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Impacts of the Point System and Immigration Policy Levers on Skill Characteristics of Canadian Immigrants

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Abstract

This paper examines how changes in immigration policy levers actually affect the skill characteristics of immigrant arrivals using a unique Canadian immigrant landings database. We first review the Canadian experience with a point system as part of its immigrant policy. Section III of the paper describes some overall patterns of immigrant arrivals since 1980. Section IV identifies some relevant hypotheses on the possible effects on immigrant skill characteristics of the total immigration rate, the point system weights and immigrant class weights. The "skill" admissions examined are level of education, age, and fluency in either English or French. Regressions are then used to test the hypotheses from Canadian landings data. It is found that (i) the larger the inflow rate of immigrants the lower the average skill level of the arrivals; (ii) increasing the proportion of skill-evaluated immigrants raises average skill levels; (iii) increasing point system weights on a specific skill dimension indeed has the intended effect of raising average skill levels in this dimension among arriving principal applicants; and (iv) increasing the proportion of skill-evaluated immigrants appears to have the strongest effects among the immigration policy levers.

I. Introduction

The 1990s have seen major changes in immigration policy in Canada, one of the leading immigrant-receiving countries and the one with the highest per capita immigration rate in the world. Total immigration levels, for example, were kept relatively high over the full business cycle rather than following the previous tap-on/tap-off approach when total immigration levels were linked to absorptive capacity over the business cycle; there was a shift away from an emphasis on family-class immigrants and family reunification role towards an emphasis on independent economic-class immigrants (and their dependants) and a skill-development role for immigration; and there was a major change in the point system (under which economic-class immigrants are evaluated for entry) away from specific occupational preferences and towards broader emphasis on educational credentials, language facility and young families, again with an eye to human capital and skills development of the host country. Indeed, a recent proposal by the federal government would see a rise in the total immigration rate by about 100 thousand per year or by about 35 percent within 5 years (Campion-Smith, 2005) to help offset the aging of the Canadian population and to contribute to social security and health care costs, and to help supply needed skills and enhance productivity for a growing economy.

A number of other countries such as the United Kingdom, Spain, and Germany are also considering or in the process of bringing in a point system as part of a plan to shift their immigration policies more towards a skill-based focus and possibly to provide tighter control on total inflows. The international competition to attract skilled immigrants is evidently increasing and more attention is being devoted to a point-system approach to evaluate the desirable characteristics of prospective immigrants. While the

United States has traditionally emphasized more the role of family reunification in its immigration policy, some debate has initiated over possible adoption of a point system. So it is worthwhile to investigate what lessons can be offered from Canadian experience with their point system and broader inflow policy levers. Any guidelines for reform of immigration policy (Chiswick, 1981) or design for an optimal immigration policy (McHale, 2003) would need to take into account how effective immigration policy levers actually are in bringing about their stated policy objectives.

Canada, like other major immigrant-receiving countries such as Australia, is also currently rethinking the criteria and point weights built into their respective point systems. There are a number of concerns arising from Canada's current emphasis on lots of education human capital: there are real problems with labor market recognition of foreign credentials, increased agglomeration of recent immigrants in three large urban areas (Toronto, Vancouver and Montreal), and a significantly slower rate of assimilation of recent cohorts of immigrants into the Canadian labor market (Aydemir and Skuterud, 2005; and Picot and Sweetman, 2005). Reitz (2205), among others, provides a call for a new immigration strategy for Canada to improve the utilization of immigrants' skills. There are lessons to be learned and insights to be offered to U.S. immigration policy from the Canadian experience over the 1980s and 1990s.

A vast literature has developed on evaluating the economic outcome of immigrants in their adopted country (see, for example in the case of Canada, Chiswick and Miller, 1988; Baker and Benjamin, 1994; Bloom et. al., 1995; Grant, 1999; and Aydemir and Sweetman, 2005). One of the dimensions of this literature has been on how these outcomes differ by arrival class of immigrants (Duleep and Regets, 1992, 1996;

Jasso and Rosenzweig, 1995; de Silva, 1997; Miller, 1999; Abbott and Dougherty, 2004; and Chiswick, Lee and Miller, 2005, 2006). For example, does the skill-selected class of immigrants assimilate more rapidly into local labor markets and get ahead more quickly in terms of earnings, local language proficiency, occupational composition, or incidence of unemployment? But one can view the channels of immigrant adjustment to policy levers, such as skill testing, as having two quite distinct stages. The first is how the policy levers affect the cohort of immigrant arrivals into the host country. The second stage is how these arrivals succeed (or otherwise) in their adopted environment. The great majority of literature has focused on the second stage of this process. The current paper examines the first stage.

This first-stage process involves several sources of decision-making or behavior. One is the obvious set of government policy levers. Another is the pull of relatives and job opportunities in the host country to potential immigrants from abroad – if you wish, the host country's demand for immigrants. But in addition, there is the decision on the part of potential immigrants from abroad of whether they choose to immigrate, and, at least within the skilled immigrant class, where to immigrate – if you wish, the supply of immigrants. Matters such as economic conditions obviously affect both the pull for additional labor and the attractiveness of the country to such immigrant labor (see Borjas, 1999b, pp. 1709-1717 for more technical details). As international competition for such skilled labor increases, the host country's attractiveness has to be viewed increasingly within the context of other possible substitute destinations. Other countries' immigration policies and world events can also affect the supply of applicants to Canada.

The general question we want to look at in this paper is how responsive are the major characteristics of arrival cohorts of immigrants to changes in immigration policy rules. We make use of a fairly unique administrative data source put together by Citizenship and Immigration Canada (CIC), the federal immigration department, that contains landing data on all arriving immigrants to Canada over the years 1980-2001 – the so-called Canadian Landings Database (or CLD). The major features of this data source are discussed in Section IV below. It allows us to test and empirically evaluate several hypotheses on how changes in Canadian immigration policy rules over this period result in changed characteristics of the arriving immigrants. In particular, Canada implemented quite major policy changes on total immigration levels (in the mid 1980s) and on shifting emphasis between family-class and economic-class immigrants and on substantially revised point allocation schemes in their point system (both in the mid 1990s). The skill characteristics and source-country mix of immigrants also changed quite dramatically over this period. We thus want to estimate reduced-form equations to investigate whether these three sets of policy changes have had identifiable effects on the characteristics of arriving immigrants.

