trends that have prevailed in Canada's 'experiments' with diversity through a lens that focuses on the interplay between immigration, multiculturalism, socio-economic development, and engineering practice in Canada (Appendix 1). This matrix was used to develop the dynamic model of comparative historical trends, presented in Figure 4. The model is not drawn to scale, but is intended to simulate, with reasonable accuracy, the interplay between the range of complex processes which have characterized Canada's social, cultural, and economic development. These processes have evolved over various periods of Canadian history from 1540 until the present. In summary, they include:

- the frameworks that have shaped Canadian development since 1540, including economic growth and sustainability;
- the employment sectors that have dominated the economy at various times;
- the development of engineering regulation;
- the development of multiculturalism policy;
- Canadian relations with the United States, including free trade and globalization;
- demographic changes, especially the increase in and sources of ethnic diversity; and
- the rates of immigration and the key immigration policy drivers.

As already noted, British military engineers had been involved in infrastructure development in Canada including roads, canals, railways, and other public works during the nineteenth-century. Wide-spread railway construction (especially the Inter-Colonial Railway and the Canadian Pacific Railway) after 1850 attracted more individuals with engineering skills, primarily from Britain and the United States. The construction of two transcontinental railways between 1873 and 1897 opened the Prairies and the mining areas of northern Ontario to new waves of immigration by the 1890s. As seen from the dynamic model, four distinct clusters of immigrants have arrived in Canada since that time (Figure 4). The first was the cluster that arrived in three waves before the end of the Second World War (pre-1945). The second cluster arrived after the Second World War between 1945 and 1967. The third cluster arrived in two waves between 1967 and 1986 and the final cluster has been arriving since 1986. Each of these clusters is analyzed below.

### **The First Cluster (Confederation to 1945)**

Between Confederation and 1892 the Ministry of Agriculture held responsibility for immigration, but Canada did not attract many immigrants. The first cluster arrived in three immigrant waves when Canada began to industrialize. A first, relatively small, wave arrived as part of national development policy at a time when:

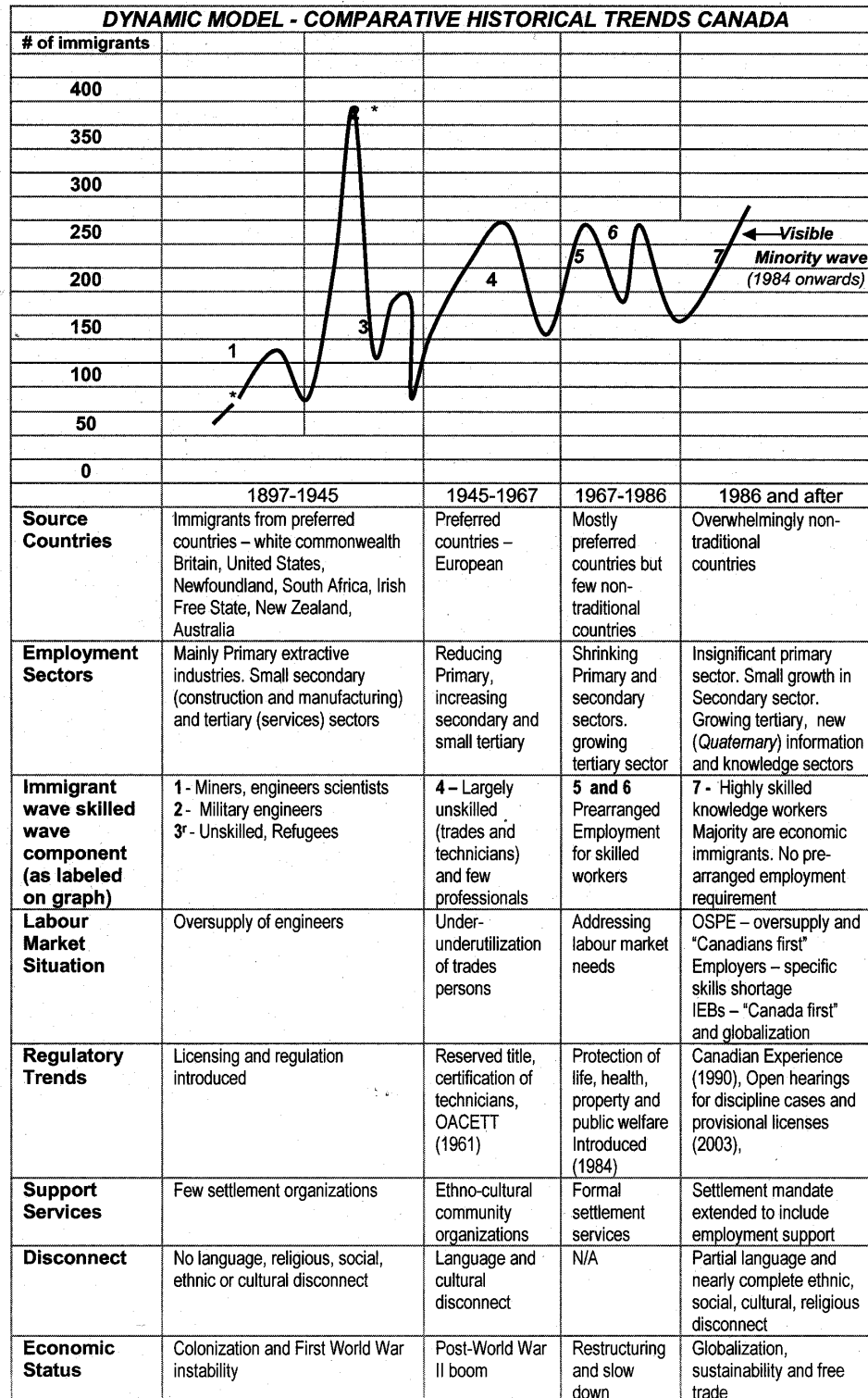
- immigration was embedded in the Ministry of Agriculture, but later was moved to the Ministry of Interior in 1892;
- few organizations provided immigrant services;
- immigrant source countries were predominantly Great Britain and America; and
- a significant number of the immigrants were miners, scientists, and engineers.

