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IEGs in Profile

Assembling a profile of international engineering graduates is difficult to do. CIC data on IEGs is based on immigrants' self-identification as engineers. Regulatory bodies gather data on IEGs, but do not do so consistently from one province or territory to the next. Indeed, the regulatory bodies are only in a position to collect statistics at the time an IEG applies for a license and, therefore, only on IEGs who pursue licensing.

Complicating matters further, some immigrants who self-identify as 'engineers' in fact do not meet the standards established by Canada's engineering licensing bodies. They would self-identify in this manner because the term "engineer" is not defined the same way by other countries. Professionals who would be called chemists, agronomists or architects in Canada, may be called "engineers" in their home countries. This distorts the numbers collected by settlement and support agencies, and by the CIC. It prevents differentiation between immigrants who call themselves engineers and those who actually meet Canadian licensing requirements.

In addition, because the regulatory bodies do not track IEGs through the licensing process, it is difficult to determine where they leave the process and therefore to make a determination as to whether or not a particular aspect of the process is proving more difficult to achieve than others.

GENERAL IMMIGRATION TRENDS

While a refined profile of IEGs cannot be compiled, a general profile can be assembled. Following is an encapsulation of national immigration data, followed by statistics on immigrating federal skilled workers:

Immigration levels are linked to many key factors in society ranging from labour market need to general economics to birth rates and overall population growth. In 2002, Canada welcomed 228,575¹² new immigrants.

According to *The Monitor*, CIC's online magazine, China¹³ was the top source country for general immigration in the five years prior to 2002, contributing 15 percent or about 33,000 new immigrants to Canada during this timeframe, followed by India and Pakistan, respectively.

In 2003, Canada expects to receive between 220,000 and 245,000¹⁴ newcomers as permanent residents. Of these, 60 percent (132,000 to 147,000 principal applicants and dependents) are expected to fall within the economic class (which comprises business and skilled-worker entrants), 26 percent (59,000 to 64,500) within the family class, 13 percent (28,100 to 32,500) as protected persons (refugees), and less than one percent in other categories. IEGs will typically apply under the federal skilled worker class — part of the economic class — given that this classification offers them the highest number of points for education and work experience.

In 2002, 53,333 federal skilled workers immigrated to Canada.

In addition, more provinces are establishing Provincial Nomination agreements with the federal government, which allow them to fast-track immigration to their constituencies and ensure their unique skill requirements are better met.

WHAT WE DO KNOW ABOUT IEGs

Statistical information gathered by CCPE in 2002¹⁵ does offer some profile of IEGs who become licensed. Its *National Survey of the Engineering Profession* showed that 88 percent of Canada's licensed engineers were educated in Canada. Five percent obtained their degrees in Europe, three percent in Asia and the remaining engineers from other parts of the world. As far as gender is concerned, 87 percent of men and 91 percent of women were educated in Canada. CCPE's 2002 membership study further showed that:

- 12 percent of Canada's licensed engineers obtained their education abroad. (This could mean that they were born in Canada and educated abroad but most are assumed to be immigrants.)
- Licensed engineers who had immigrated were slightly more likely to be male (they are also slightly more likely to be older and in general, women in the engineering profession are younger than their male counterparts).
- Those who had received their undergraduate degree outside of Canada were more likely to also have a degree at the graduate level.
- Those educated abroad were marginally less likely to be employed on a permanent basis, but slightly more likely to be self-employed or on contract.
- They were more likely to have management or supervisory experience.¹⁶
- They reported higher levels of personal income (which can be linked to their experience in management roles).

12 CIC 2002.

13 With new immigration Act changes of 2002 (the higher English language requirement) it is expected that the number of immigrants from China may decrease.

14 CIC, 2002 predictions for 2003.

15 CCPE 2002 National Survey of the Engineering Profession. Funded by HRDC.

16 2002 National Survey of the Engineering Profession, EKOS Research Associates, Survey conducted in May–June 2002 – final report pending, Ottawa.

- Survey respondents were likely to indicate that while they were fine with their language skills — being able to speak a second or third language — they would like to improve their teamwork and communications skills.

Unfortunately, this information does not offer much insight into how many immigrating IEGs initiate, abandon or complete the licensing process.

STATISTICS CANADA DATA

Findings presented in a Statistics Canada article entitled *Brain Drain, Brain Gain*¹⁷ offer further perspective on immigrating IEGs:

- A total of 11,875 immigrants who'd worked in engineering in their home country came to Canada between 1986 and 1991.
- Between 1992 and 1997, a total of 34,926 immigrants were, during the immigration process, identified as having worked in engineering in their home country (*Education Quarterly*, 2000) — roughly a three-fold increase since '91.
- 11.4 percent¹⁸ of engineers, surveyors, architects and mapping scientists (which all fall within one occupational category in the immigration process) stated their intention to work in their respective fields upon immigration to Canada. Of this group, 7.7 percent had actually realized this goal by 1996.¹⁹

PROVINCIAL STAT COMPILATION

While the provincial/territorial regulatory bodies only collect information on IEGs who apply to become licensed in Canada, once again that data offers a partial profile of the international engineering graduate. For example, provincial statistics show that:

- 19 percent of members of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) were educated abroad.
- At least 30 percent of members of Professional Engineers Ontario (PEO) were educated or trained abroad.
- Typically, only five percent of members of the regulatory bodies in Nova Scotia, Prince Edward Island, New Brunswick and Quebec have been educated abroad.²⁰

PROVINCIAL RESEARCH

Additional research has been conducted by the Government of Ontario. In the summer of 2002, its Ontario Ministry of Training, Colleges and Universities and a number of community partners released a study titled *The Facts Are In!* The document details the characteristics and experiences of immigrants seeking employment in regulated professions in Ontario. Many in the sample — 276, or 42.9 percent — were engineers; they represented the largest group in the study.

According to the Ontario study, many of the surveyed engineers had prepared themselves for integration into the workforce prior to arriving in Canada. Of those who had received information about becoming licensed prior to arrival, approximately 65.8 percent were working in their intended profession and 19.2 percent were employed in non-related jobs. Of

17 Statistics Canada 2000.

18 Between 1990 and 1994.

19 All sourced this page CIC & StatsCan – to be filled in for final edit. See source lists.

20 2002 National Survey of the Engineering Profession, CCPE.

those who had not obtained information about the licensure process before arrival, 50.3 percent were working in their intended profession.

Another key finding was proficiency in language. In the Ontario study, 58.5 percent and 30.4 percent assessed themselves as having good or excellent official language ability respectively.

Overall, 88.5 percent had been aware they would be required to comply with licensing and regulatory procedures in their profession, however, only 56.4 percent knew the steps involved to obtain a license to practice engineering.

AREAS OF DISCUSSION FOR PHASE II

- Determine how to consistently gather information on IEGs within every regulatory body, to assess how they move through the licensing process.
- Constructing a demographic profile of IEGs would allow the profession to better meet the needs of international engineering graduates and improve IEGs' chances of becoming licensed.
- It would be useful to better understand the determinants of success for IEGs — for example, what impact does language proficiency have? What impact does settling within one's own minority group have?
- Identifying IEGs as they immigrate and tracking them through their first five years of settlement could reveal much about how the process of integration could be improved.