To the authors' awareness, there are very few studies of the effects of immigration policy levers – and specifically of a point system – on the resulting skill characteristics of arriving immigrants, and this is the only paper to do so in detailed empirical fashion.[1] Jasso, Rosenzweig and Smith (1997) examine the question of how the number and skill of immigrants to the U.S. are likely to be influenced by economic and social conditions in source and destination countries, and by immigration laws and selection criteria in the U.S. The discussion provides a general analytical framework and some regression results

on earnings of some specific groups of immigrant males over 1972-1990 for the United States. Green and Green (1995) examine the effects of changes in Canadian immigration policy on the occupational composition of immigrants. Aydemir (2002) looks at the effects of selection criteria and economic opportunities on the characteristics of Canadian immigrants from the perspective of the potential immigrant. He provides a structural analysis of the separate application decisions and the application review outcome. Chiswick and Miller (2005a) use a difference-in-difference approach to empirically isolate the impact of English language skills policy changes in Australian panel survey data. They find that an increased English skill requirement among essentially independent class immigrants appears to have indeed raised English language proficiency among such immigrants.

II. A Comparative Perspective on Canadian and American Immigration Policy, 1980 to 2004

Immigration regulations have played a central role in shaping immigration to Canada and other major immigrant-receiving countries for much of the last century. The evolution of immigration policy between Canada and the United States has followed very different paths. In what follows, we briefly sketch the outcomes of these different approaches as they are reflected in current policy prescriptions.

II.1 Canada

Canada adopted a non-discriminatory admission policy in 1962 a few years ahead of the United States (in 1965). Both countries had operated a discriminatory policy before these changes focussing on arrivals from traditional source countries. The shift to a universal

immigration policy then opened up the possibility of new arrivals coming from any country and from any background.

For Canada this shift to a universal immigration policy created problems on the skill level of the new arrivals. In the 1960's, Canada was in the process of shifting towards a more urban-industrial economy and the labor force had to be brought into line with the skill levels needed to support this transition. Immigration policy had to be shifted as well. The solution was the creation of the Point System (in 1967), as an objective way to assess the admissibility of prospective immigrants while at the same time up-grading the skill level of new arrivals.

Table 1 sets out the categories under which a prospective Independent candidate for admission is judged along with the maximum number of points in each factor and the pass mark needed to be admitted. The table covers the period from the introduction of the Point System in 1967 until the present. Despite major revisions to the Immigration Act over the last three decades (i.e., in 1978 and 2002), the Point System has remained at the core of assessing which Independent (or Economic) class immigrants will obtain entry visas. The Independent class also includes business class immigrants – formally added in 1986 – in the entrepreneur, investor and self-employment categories. Two other major classes under which prospective immigrants can be admitted are the Family class (family reunification), and the Humanitarian class (mainly refugees). The Family class migrants are admitted solely on the basis of kinship. A Nominated or assisted relatives class was also introduced as part of the Independent class. Admission under this latter class was partly through kinship and partly through the assessment under the Point System. Bonus points were awarded to prospective immigrants seeking entrance through this class as a

result of having relatives already resident in Canada who could help with adapting to their new home. There are also a small number of "other immigrants" consisting largely of retired persons, live-in caregivers or foreign household domestics or deferred removal-order immigrants.

Under the Point System, prospective immigrants originally needed to amass at least 50 out of a possible 100 points to obtain an entry visas (nominated relatives received a 15 point bonus to cover a short-fall in points earned in evaluating their case for admission). As Table 1 shows, prospective immigrants were judged on a wide variety of factors, for example, age, education, work experience, occupational demand, etc. Table 1 also shows that the weights assigned to these factors have changed over time. Indeed, some categories actually disappeared while new ones were introduced. Initially, at least, the weighting scheme for the first two decades after the introduction of this scheme in 1967 reflected past immigration policy in the sense that it focused on occupational needs in the economy at a particular point of time. The total number of points awarded to occupational-directed categories (i.e., occupational skill, experience, occupational demand, and bonus points for designated occupations) totalled 43 out of a possible 100 points in 1986. The prospective migrant needed to get a certain number of points out of 100 to be admitted to Canada. It is not necessary to get points in every category. Hence a prospective migrant could score high points for education, age, etc., and zero for occupation demand, and still be admitted.

The occupational-based or gap-filling model used to guide admission was changed in the mid-nineties. In its place was substituted an earnings or human capital model perspective. Under this approach, specific occupational needs were reduced in the

weighting scheme while additional points were awarded to education, age and official language fluency (all three of these categories had been present from 1967 but were given lower weights than those categories dealing with occupational demand). The rationale for the change was that the higher prospective immigrants scored in these three categories the more easily they would adapt to their new home country and hence the more rapid their ascent to parity in earnings to similarly placed native-born workers. Thus by the mid-nineties, education, facility in one or both of the native languages (i.e., English and French) and age accounted for 59 of the 100 total points, with only 67 points needed for the pass mark.

This shift in weights in Canada signalled a move towards a longer-run view of immigration policy. Less emphasis was placed on gap filling and more on the factors that supposedly influenced the long-run adaptability of the new migrant. Along with this change went a shift away from an absorptive capacity model (i.e., where the annual immigration flow was adjusted to short-run economic conditions, with an increase in the inflow as unemployment fell and a reduction in the number admitted as economic conditions deteriorated). In its place was put a model that set annual immigration levels at a bit less than one percent of the Canadian population. This number would not change with short-run economic conditions. Hence, as the government sought to increase the skilled share of arrivals, it also shifted immigration policy to a long-run approach, and one based on adaptability rather than one designed to meet short-run occupational needs.