It was the engineers who arrived in this wave who, looking back at developments and trends in their home countries established the first Canadian engineering society, the Canadian Society of Civil Engineers (CSCE).

On the heels of this first wave followed a second wave known as the great immigration, which coincided with global instability associated with the First World War. During this wave, immigration fell under the Ministry of the Interior. Although still primarily from Great Britain and the United States:

- this wave of immigrants included a few Europeans from other countries, and a handful of “undesirable” immigrants from China and India;
- it coincided with the return home of thousands of demobilized soldiers, some of whom had extensive military engineering experience, and the arrival of a great number of refugees who chose to settle in Canada after the war;
- a handful of voluntary settlement organizations such as the Jewish Immigrant Aid Society (founded in 1922) were formed to assist the refugees;
- among this second wave of immigrants were a significant number of non-British and non-American individuals with mixed professional backgrounds. This, in combination with returning servicemen who had acquired military engineering training, created an over-supply of engineers in Canada after World War I; and
- under the pretext of a perceived risk associated with the mixed engineering skills of this immigrant wave, the members of CSCE agitated for, and achieved, the institution of engineering licensing in most provinces in Canada by 1922.

Figure 4



Even as a minor third wave of largely unskilled immigrants in this cluster was taking place:

- immigration was shifted to the Ministry of Immigration and Colonization and later, in the 1930s, to the Ministry of Mines and Resources;
- ‘preferred countries’ for immigrants were defined to include the Irish Free State, Newfoundland, Australia, New Zealand, and South Africa (the group of self-governing dominions of the British Empire known as the ‘White Commonwealth,’ of which Canada, itself, was a member); and
- agitation by the CSCE was devolved to the provincial level, leading to the formation of provincial regulatory bodies which made licensing mandatory (in 1937 in Ontario), and set restrictions on the use of the title “professional engineer,” thus closing the profession to foreign-trained engineers in Canada from 1945 onwards.

### **The Second Cluster (1945-1967)**

This cluster came as a single, prolonged wave following World War II. During this period, Canada experienced a post-war boom that was characterized by rapid technical advances and expansion of its construction and manufacturing sectors. This wave:

- by and large, included immigrants who were refugees from European countries that were not part of the British Commonwealth;
- was, for the most part, comprised of immigrants who did not present a racial disconnect with members of the host society, and, thus, were able to connect socially and by religion through the existing Judeo-Christian institutions of the host population;
- did have a significant language, education and training, and cultural disconnect with the general Canadian population;
- included a large number of refugees at a time when there was inadequate settlement support from the host population, so the language disconnect translated into ethnic silos as the refugees and immigrants of this period sought to recreate cultures they were forced to flee, rather than to become integrated into the extant ‘Canadian’ culture;
- in time, the host population started formal settlement services for the refugees so that the Jewish Immigrant Aid Society, for instance, became the first agency to hire a professional social worker to develop a specialized social services for newcomers;

- between 1946 and 1960, European engineering graduates, constituted the largest single group of immigrant professionals who were brought in to meet skilled labour shortages in Canada. These engineering graduates presented a mixed bag of skills, largely from non-Commonwealth countries where engineering education and training were distinctly different from the Ontario system which had been derived from the British system;
- in 1961 in response to the underutilization of skilled trades-people, Centro Organizzativo Scuole Tecniche Italiane (COSTI) was formed in Toronto to provide training and retraining to members of the Italian community. Gradually, based on this model, a specialized voluntary settlement sector emerged;
- spearheaded by the professional groups among them, such as the Association of Polish and Latvian Engineers, the increased economic strength and articulated presence of these ‘ethnic silos’ put pressure on the PEO to recognize the legitimacy of their credentials;
- the period witnessed an expansion of post-secondary educational institutions, mainly to accommodate returning war veterans. To more closely match the skill sets of the new immigrants to both the labour market and engineering regulation requirements, the category of engineering technicians and technologists was developed. This led to the creation of the Ontario Association for Certification of Engineering Technicians and Technologists (OACETT). Consequently, there was no threat to professional engineers licensed by the PEO from this cluster; and
- with the introduction of the term ‘Canadian Citizen’ in 1947, the need for a distinct Canadian cultural identity different from the United States began to be recognized, and the responsibility for immigration policy was shifted to the Department of Citizenship and Immigration.