It is worth mentioning some key features of the Canadian immigration system. Under the terms of the British North American Act establishing Canada, immigration is designated as a co-jurisdiction between the provinces and the federal government (i.e.,

the provinces can have a say in setting policy). Since 1978, Quebec has run its own policy (subject to federal override), with its own Point System. Second, while Australia sets a maximum age for admission of independent migrants at 49, Canada reduces points available to migrants less than 21 and over 49 (Richardson and Lester, 2004). Third, while under Australian immigration policy, prospective immigrants must score at least one point in every category, Canada requires only that the prospective migrant score enough points to meet the passing grade and so can still be admitted with a zero score in any given category. Finally, Canada does not try to assess whether the skills recorded by the prospective immigrant will be recognized in Canada. The only action taken is to inform the migrant of the education/training needed to meet the requirements for employment in their particular occupation (i.e., physician, nurse, engineer, carpenter, etc.). This is in marked contrast with the Australian approach which is to match the migrant's training to the position before admission is granted (i.e., the migrant is acceptable and can move into the job). In Canada, therefore, the problem of credentialization has become, in recent times, an area of media attention and controversy.

II.2 The United States

Since the passage of the Immigration Act of 1924 and the 1965 Amendments to the Act, the United States has followed a dramatically different path in regulating immigration than Canada. (For a summary of U.S. immigration policy, see Chap. 2 of Smith and Edmonston, 1997.) The most outstanding differences are (i) U.S. immigration policy has in the main followed a family reunification approach rather than one based on economic factors. (ii) The level of inflow, until the last quarter century, was low relative to the size

of the population and the annual inflow of 180,000 was fixed and independent of short-run economic conditions in the U.S. Throughout the post-World War II period, the number of legal immigrants increased. It is just in the last quarter of the 20th century that the number of legally admitted immigrants has climbed to nearly a million migrants a year. This formed the basis of the "New Migration". (iii) Unlike Canada, U.S. immigration policy is highly centralized under federal government control; hence, it operates a single policy that applies to all states. (iv) The 1924 Act was, as in the case of Canada, highly discriminatory. It focused on reuniting families already in the U.S. and so minimized the inflow of less desirable immigrants from southern and eastern Europe, and continued the policy of virtually barring Asian immigrants. Migration to the U.S., although more widely geographically-based than was the case for Canada, nevertheless, favored immigration from traditional source countries like Northwest Europe. The United States ended its racist admission policy in 1965 and at the same time raised the annual level of intake.

As a result of adopting a non-economic-based immigration policy (i.e., one centered on family reunification), U.S. immigration policy cannot effectively control for the level of human capital inflow. It still attracts some of the most skilled immigrants from around the world, but the average level of skill is probably lower than that of either Australia or Canada. Recently, the U.S. government has taken steps to rectify this short-fall in the share of skilled immigrants coming to that country. In 1998, the government increased the cap on long-stay professional visas (H-1B) and it did so again in 2000 under pressure from the high-tech industries. Also, the 1990 Act expanded the number of

employment preference permanent immigration visas, though the overall policy approach remained focussed on family reunification.

A skill-based point system was first proposed for the United States by Chiswick (1981). Recently, Borjas (1999a) proposed that immigration levels be dropped to half their present level and that the U.S. government adopt a modified point system along the lines of that used in Australia and Canada. Borjas proposes that prospective migrants be assessed in three categories (i.e., English language proficiency, years of schooling, and age). No weights were assigned for each of these categories. The United States, however, is still operating a non-economic (family reunification) policy with a gap-filling or targeted employment model for selecting economic immigrants and with few policy tools available to it to adjust the composition of the inflow to a more economic and skill-based orientation.

III. Canadian Immigrant Landings Since 1980: General Features

Before formulating specific hypotheses to be examined, consider some of the main features of Canadian immigration inflows since 1980. The descriptive results in this section are based largely on published data – hard copy or web-based – from Citizenship and Immigration Canada (Immigration Statistics and Facts and Figures, various years) from their landings data. Figure 1 shows the profile of total immigration levels since 1980. In 1985, the total number of immigrants troughed at 84.3 thousand. The number then shot up in 1987 to 152.1 thousand and continued rising to above 250 thousand in 1992 and 1993. It then drifted down to 173.1 thousand in 1998 and then moved up again to above 250 thousand in 2001, from which it has continued in the 220-230 thousand

immigrants per year range (out of a population of about 30 million). The main feature of these results is the distinct up-shift in total immigration levels in Canada beginning in the mid-1980s that has generally continued.

Figure 1 also shows the numbers of immigrants in the major immigrant classes. The two largest classes are the Family class and the Economic (or Independent) class. The latter includes all dependants arriving with the principal applicant. It also includes Assisted or Nominated Relatives since they also pass through the Point System. The things to notice here are, first, the marked cyclical nature of Economic class inflows which generally increase in periods of economic growth and prosperity in Canada and decrease during periods of recessions (1981-83 and 1990-92). This suggests that we will need to be cognizant of arguments related to the attractiveness of Canada to potential immigrants as quite distinct from any immediate immigration policy levers that Canadian authorities may change. And second, note the general decline in Family class numbers since 1993.

Since 1980, there has also been substantial change in the country or region of origin of Canadian immigrants (see Figure 2). The most noticeable change here has been the increase in the numbers arriving from the Asia and Pacific regions and, to a lesser though still significant degree, from Africa and the Middle East. In the mid-1980s, the numbers of immigrants arriving from Asia and Pacific ran around 30-35 thousand a year, but by 1992 had moved up to over 100 thousand a year and peaked in 2001 at about 133 thousand arrivals. Those from Africa and the Middle East in the early to mid-1980s averaged around 8-9 thousand a year, but by 1991 moved up to over 40 thousand, and since 2000 arrivals have run between 40 and 50 thousand a year. Meanwhile, landings

from Europe, United Kingdom and the United States have been relatively stable over the whole period with 41.8 thousand from Europe and the U.K. and 7.5 thousand from the U.S. in 2004. In percentages terms, though, they represent a declining share of the total inflow. There have also been fluctuations in the numbers arriving from South and Central America which averaged 14-17 thousand a year in the early 1980s, then moved up to 37 thousand by 1991 and have since eased off to 19-22 thousand a year since 2001.