### **The Third Cluster (1967-1986)**

This cluster of immigrants arrived in Canada in two relatively small waves during a time when Canada was undergoing substantial economic and social turbulence as the post-war boom was waning. In this period, most of the expansion in the labour force was found in the tertiary (services) sector. Also:

- many of the home countries of the immigrants of this interval had been colonized by the French, German, Dutch, and British and were becoming independent nations in Asia, Africa, Oceania, and the Caribbean. A number of these countries were also

members of the Commonwealth. This meant that their educational systems were aligned to the British system;

- promotion of Canada's demographic, economic, cultural, and social goals, a desire to foster family reunification, and the need to fulfil Canada's international obligations to create a non-discriminatory immigration policy led to the development of a points-based system for immigrant selection, although prearranged employment for skilled workers remained mandatory throughout the period;
- in spite of the improved economy, rapid technological innovation created both a skilled-worker shortage and an unacceptably high unemployment rate in the largest component of the reservoir of underutilized labour in Canada, namely, that consisting of unskilled and under-educated workers;
- a shift was occurring in post-secondary education, with a greater focus on the establishment of community colleges to meet the labour-market retraining needs of the unskilled and under-educated workers of Canada;
- a comprehensive review of self-regulation in a number of interconnected professions, including engineering, identified the need for the protection of vulnerable interests, fairness, feasibility of implementation, and accountability from regulatory bodies;
- PEO moved to create more stringent enforcement and accreditation conditions, even as it was splintering because of inherent conflicts of interest;
- the Department of Manpower and Immigration was created in 1966, and the government withdrew from the provision of direct settlement services to fund voluntary immigrant-serving agencies to provide a range of settlement services from reception of immigrants to employment, accommodation, and settlement assistance. These translated into employment-preparation programs based on resumé writing, cold calling, networking, and work-placement programs for refugees. In this period, skilled workers only qualified to enter Canada if they had pre-arranged employment. The government established the Immigrant Settlement and Adaptation Program (ISAP), through which it funded initial settlement services, such as information provision, orientation, and referral to mainstream service agencies; and
- Canada became the first constitutional multicultural state, which put it in stark contrast to the American model of integration into the cultural mainstream.

Overall, a pattern of anti-American and anti-colonial Canadian nationalism was given a new life through the adoption of Canada's official policy of multiculturalism in 1971. This stood in contrast to the foundations of modern Canadian society that had been laid during the early nineteenth

century by the United Empire Loyalists (refugees from the American Revolution). The consequence was that:

- for the first time, and encouraged by its immigration policy, a small number of people from non-traditional source countries began to immigrate to Canada;
- since pre-arranged employment was mandatory for skilled workers, the few immigrants with engineering backgrounds from non-traditional source countries were eventually absorbed into Ontario's professional engineering fraternity either as licensed engineers or as certified engineering technicians or technologists;
- settlement services mainly were intended to serve refugees and family-reunification immigrants; and
- PEO, under considerable stress due to inherent conflicts between self regulation of the profession and protection of its member interests, began splintering into different groups.

#### **The Fourth Cluster (1986 to the Present)**

This cluster, which has come in single, sustained wave, arrived at a time when economic problems had become the paramount concerns of both the Federal and Provincial governments. Cutbacks in the funding to support social services has been a hallmark of this period. At the same time, rapid developments in information technologies have created a need in Canada for knowledge workers. Immigrants in this wave:

- have tended to be more educated and experienced than their Canadian counterparts, and overwhelmingly from non-traditional countries. The members of this cluster often have had a complete racial, cultural, religious, and social disconnect with the host population. They have, however, displayed less of a disconnect in terms of language, education, and training. The top source countries in this period have included China, India, Pakistan, Hong Kong, Taiwan, and the Philippines. India and Pakistan, among other source countries, are members of the Commonwealth, and represent countries that have derived their engineering educational and training systems from the same British model in which the Canadian system itself has been rooted;
- the immigrants and refugees of this period arrived at a time when both the Federal and Provincial governments have been preoccupied with such economic goals as achieving price stability, low inflation, and reduction of deficits through cut backs

to public expenditures on social services. In the initial years of this period, historically high unemployment rates existed in Canada;

- also, during this interval, Canada has been increasingly drawn into trade liberalization, globalization, and technological change. One consequence of this has been the increased mobility of knowledge workers;
- beginning in 1986, the Canadian immigration system adapted its criteria to attract skilled workers by increasing the points required to 70 points. Equally significant, it eliminated the requirement for prearranged employment. For the first time, the majority of immigrants coming to Canada are from the “skilled workers” category. As seen from Appendix 2, a significant proportion of these immigrants have engineering, technician, or technologist backgrounds;
- upon arrival in Ontario, many these immigrants have been drawn to formal settlement services, many of which were founded on the basis of a service model that was created to meet the needs of refugees after the World War II, but subsequently has been adapted to include employment-preparation programs based on language training, resumé writing, cold calling, networking, and work-placement programs for unskilled immigrants;
- even though the vast majority of the immigrants with engineering backgrounds in this cluster have come from Commonwealth countries whose educational systems are not very different from the one found in Canada, they have been subjected to accreditation systems developed for post-Second World War immigrants who originated from non-Commonwealth countries that had distinctly different education and training systems from those in Canada;
- although many of these immigrants possess more highly-developed technical skills and more widely-based experience than their predecessors, and despite their language disconnect being only partial, many of them have become increasingly marginalized because of a mindset focused on ethnic silos that is common within the system of settlement services that were developed for the skilled trades-people who came in the second cluster;
- furthermore, employers have become more risk-averse at a time when governments have tried to stabilize the economy by giving it a greater free market-orientation and a lesser reliance on state intervention. This has given rise to the rapid emergence of inequality of incomes and employment in many regions;
- at the same time, the regulatory and accreditation bodies do not appear to have had much capacity to understand the whole range of global credentials, many of which are derived from the British Commonwealth system in which the Canadian systems



are rooted. Neither does PEO seem to understand the range of experiences that these immigrants possess. Instead of addressing this capacity gap, PEO, by incorporating so-called principles of public protection into its definition of professional engineering in 1984, and using this to incorporate a demand for ‘Canadian Experience’ into the licensing process in 1990, has translated the risk aversion of employers into an aversion to foreign credentials. Since the federal government has no purview over provincial licensing bodies, it could not use those licensing bodies to evaluate credentials at the time of immigration. As a result, the provincial bodies have been free to implement any changes to their licensing criteria without being required to test their implications for immigrants. A very good example of this can be seen in Ontario’s decision to legislate one year of Canadian experience into its licensing regulations without providing any meaningful definition of the criteria for Canadian experience, which, thus, leaves the term “Canadian experience” open to ambiguous interpretations; and

- OSPE, which was created in 2000 to protect the interests of professional engineers in Ontario (who are also the licensed engineers who subscribe to PEO membership), is now expressing concern about an apparent oversupply of engineers, and using that argument in its lobbying efforts to both defend its policy in support of a first right to employment for Canadian engineering graduates and to explain away the consequent unemployment and underutilization of immigrants with engineering backgrounds in this cluster.

## CONCLUSIONS AND RECOMMENDATIONS

For the engineering profession, it has been the impact of each cluster of immigrants on the following clusters that has created an understanding of how different factors influence the access of skilled immigrants in general, and immigrants with engineering backgrounds in particular, to employment in Ontario. From the analysis presented in this paper, it can be concluded that:

- the first cluster of engineers, drawn mainly from Great Britain and the United States with a smaller number in the 1930s drawn from the ‘White Commonwealth’ countries, agitated for and had devolved to the provincial level the institution of professional licensing and reservation of the title ‘Professional Engineer.’ This can best be viewed as a reaction both to a purported oversupply of foreign engineers during a period of instability associated with the First World War and to the perceived risk associated with the mixed engineering skills of this immigrant wave. The Federal Government, by default, delegated its legislative authority for licensing to the provincial governments, who, in turn, delegated it to membership-based, self-regulating professional associations (the PEO in the case of Ontario) that had no responsibility to the public;

- the second cluster originated mainly from non-preferred, non-Commonwealth European countries during the post-Second World War boom. This cluster created ethnic silos and set up a voluntary settlement-service model to address language, education and training, and cultural disconnects with the host population. These were meant to address the social problems of a large number of refugees and tradespersons, whose skills often were under-utilized in Ontario. Consequently, the certification of engineering technicians and technologists was initiated in Ontario. Also, during the 1950s and 1960s, Ontario's post-secondary education system, was expanded and diversified to deal first with returning servicepeople from the War and then to provide more education for the under-skilled and under-educated segment of the population;
- the third cluster originated mainly from European Countries, but included a small number from non-traditional and some newly-independent Commonwealth countries during a period of economic restructuring and slowdown. Although high unemployment prevailed in the large, under-educated labour force in Ontario, employment was not an issue for the skilled immigrants of this period. This was the case because pre-arranged employment was a condition for immigration and, in any case, Canada was suffering from a shortage of skilled workers at this time. The government withdrew from the direct funding of settlement services, and shifted to funding voluntary settlement services for newcomers based on the models developed during the second cluster. These mostly served refugees and other non-skilled immigrants; and
- The current and fourth cluster has been arriving at a time of economic uncertainty, global competition, and increased awareness about sustainable development. The members of this group arrived in Canada much more highly-educated and qualified than the general Canadian population because of an immigration policy that had been geared to attracting knowledge workers in large numbers. These immigrants overwhelmingly have come from non-traditional countries, several of which belong to the Commonwealth. They have a significant social, religious, cultural, and racial disconnect with the host population. Their language, education, and training disconnect with the host population, however, has been less significant. Although the government of Canada wants to open the country up to globalization and sustainability, the Ontario engineering community has chosen to understand only selective components of these policies. The government of Canada has endorsed globalization by signing several international trade agreements (for example, NAFTA and GATS) which are designed to facilitate both a seamless access to markets and the migration of knowledge workers, including those with engineering backgrounds. This fourth cluster of immigrants represents the leading edge of labour migration associated with globalization. However, domestic provincial professional regulatory systems have been unable to transcend their inward-looking licensing processes,