More detail on the source country breakdown of immigrants from Asia and the Pacific is provided in Figure 3. Here one can see the run up of immigrants in the early to mid-1990s from Hong Kong (from about 6 thousand a year from the early 1980s to a peak of 44 thousand in 1994, then a substantial easing off after 1997 when the hand-over occurred, down to only 1.5 thousand in 2004). The inflows from India and Pakistan pretty steadily increased from the mid-1980s (eg., 4.5 thousand in total in 1985) through to the early 2000s (totalling 43 thousand in 2001 and 38 thousand in 2004). Again, though, the biggest change has been arrivals from mainland China which varied from 2 to 6 thousand in the early to mid-1980s, then over the early 1990s moved up to 20 thousand a year, and in 2001 hit 40 thousand landings and has since eased off slightly.

In contrast, the intended region of destination within Canada has not changed that much since 1980. Most migrants (over 80%) move directly to urban areas on arriving in Canada, so that patterns of settlement are dominated by migration to Toronto for Ontario, to Montreal for Quebec, and to Vancouver for British Columbia. Ontario absorbs over half (52.1% over the period), of all migrants coming to Canada and it has held this position for the last twenty years. The next largest regions of intended destination are Quebec (16.6%) and British Columbia (16.6% as well). Given that the population size of

British Columbia is much smaller than that of either Ontario or Quebec, the result is that the rate of migration to the west coast province is quite high. Ontario is indeed the only province that has witnessed a rise in its share of total immigration over the last two decades. The share going to this province grew from about 44 percent in the early eighties to a high of 60 percent in 2000. The Quebec and British Columbia percentages of arrivals, on the other hand, fluctuate around a trendless share of total arrivals to each province. Both the Prairies (Manitoba and Saskatchewan) and Alberta show declining shares over the covered period with most of the drop occurring in the late 1980's and then holding constant for the reminder of the period. This is a surprising result, at least for Alberta, since this province is one of the most prosperous and high-growth regions in Canada and has attracted a large internal migration to the oil fields and to the rapidly expanding cities of Calgary and Edmonton.

Now consider some of the skill characteristics of landed immigrants since 1980. In Table 2, sample means are presented for education and admission class for immigrants landed in Canada in 1980, 1990 and 2000. The proportion of immigrants with an undergraduate or graduate university degree rose dramatically over the period from 5.8 percent and 1.8 percent, respectively, in 1980 to 25.1 percent and 9.0 percent in 2000. The larger part of each increase occurred in the 1990s and is almost surely due to the reform of the Point System used to select immigrants to Canada under the skilled worker or Economic class category of admission. The changes in 1993 specifically led to a large increase in the weight placed on university education in selecting skilled immigrants.

In contrast, the proportion of new immigrants with post-secondary education below the university level rose from 16.5 percent in 1980 to 20 percent in 1990.

However, it declined back to below its 1980 level at 15.6 percent by 2000. The other large change in the education distribution of newly landed immigrants over the period is the decline at the secondary education level – from 59 percent in 1980 to 35 percent in 2000. The overall result has been a fairly steady increase in the average years of education of arriving immigrants (see Figure 4).

The distribution of new immigrants across the different admission categories has also varied considerably over the twenty year period. The proportion of new immigrants in the Economic category rose form 34.9 percent in 1980 to 44.2 percent in 1990 then to 58.7 percent in 2000. These increases coincided with decreases in the share of new immigrants arriving under the Family class (35.9 percent in 1980 to 26.6 percent in 2000) and the Humanitarian class (28.2 percent in 1980 to 13.2 percent in 2000). The larger part of the decline in the share of the Humanitarian category occurred between 1980 and 1990, while the larger part of the decline in the Family class (and the increase in the share of the Economic category) occurred between 1990 and 2000. The Humanitarian class intakes are, of course, largely influenced by refugee crises around the world.

In Table 3, the sample proportions for the different education levels are presented for the case of immigrants arriving under the Economic category. The percentage of Economic immigrants with either a post-graduate or undergraduate degrees rose dramatically over the period from 3.3 and 9.0 percent, respectively, in 1980 to 13.4 percent and 33.6 percent, respectively, in 2000 (with most of the increase in each case occurring in the 1990s). The percentage of new Economic immigrants arriving with education at the post-secondary level (below university) and the secondary level fell over

the period by just under 10 percentage points in the former case and 26 percentage points in the latter case.

In Table 4, the equivalent sample proportions are presented as those in Table 3 but for the restricted sample of immigrants arriving under the Economic category who were indeed the principal applicants. These are the immigrants to Canada who are actually selected on their perceived labor market skills since admission under the Point System over the relevant time period was restricted to the characteristics of the principal applicant (and not those of accompanying family members). The results are presented for the years 1990 and 2000 since this is the period over which most of the changes occurred in terms of: i) the allocation of points for education, and ii) the distribution of education of new arrivals under the Economic category. From the first two columns, we see that there was a massive increase in the share of immigrants arriving with a university degree between 1990 and 2000 (from 9.0 percent and 23.0 percent for post-graduate and undergraduate, respectively, to 24.7 percent and 53.6 percent). These increases came at the expense of the share of Economic principal applicants entering with only some post-secondary and especially secondary levels of education.

Equivalent sample means are presented in the next four columns for the case of immigrants landing in Quebec and immigrants landing in Ontario in Table 4. These are the two most populous provinces in Canada. Also worth noting is that the provincial government in Quebec has an arrangement with the federal government allowing them to choose the points awarded for different characteristics under the Point System allowing them to have a strong say in terms of selecting the immigrants planning to reside in Quebec. The main motive for doing this is to increase the proportion of immigrants going

to Quebec who are likely to live and work using the French language since this is the dominant language in Quebec.

It is interesting to note that the large increases in education over the period appear for both immigrants settling in Quebec and those settling in Ontario. However, the increases at the post-graduate and especially the undergraduate university levels are larger for the case of Ontario than they are for Quebec. Parent and Worswick (2003) argue that the increase in the share of immigrants with high levels of education coming to Quebec in the latter half of the 1990s rose because of the increased emphasis placed on education under the Quebec portion of the selection system, but that it did not rise by as much as what occurred in the rest of Canada because of the emphasis on French language ability in the Quebec selection system.

In Figure 5, the annual share of new immigrants with a university degree is presented for new Economic principal applicants landing in Quebec, the "Rest of Canada" (ROC), and Ontario. It is clear for all three groups that the share of new immigrants with a university degree rose over the period with the increase beginning roughly in 1994. The increases in ROC and in Ontario are also larger than those experienced in Quebec. The descriptive evidence gives strong support for the idea that the parameters of the Canadian skilled immigrant selection systems can have noticeable impacts on the composition of immigrants landing under the Economic admission category.

If age and particularly youthfulness are interpreted as a proxy for flexibility and adaptability to the Canadian labor market and likely accompaniment by a young family, then average age of immigrant arrivals may also be viewed as a skill characteristic.

Figure 6 shows how average age of arriving migrants has declined slightly since 1980. But the major pattern here is a cyclical one: average age of arriving cohorts increases in recessions (early 1980s and early 1990s) and decreases in periods of economic expansions. This is fully consistent with the previously observed cyclical pattern of the inflow of Economic class immigrants. The average age of Economic class immigrants over the period is 26.3 years while that for non-Economic class arrivals is 31.6 years of age (with overall average of 29.3 years). In expansions, Canada is more attractive to skilled prospective immigrants who are relatively young with young families and this brings down the average age of arrivals. But in recessions, Canada is less attractive to such immigrants and the number of Economic class immigrants attenuates, while the stock of resident immigrants continues to bring in relatives under the Family class category and these relations are typically parents and grandparents and hence substantially older.

A further feature to notice in Figure 6, is that there appears to be a reversal or relaxation of the above cyclical pattern after 1998. That is, the Canadian economy continued to grow well with very little slowdown (particularly relative to the United States) right through from the middle 1990s to the 2000s. So one would expect a continuing decrease in the average age of arrivals. Evidently this has not happened. In the mid-1990s, however, the Point System was revised to give greater weight to “experience” and “years of schooling”, and both these changes would tend to push up the average age at arrival. Also, after 1997, the inflow of immigrants from Hong Kong fell off dramatically and they were typically relatively young.

Finally, also consider the language fluency in either English or French of arriving immigrants. While this skill attribute is self-reported, it is checked or confirmed by the visa-issuing immigration officer. As shown in Figure 7, there has been a mixed pattern in language proficiency over time. Fluency in English or French has risen slightly from the mid-1980s, but then has slipped a bit since 1996. On average over the period, 47.4 percent of immigrants are proficient in English, 4.6 percent in French, and a further 3.8 percent as bilingual in English and French. About 44 percent are proficient in neither official language upon arrival (see Table 5). Not surprisingly, fluency in English or French is greater among Economic class immigrants than in other classes, so less than 36 percent of Economic class arrivals are fluent in neither official language, but almost 51 percent of non-Economic class immigrants lack such proficiency.

IV. Testing Hypotheses on Immigration Policy Levers and Landings Characteristics

We now try to pull some of the previous descriptive results and policy discussions together in terms of identifying specific hypotheses and testing them in the framework of regression analysis. A number of papers, including most recently Card (2005), Ottaviano and Peri (2005) and Fougère et. al. (2003), have used quite different approaches to find broad positive effects of total immigration flows on the U.S. and Canadian economies. Fougère et. al. (2005) finds that increasing the proportion of high-skilled (i.e., Economic class) immigrants would, in the long run, raise Canadian labor productivity and living standards and reduce the expected negative impact of population aging on growth of real GDP per capita. And Worswick (2004) provides a call for reweighting the Point System so as to reward applicants for education credentials and relevant work experience which

are recognized by Canadian employers. Consequently, the three drivers or policy levers we wish to examine in this study are: (i) the total level of immigrant inflows in a year, (ii) the proportion of the total inflow in the Economic class category, and (iii) the Point System weights for the general skill levels of educational attainment, (youthful) age, and (English/French) language fluency. In the Canadian Point System, zero points are awarded for a principal applicant having less than a high school diploma, maximum points for a four-year university degree, and partial points for various types of high school and post-secondary training. In the case of age, full points are awarded for principal applicant's age between 21 and 49, and decreasing partial points for age further away from the 21-49 age interval. In the case of language, zero points are awarded if the principal applicant speaks English and French very haltingly, full points if they are fluent in both official languages, and partial points based on reading, writing and speaking of English and French.

Administrative data on immigrant landings are employed in the analysis of this paper. Each record in the Canadian Landings Database (CLD) contains the information available from the immigrant's landing documents at the time of receiving "Landed Immigrant" status in Canada. The microdata set contains landings records for every immigrant who arrived in Canada over the period 1980 through 2001; it is thus very large. The data have detailed information on the immigrant's age, sex, education, official language fluency status, marital status, visa status, country of birth, intended destination, and place of arrival as well as whether the person was the principal applicant (versus an accompanying family member).[2]

The dependent variables or outcome variables for the regression analysis are three sets of skill indicator variables for educational attainment (both number of years of education and the percent of immigrant arrivals with a university degree), years of age, and official language fluency (percentage arriving with English or French language fluency). These three dimensions are generally acknowledged as the major skill indicators for immigrants that the literature focuses on, and these are three that Borjas (1999a) has suggested that United States immigration policy should also incorporate in a prospective Point System.