which remain geared to dealing with a perceived risk associated with the mixed engineering skills of foreign professionals. Employers, too, seem to have been unable to part ways with the comfort zone associated with a familiar set of skills, including language proficiency and a recognized work culture. Such criteria, however, often have been difficult to define in any distinct way. Moreover, many have been obsessed with the notion of 'Canadian experience' without providing the specifics concerning its definition. Advocates for professions, such as engineering, have continued to be consumed with a myth concerning the need to protect Canadians against an oversupply of engineers due to an immigrant invasion of the profession. By closing the door to the profession to immigrants with engineering and other professional backgrounds through these mechanisms, the professionals in this fourth cluster have been frustrated in their attempts to make use of the skills and education that formed the basis for their admission to Canada. In short, many of these immigrants have not been allowed to demonstrate their potential for economic contribution to Canada, which is not the same as alleging that these immigrants have performed poorly.

Interestingly, these findings have been validated by Maynard who argued that:

pockets of the business community are generating great pressure upon the government to facilitate borderless access to both the marketplace and the labour pool. Access to the global marketplace is a function of trade agreements and reduction of protectionist tariffs. Access to the global labour pool is a tougher nut to crack, as the historical role of the government has been to protect its population from competition for domestic employment positions. Protection of domestic employment opportunities is a legitimate concern of government, and is historically the primary consideration when determining entry of a foreigner into the Canadian labour pool. The HRDC validation process is the backbone process for determining entry of a foreign worker. The validation process is focused upon the question of whether a Canadian or permanent resident is available for the employment position; the historical concern is employment of Canadians first. Exemptions to the validation process are numerous, overlapping, piecemeal, and confusing... We are in the midst of a transition of focus from 'Canadians first' to 'Canada first.' The NAFTA and GATS agreements have opened the door for entry of foreigners into specific occupations without HRDC validation in some occupations. The implementation of pilot projects for entry of IT and software professionals for instance has widened the door, in the interest of assisting Canadian businesses to be competitive in the global marketplace, and are paving the way for broader adoption of sectoral agreements and other mechanisms that will ease labour market borders for specific segments of the economy (Maynard 2000).

Ontario, however, has failed to adapt to this transition from "Canadians First" to "Canada First," and the highly-skilled and highly-educated immigrants with professional backgrounds have been the victims of this failure. If this failure is to be corrected:

- regulation of professions, such as engineering, must meet the commitments made by Canada to international trade agreements, GATS and NAFTA included;
- employers must rise to the challenge of global competition, and move beyond familiarity to accept change while recruiters need to adapt HR technologies to the emerging global skills framework;
- the province must give serious commitment to the principles of equity and equality of employment outcomes for a sustainable future; and
- new policy processes geared to creating a seamless settlement process to achieve skills-commensurate employment for immigrants with professional backgrounds must be instituted by broadening public consultation processes to engage all stakeholders, including the employers; the regulators; the education, training and immigration services sectors; and the immigrants with professional backgrounds.

## APPENDIX 1: DETAILED INFORMATION USED TO CONSTRUCT THE DYNAMIC MODEL OF COMPARATIVE TRENDS

Stage	Multiculturalism Policy	Immigration Trends (Based on current mapping)			Regulation and Engineering	Socio-Economic Characteristics
		Source Countries	Types of Immigrants	Institutional Structure, Legislation, and Policy		
<b>Colonial Beginnings</b> <b>1500-1867</b>	<ul style="list-style-type: none"> <li>• Pre-Confederation</li> <li>• No multiculturalism policy</li> </ul>	<ul style="list-style-type: none"> <li>• British, French, Dutch, German, Swiss, Scots, and Irish</li> <li>• African American</li> <li>• Chinese</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent European settlers</li> <li>• Refugees</li> <li>• Temporary workers (mining, telegraph, and roads)</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-Confederation</li> <li>• No immigration policy</li> </ul>	<ul style="list-style-type: none"> <li>• French military engineers constructed fortifications to protect their settlements</li> <li>• British military engineers began building roads and canals in Upper and Lower Canada</li> <li>• Sir Sanford Fleming initiated organization of an engineering society</li> </ul>	<ul style="list-style-type: none"> <li>• French-English dynamic in operation</li> <li>• Staples (fisheries, fur, timber) and agriculture were the main wealth-creation engines</li> <li>• Population growth and settlement</li> <li>• Beginnings of institutional foundations (social, political, economic, and cultural)</li> <li>• Roads and canals infrastructure</li> </ul>
<b>Confederation and the National Policy Era</b> <b>1867-1896</b>	<ul style="list-style-type: none"> <li>• No multiculturalism policy</li> </ul>	<ul style="list-style-type: none"> <li>• Americans</li> <li>• Northern Europeans, Germans, Italians</li> <li>• Croatsians and Syrians</li> <li>• Chinese</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers, settlers, and small traders</li> <li>• Refugees</li> <li>• Railway workers</li> <li>• Railway and mining engineers</li> </ul>	<ul style="list-style-type: none"> <li>• Responsibility for immigration rested with the Minister of Agriculture until 1892; the Minister of the Interior thereafter.</li> </ul>	<ul style="list-style-type: none"> <li>• Educational institutions began offering engineering studies in Canada around 1850</li> <li>• The Canadian Society of Civil Engineers (CSCE) set up by canal and railway engineers</li> <li>• In 1887, the CSCE was chartered</li> <li>• The CSCE agitated for regulation of engineers but this was opposed by miners</li> </ul>	<ul style="list-style-type: none"> <li>• Slower growth than in the US</li> <li>• Precarious export trade</li> <li>• Low rate of real capital formation</li> <li>• Net emigration</li> <li>• Some increase in per capita income</li> <li>• Territorial expansion</li> <li>• Railway and canal building and mining activity</li> <li>• Two transcontinental railways were begun between 1873 and 1897</li> </ul>

<p><b>Industrialization Era</b> <b>1896-1929</b></p>	<ul style="list-style-type: none"> <li>● No multiculturalism policy</li> </ul>	<ul style="list-style-type: none"> <li>● Americans</li> <li>● Europeans, Italians, Swedes, Norwegians, Greeks, Belgians</li> <li>● Croatians, Czechs, Slovaks, Russians</li> <li>● Syrians (Lebanese, Jordanians, Palestinians)</li> <li>● Japanese</li> <li>● Sikhs (Indian)</li> </ul>	<ul style="list-style-type: none"> <li>● Farmers, farm workers and female domestics</li> <li>● Unskilled workers for manufacturing and service sectors</li> <li>● Military and other engineers</li> <li>● Foresters, fishermen, miners, and merchants</li> <li>● Refugees and family reunification</li> </ul>	<ul style="list-style-type: none"> <li>● Responsibility for immigration rested with the Minister of the Interior until 1917; the Minister of the Immigration and Colonization thereafter.</li> <li>● Until 1930, immigration policy was part of the general set of national policies – completion of three transcontinental railways, high levels of import protection for secondary manufactured goods, and a land policy aimed at inducing immigrants to settle in the west. As labour demand increased, the government expanded recruitment beyond traditional source countries.</li> </ul>	<ul style="list-style-type: none"> <li>● Admission to the CSCE called for experience only and membership was not mandatory to practice.</li> <li>● In 1918, CSCE renamed EIC to admit mechanical and electrical engineers.</li> <li>● <i>Professional Engineers Act</i> passed in 1922 (giving birth to PEO).</li> <li>● Influx of American and British Engineers pre- and post-World War I. Canada had an oversupply of engineers.</li> <li>● CSCE began to advocate for employment preference for Canadian engineers.</li> </ul>	<ul style="list-style-type: none"> <li>● First period of rapid population growth and heavy immigration</li> <li>● Settlement and expansion of export trade</li> <li>● High rates of real capital and economic growth</li> <li>● Emergence of chemical and iron and steel industries</li> <li>● Hydro-power and other utility infrastructure</li> <li>● Urbanization and domestic market expansion</li> <li>● British portfolio investment + US branch plants</li> <li>● Expansion of manufacturing</li> <li>● Reallocation of labour from rural, agricultural employments to urban, industrial jobs</li> </ul>
<p><b>Instability and Recovery</b> <b>1929-1950</b></p>	<ul style="list-style-type: none"> <li>● All Canadians were defined as British subjects until 1947.</li> <li>● Massey-Lévesque Royal Commission of 1950 brought to the fore the need for a distinct cultural identity, and gave rise to the concept of multiculturalism in Canada</li> </ul>	<ul style="list-style-type: none"> <li>● British, Americans, and a few European groups</li> </ul>	<ul style="list-style-type: none"> <li>● Farmers with capital</li> <li>● Refugees</li> <li>● Family reunification</li> </ul>	<ul style="list-style-type: none"> <li>● Responsibility for immigration rested with the Minister of the Immigration and Colonization until 1936; the Minister of Mines and Resources thereafter.</li> <li>● During World War II, Canada had a highly restrictive immigration policy.</li> <li>● In 1947, the <i>Canadian Citizenship Act</i> was passed</li> </ul>	<ul style="list-style-type: none"> <li>● In 1937, licensing of engineers was introduced</li> <li>● In 1945, “P.Eng” was adopted as an official abbreviation</li> </ul>	<ul style="list-style-type: none"> <li>● World-wide economic collapse in 1929</li> <li>● Slow, even negative, economic growth in the 1930s</li> <li>● World War II</li> <li>● Era of the activist state</li> <li>● Interruption of export trade</li> <li>● Mass unemployment which peaked in 1932-33, declined until 1937, then began to grow again until the outbreak of the War</li> <li>● Expansion of war-related manufacturing and services</li> <li>● The Marsh Report proposed a comprehensive social security program for post-war Canada</li> </ul>