IV.1 Basic Hypotheses of Interest

Several hypotheses are examined in this paper relevant to the effect on arriving immigrants' skill levels of our three policy drivers. The first refers to total immigration inflow rates: does a larger size of immigrant inflows reduce the overall skill levels of arriving cohorts as the larger numbers of immigrants are likely to be closer to the Point System cut-off line (in the case of Economic class immigrants) and to bring in more relatives (in the case of Family class immigrants) who generally adjust more slowly in integrating into the Canadian labor market? The second refers to Economic vs non-Economic class immigrants: do Economic class immigrants have higher average skill levels, and thus other things being equal, does an increase in the share of Economic class immigrants in response to shifting government priorities raise the overall skill levels of arriving immigrant cohorts since it is the Economic class arrivals who are essentially admitted on the basis of their skill? The third hypothesis refers to operation of the Point System: does increasing the Point System weight on some skill dimension – such as

educational attainment – indeed have the desired effect of raising overall skill levels of immigrant arrivals in this dimension? And the fourth refers to business cycle effects: does a weaker labor market in Canada result in attracting fewer skilled immigrants so that overall skill levels of arriving cohorts of immigrants are reduced? And, by extension, does a weaker labor market in the United States (a substitute destination), ceteris paribus, lead to an increase in the overall skill levels of immigrants selecting to come to Canada?

We want to estimate the effects of policy driver variables (appearing as independent variables) on the general skill characteristics of landing immigrants (as the dependent variables). Observations are individual arriving immigrants, so the regressions are estimated over microdata points. While we have observations over time, each data point is a landed immigrant at the year of their landing (i.e., their arrival on Canadian soil). So the observations occur in annual cross-sections and do not have a panel or longitudinal dimension. Unfortunately, the database does not record the actual Point System total score or sub-scores awarded to each principal applicant. Since different regions have experienced different degrees of labor market tightness and economic growth, we characterize immigrant arrivals by region of intended residence in their first year in Canada (with six regions: Atlantic, Quebec, Ontario, Manitoba/ Saskatchewan, Alberta, and British Columbia).

IV.2 Regression Specification and Estimation Groups

The specification estimated, then, includes a time trend to pick up underlying net trend effects, the total inflow of immigrants in a year (in thousands), the Economic class share of total inflow (out of 100), and the maximum points allocated by the Point System to the

respective skill measure for that equation as a share of the required pass mark (out of 100). These three "test variables" are used to test hypotheses 1-3, respectively. The regressions for all immigrants also include admission class dummy variables (with Economic class as the default). The regressions also involve six destination region dummies (with Ontario as the default) and seven source region dummies. The default source region is English-speaking countries (consisting of the U.S., U.K., Ireland, South Africa, Australia and New Zealand). Finally, in order to pick up business cycle effects on immigrant skill outcomes, the regression specification further includes the Canadian annual unemployment rate (for 25-54 year olds from the CANSIM website) as a proxy for labor market tightness and phase of the business cycle. Since potential immigrants may view the United States and Canada as substitute alternative destinations, the specification also includes a U.S. unemployment rate (annual for all persons in the U.S. from the Bureau of Labor Statistics website).[3] These two variables represent a test of the fourth hypothesis above.[4]

A further consideration in interpreting the regression results and hypothesis tests is to ask the question: to whom do the hypotheses apply? When Economic class immigration occurs, one person (the principal applicant – typically the person in the family unit who is expected to score highest on the Point System scale) gets reviewed under the Point System, and if the review is successful the whole family unit arrives and all the family members are classified as Economic class immigrants. On average over the period covered, there were 2.3 arrivals per principal applicant (PA). But as illustrated in Figure 8, this ratio of arrivals per PA has not been at all constant over the period and has been generally higher in the 1990s than in the 1980s. Thus, when the share of Economic

class immigrants goes up, there are several changes that can occur: (i) there is a shifting weight towards higher-average-skilled immigrants, and (ii) the average skill levels of arrivals *within* the Economic class category may change as well. Some simple mathematics can clarify what is going on.

Let S denote skill level in some dimension and w the proportion that Economic class immigrants are in total immigration. Then the average skill level across all immigrants is the weighted average of average skill levels among Economic class immigrants (EC) and non-Economic class immigrants (NEC):

$$E(S) = w \cdot E(S \mid EC, w) + (1-w) \cdot E(S \mid NEC) \quad (1)$$

where we assume that the average skill level within the Economic class is a function of w. Then it is simple to calculate that the overall skill effect of increasing the Economic class share is given by:

$$\frac{\partial E(S)}{\partial w} = E(S \mid EC,w) + w \cdot \frac{\partial E(S|EC,w)}{\partial w} - E(S \mid NEC)$$

$$= [E(S \mid EC,w) - E(S \mid NEC)] + w \cdot \frac{\partial E(S|EC,w)}{\partial w} \quad (2)$$

The first term in square brackets Jasso et al. (1997) label as the “composition effect” and is unambiguously expected to be positive as we have seen that average skill levels are higher among Economic class immigrants than for non-Economic class immigrants. The second term of the expression may be called the “average skill effect” within the Economic class of increasing the share of Economic class immigration. Since total levels of immigration are being held constant in the regressions, an increase in w corresponds to an increase in the total number of Economic class arrivals – including both PAs and their accompanying family members. It is also important to note that all terms in the above

expression are readily estimable. The sign of the average skill effect is ambiguous *a priori* as arguments could be made for it to go either way.[5]

There are several outcomes from this derivation. First, the effect of Economic share on overall average skill levels is a priori ambiguous and depends on two effects, only one of which can be signed a priori. It becomes an empirical matter what the sign of the second effect is and which of the two effects dominates. Second, in order to estimate and evaluate the average skill effect and to better test hypotheses two and three, we need to rerun the regressions on the group of Economic class immigrants.

Third, we can refine the reasoning in equations (1) and (2) further to view principal applicants – the ones who are actually reviewed under the Point System – as the subgroup through which the average skill effect operates. To illustrate, let

$$E(S \mid EC,w) = p \cdot E(S \mid PA,w) + (1-p) \cdot E(S \mid NPA) \qquad (3)$$

where the first expectation on the right-hand side of (3) is the average skill level of principal applicants (possibly a function of w as well), the second expectations term is the average skill level of non-PAs within the Economic class of immigrants, and p is the proportion of PAs among Economic class immigrants. Now substitute this result into equation (1) and one can derive that:

$$\frac{\partial E(S)}{\partial w} = [E(S \mid EC,w) - E(S \mid NEC)] + wp \cdot \frac{\partial E(S \mid PA, w)}{\partial w}. \qquad (4)$$

Again the first term is our composition effect and the second term is an alternative expression for the average skill effect. In this case, though, the latter is estimated through running regressions on the subgroup of principal applicants. Note also that principal applicants are the most directly affected and thus the most appropriate group on which to

test hypothesis on the effects of changing Point System weights. Indeed, one can refine the statement of hypothesis three now to: does an increase in the Point System weight on some skill dimension (eg., educational attainment) have the desired effect on raising the average skill level in this dimension among principal applicants?

Fourth, the expressions in equations (2) and (4) provide the basis for *indirect* estimation of overall skill effects on immigrants as a whole. The set of all immigrants includes a great deal of compositional shifts and heterogeneity, and these shifts and heterogeneity may make it difficult to tease out a reliable (direct) estimate of skill effects on immigrants as a whole. Using equations (2) and (4), we can obtain possibly much more reliable indirect estimates of these effects from the regression results estimated on the more homogeneous and more skill-based sub-groups of Economic class immigrants and of the principal applicants themselves. These samples are smaller than for all immigrants, but their results are expected to be much cleaner and provide more clear-cut tests of several of the hypotheses.

The upshot of this discussion is that we will provide regression results for three sets of immigrants: for all immigrants for Economic class immigrants, and for principal applicant immigrants. Different immigrant groups are relevant to examining and testing different hypotheses.

V. Regression Results of Policy Drivers on Immigrant Skill Dimensions

This section presents the regression results for our standard specification. The regressions are estimated (by OLS) for each of three groups of immigrants.[6] The all immigrants group consists of all adult immigrants aged 20 or more at time of landing/arrival. The age

restriction is necessary since the CLD database does not provide skill attributes for immigrant children. The number of observations in this group is about 2.7 million. The Economic class group consists of all Economic class immigrants and their dependants who are age 20 or more at arrival, and this amounts to about 1.2 million observations. Then the principal applicants group consists of those Economic class immigrants (age 20 or over) who filed the application for landed immigrant status and hence were evaluated through the Point System. This group accounts for about 750-760 thousand observations (depending on what skill characteristics are reported).

V.1 Effects on Educational Attainment

Regression results for years of education as the dependent variable, estimated across arriving immigrants, are presented in Table 6. Results for all immigrants appear in the first column, results for Economic class immigrants appear in the middle column, and results for principal applicants are reported in the third column. For the education regressions in this section, an extra regressor is added – a dummy variable which takes a value of one for the years 1993 on in order to capture extra points awarded for a university degree (beyond simply years of education). Figures in parentheses are OLS standard errors and asterisks indicate coefficient significance at the 1 (**) or 5(*) percent levels. Given the large numbers of observations, most coefficients are highly statistically significant.

The results for all immigrants include admission class dummies. The three negative coefficients show that, relative to Economic class immigrants (the default

category), Family class immigrants have lower average education levels by about 2.6 years and Humanitarian class arrivals have lower education levels by about 2.0 years.

The coefficient signs and magnitudes, on the whole, are fairly similar across the three immigrant groups. The time trend results indicate that average levels of education have been rising by about 1.8-2.0 years per decade across all three groups. Higher overall immigration levels (holding Economic vs non-Economic class composition constant) reduce average education levels across all groups. Raising the total immigration by 100 thousand per year is estimated to reduce Economic class average education level by 0.31 years and overall immigrant education levels by 0.31 years as well, equivalent to about one and a half years of upward trend. These results support the first hypothesis above.

Within the Economic class and principal applicant groups, an increase in the Economic class share has significant positive effects, with strongest effects on principal applicants. A rise in the Economic class share of total immigration (holding constant the total inflow) by 10 percentage points is estimated to yield a 0.13 year increase in the average level of education of principal applicants. This is not consistent with the argument that bringing in more PAs (for a given total inflow) will attract more "marginal" candidates and hence reduce average education levels among either PAs themselves or among Economic class immigrants as a whole. Rather, this result is consistent with a view that, in order to bring in more qualified PAs, the immigration officers of CIC put in greater effort and more administrative resources are applied to the objective, with the outcome that CIC ends up bringing in particularly well skilled PAs, thus raising average within-class skill levels – what might be called traditional occupational gap-filling applied to skill levels rather than occupations.

One can now use these results to evaluate expressions (2) and (4) of the previous section and obtain an indirect estimate of an increase in the Economic share on average education levels for all immigrants as a whole, based on the more homogeneous and more reliable estimates in columns two and three of the table. On average over the 1980-2001 period, the composition effect for years of education is (11.77 – 10.38 =) 1.39 years. Over the same period, avg (w) = 0.4572 and avg (p) = 0.4339. Hence the average skill effect is estimated as 0.30 years based on the Economic class regression or 0.27 years based on the principal applicant regression. The average skill effect is estimated to be positive, but of only secondary size compared to the dominant composition effect. Thus raising the Economic class share by one percentage point (holding total inflow constant) is indirectly estimated to raise overall average education levels across all immigrants by (1.39 + 0.30 or 0.27) / 100 = .0169 or .0166, and thus a 10 point increase in the Economic class share raises average education levels by 0.17 years – based on either the Economic class or PA regression results. This result supports the second hypothesis above. If one compares this estimate to that of the total inflow effect in the all-immigrants regression, one finds that increasing the total immigrant inflow by 100 thousand arrivals a year would require about an 18 percentage point rise (-.31/.17) in the Economic class share to counterbalance. This is a pretty substantial effect.