<p><b>The Post-World War II Boom</b></p> <p>a) 1950-1966</p>	<ul style="list-style-type: none"> <li>● The 1960 Bill of Rights barred discrimination by federal agencies on the grounds of race, national origin, colour, religion, or sex.</li> <li>● Policy emphasis also shifted in favour of culture- and race-based ideologies of multiculturalism.</li> </ul>	<ul style="list-style-type: none"> <li>● First significant wave of immigrants from Southern Europe</li> </ul>	<ul style="list-style-type: none"> <li>● Family reunification</li> <li>● Refugees and Displaced Persons</li> </ul>	<ul style="list-style-type: none"> <li>● Immigration policy in the 1950s shifted to “employment-creating immigration” of professionals and other skilled immigrants, and began to discourage “employment-competing” inflows of unskilled labourers. Ethnic preferences, however, were still maintained.</li> <li>● Immigration declined in early 1960. The Department of Manpower and Immigration was created in 1966, and began to link the level and composition of immigration to the immediate needs of the domestic labour market.</li> </ul>	<ul style="list-style-type: none"> <li>● In 1961, the certification program for technicians and technologists began in Ontario.</li> </ul>	<ul style="list-style-type: none"> <li>● Second period in Canadian population history when net immigration was as important to growth as natural increase.</li> <li>● Unprecedented period of sustained economic growth and low unemployment.</li> <li>● High rates of real capital formation.</li> <li>● Decline in agriculture and primary production .</li> <li>● Emergence of a mature industrial economy.</li> <li>● High/rising per capita incomes.</li> <li>● Rapid technological advances.</li> </ul>
<p><b>The Post-World War II Boom</b></p> <p>b) 1967-1975</p>	<ul style="list-style-type: none"> <li>● In 1971, Canada became the first country in the world to adopt an official Multiculturalism policy</li> </ul>	<ul style="list-style-type: none"> <li>● For the first time in Canadian history, significant numbers of immigrants began to arrive from non-traditional source countries in Asia, Africa, and Central and South America</li> </ul>	<ul style="list-style-type: none"> <li>● Skilled professionals (50 points)</li> <li>● Family reunification</li> <li>● Refugees and Displaced Persons</li> </ul>	<ul style="list-style-type: none"> <li>● In 1967, immigration policy set a points-based system for admission criteria based on skills, training, and job experience.</li> </ul>	<ul style="list-style-type: none"> <li>● In 1969, there were major revisions to the <i>Engineering Act</i>, including: <ol style="list-style-type: none"> <li>1) Improved regulation of engineering partnerships and corporations;</li> <li>2) Better definition of Council’s role in dealing with discipline; and</li> <li>3) Membership outside Toronto, via member representation from five regions in the province.</li> </ol> </li> <li>● In 1970, the role of the Council is redefined in the <i>Professional Engineers Act</i>, Chapter 366</li> </ul>	<ul style="list-style-type: none"> <li>● Feminization of the workforce.</li> <li>● Steady decline in primary industries (agriculture, fishing, mining, forestry)</li> <li>● Growth in secondary industries (manufacturing and construction)</li> <li>● All the net job growth in the tertiary (service) industries – including transportation, electric power, communications.</li> <li>● Trade dependence on USA.</li> </ul>

<p><b>Slowdown and Restructuring</b></p> <p><b>1975-1985</b></p>	<ul style="list-style-type: none"> <li>● In 1982, the Canadian Charter of Rights and Freedoms came into effect</li> <li>● Introduction of an innovative ethno-cultural policy</li> <li>● Canadian multiculturalism embedded in equality, as opposed to opportunity</li> <li>● Definition of Multiculturalism in the <i>Canadian Charter of Rights and Freedoms. Multiculturalism Act</i> adopted by Parliament</li> </ul>	<ul style="list-style-type: none"> <li>● Immigrants from non-traditional source countries in Asia, Africa, Central and South America began to increase. From 1980 onwards immigrants from Asia made up over 50% of all immigrants per year to Canada</li> </ul>	<ul style="list-style-type: none"> <li>● Skilled professionals (50 points)</li> <li>● Family reunification</li> <li>● Refugees and Displaced Persons</li> <li>● 39 per cent of total between 1981 and 1985 were skilled economic immigrants</li> </ul>	<ul style="list-style-type: none"> <li>● <i>Canadian Immigration Act</i> 1978</li> <li>● Negotiation of several federal/provincial immigration agreements in the 1970s.</li> </ul>	<ul style="list-style-type: none"> <li>● PEO began to splinter after 1974</li> <li>● 1984 <i>Engineering Act</i> amended to include: <ol style="list-style-type: none"> <li>1) Revised definition of professional engineering, protection of life, property and public welfare.;</li> <li>2) Expanded objects of the association;</li> <li>3) A more formal complaints procedure limited licensure, fees mediation, arbitration provisions and a broader sanctions for professional misconduct and incompetence; and</li> <li>4) A provision that P. Eng's offering service to the public be required to have a Certificate of Authorization, even if sole practitioners.</li> </ol> </li> <li>● In 1976, the Attorney General of Ontario initiated a review of the effectiveness of Ontario's self-regulating professions of public accounting, architecture, engineering, and law, and their governing statutes</li> <li>● The Professional Organizations Committee (POC), which was appointed to carry out this review, submitted its report in 1980. In this it set out the following four principles to guide regulatory policy: <ol style="list-style-type: none"> <li>1) Protection of vulnerable interests;</li> <li>2) Fairness of regulation;</li> <li>3) Feasibility of implementation, and</li> <li>4) Public accountability of regulatory bodies.</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>● After the mid-1970s, growth of secondary industries declined</li> <li>● Primary industries continued to decline</li> <li>● Tertiary sector continued to grow</li> <li>● Stagflation</li> <li>● Decline in productivity growth</li> <li>● Falling per capita income</li> <li>● Rising unemployment</li> <li>● Political upheavals</li> <li>● National disunity</li> </ul>
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<p><b>Free Trade, Globalization, and Sustainability</b></p> <p><b>1986 to present</b></p>	<ul style="list-style-type: none"> <li>● Canadian institutions began to adapt to the presence of the new immigrant groups.</li> </ul>	<ul style="list-style-type: none"> <li>● Between 1991 and 2001, Canada received 1.8 million immigrants.</li> <li>● 58% were from Asia and the Middle East; 20% from Europe; 11% from the Caribbean, South and Central America; 8% from Africa, and 3% from the USA</li> </ul>	<ul style="list-style-type: none"> <li>● Skilled professionals (70 points) – mostly with engineering backgrounds</li> <li>● Family reunification</li> <li>● Refugees and Displaced Persons</li> <li>● 61% of all immigrants were skilled workers or business class</li> </ul>	<ul style="list-style-type: none"> <li>● Citizenship and Immigration Canada (CIC) was created in 1993, bringing together various programs and services which had previously been administered by several departments.</li> </ul>	<ul style="list-style-type: none"> <li>● 1990 amendment included a requirement for twelve months of Canadian experience.</li> <li>● In 2000, the Act was amended to allow PEO to transfer funds to the OSPE and the definition of professional misconduct was revised to include harassment .</li> <li>● In 2003, the Act was amended to include both a new admissions appeal process and provisional licenses.</li> </ul>	<ul style="list-style-type: none"> <li>● Prolonged recession, the highest rate of unemployment since the depression but the period ended with the return of strong economic growth</li> <li>● Low inflation rates</li> <li>● More market-oriented and less reliant on state intervention</li> <li>● Signing of NAFTA, GATS, TRIPS and the Kyoto Treaty</li> <li>● Increased trade dependence on USA</li> </ul>
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**APPENDIX 2 - OCCUPATIONS OF PRINCIPAL APPLICANTS, 1996-2000****Occupations of Principal Applicants, 1996-2000**

<b>1996-2000</b>				<b>2000</b>			
<b>NOC, 4-Digit</b>		<b>Level</b>	<b>Share</b>	<b>NOC, 4-Digit</b>		<b>Level</b>	<b>Share</b>
2163	Computer Programmers	20,867	9.6	2163	Computer Programmers	6,511	12.5
2162	Computer Systems Analysts	13,751	6.3	2162	Computer Systems Analysts	3,837	7.4
2133	Electrical and Electronics Engineers	13,295	6.1	2133	Electrical and Electronics Engineers	3,753	7.2
2132	Mechanical Engineers	11,233	5.2	2132	Mechanical Engineers	3,504	6.7
1241	Secretaries	10,986	5.1	1241	Secretaries	2,468	4.7
2131	Civil Engineers	8,982	4.1	2131	Civil Engineers	1,433	2.8
1111	Financial Auditors and Accountants	7,091	3.3	1111	Financial Auditors and Accountants	1,432	2.8
1122	Management Prof.	5,106	2.4	1122	Management Prof.	1,202	2.3
2121	Biologists and Related Scientists	4,853	2.2	2121	Biologists and Related Scientists	994	1.9
6242	Cooks	4,391	2.0	6242	Cooks	982	1.9
Top 10 Occupations		100,545	46.4	Top 10 Occupations		26,116	50.2
Other Occupations		116,163	53.6	Other Occupations		25,964	49.8
TOTAL		216,708	100.0	TOTAL		52,080	100.0

Source: Citizenship and Immigration Canada. 2003. *Immigrant Occupations: Recent Trends and Issues*, accessed from: <http://www.cic.gc.ca/english/research/papers/occupations/occupations-toc.html>

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## **CERIS**

**The Joint Centre of Excellence for Research on Immigration and Settlement - Toronto (CERIS) is one of five Canadian Metropolis centres dedicated to ensuring that scientific expertise contributes to the improvement of migration and diversity policy.**

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