The consequences of increasing the maximum education points (as a share of the total pass mark) in the Point System schedule are very much as expected in all three regressions, with strongest effects for principal applicants and weakest or most diluted results for all immigrants as a whole. Raising education points by 10 percentage points is estimated to increase principal applicants' average education level by 0.35 years,

Economic class immigrants' levels by 0.29 years, and overall immigrants by 0.14 years. These results thus support the third hypothesis above. While the education 93 dummy came out with "wrong" sign for all immigrants, it showed up with strong positive effects for Economic class immigrants and PAs, with again the effect on PAs' education levels being substantially stronger – as one would expect.

Business cycle effects show up with very consistent and robust estimates across all three immigrant groups. Recessions in Canada reduce average education levels of arriving immigrants as fewer Economic class arrivals occur, but also the average skill levels of those who do arrive decline. Conversely, recessions in the United States have the effect of raising average education levels of immigrants to Canada, both for immigrants as a whole as well as for principal applicants themselves. These results thus support the fourth hypothesis above. Interestingly, the effect of U.S. recessions is about twice as strong as that for Canadian recessions. Immigration human capital to Canada appears to be very sensitive to the attractiveness of the U.S. economic environment.

Across regions of residence of arriving immigrants, the Atlantic provinces seem to attract immigrants with the highest average education level, while Quebec and the Territories attract those with the lowest average education level (even controlling for source region). This pattern shows up more strongly among principal applicants and Economic class immigrants as a whole. While these differences are much smaller than those across region of origins of immigrants, nonetheless the net difference in average level of education between PAs settling in Atlantic provinces and in Quebec is about one full year of education.

Across source region of immigrants, the average level of education of principal applicants is highest among PAs arriving from Africa and the Middle East, and lowest among PAs from Latin America and Other Pacific. In this case, though, the net difference in average level of education between PAs arriving from Africa and the Middle East and from Other Pacific is 2.9 years of education. For immigrants as a whole, the net difference in average level of education between arrivals from Other Pacific and from English-speaking source countries is also 2.9 years of education. The mix of immigrants by country or region of origin clearly has important effects on average skill levels of the landed immigrants.

Further results on educational attainment are found in Table 7 on the proportion of immigrants with a university degree at time of arrival. These equations are estimated as linear probability models.[7] The set up of the table is the same as the previous one. The results are very much in accord with those on years of education, so a much briefer overview is provided. Again, Economic class immigrants have a higher proportion of university graduates than other immigrant classes by 23-27 percentage points. Other things being held constant, there has been a net upward trend in the proportion of immigrants with a university degree of 2-3 percent a year – again strongest for principal applicants. A higher total inflow is estimated to reduce the proportion with a university degree (PUD).

The Economic class share effect, however, shows mixed results. It is estimated to be significantly positive for principal applicants, not significant for Economic class immigrants and significantly negative for all immigrants. The composition effect in equations (2) and (4) is estimated to be (23.85 - 10.57 =) 13.3 percent or 0.133, so the

indirect estimate of the Economic class share effect on all immigrants is found to be .124 - .145. That is, an increase in the proportion of Economic class immigrants by 10 percentage points (holding total inflow constant) is indirectly estimated to raise the proportion of all immigrants with a university degree by 1.24 – 1.45 percentage points.

A greater emphasis on education points within the Point System increases PUD, with about twice as strong an effect on principal applicants as upon all immigrants as a whole. With respect to business cycle effects, again a higher unemployment rate in Canada reduces PUD, while a higher U.S. unemployment rate has the opposite effect. In this case though, the effects are stronger among principal applicants than for immigrants as a whole, and the strengths of the effects are about the same for the Canadian and U.S. unemployment rates. Evidently, the difference in the Canada–U.S. cyclical effects operates more strongly on the relatively less educated immigrants (i.e., comparing the cyclical results between Tables 6 and 7). Finally, the pattern of regional effects – both region of origin and region of settlement – is pretty much similar to what was found in Table 6 for years of education.

V.2 Effects on Age at Time of Arrival

Regression results for age (at time of landing) as the dependent variable are presented in Table 8, again in the same format as before. Across the different skill dimensions of regressions, those for age at time of arrival are the least well fitting in terms of R^2_s. This may reflect that age is playing several roles as an index of skill and these pull in different directions – adaptability favours youth and younger workers while work experience effects may favour middle- or later-middle age. It may reflect that age points within the

Canadian Point System are not one-sided as points are reduced for applicants on either side of the prime 21-49 year age interval. Furthermore, the age distribution of immigrants has changed considerably over the period covered as there has been a considerable shift from Family class emphasis (whose arrivals are on average relatively older) toward an Economic class focus (whose arrivals are relatively younger). Nonetheless, virtually all the regression coefficients in all three equations are highly statistically significant and the overall fits (or regression F-statistics) are highly significant as well.

From the regression estimated on all immigrants, one can see refugees are, on net, the youngest on average across admission classes (about 1.4 years younger than the default group, Economic class immigrants) and the Family class arrivals are on average the oldest (6.5 years older than the Economic class group). The conflicting signs of the trend coefficients attest to several different factors on-going. On the one hand, the shift towards greater focus on Economic class immigrants and away from an emphasis on family reunification has had the effect of reducing the overall average age of immigrants (by about 0.8 years per decade), while at the same time the average age of principal applicants has been rising (by about 0.5 years per decade) as greater skill acquisition – through years of education and work experience – takes more time to acquire.

If younger immigrants are more desireable, then increasing the total inflow of immigrants is estimated to result in raising the average age of principal applicants as more marginal (i.e., older) candidates are brought in. Increasing the total inflow level by 100 thousand is estimated to raise the average age of PAs by 0.8 years. This effect, however, is attenuated as one moves to broader immigrant groups, so that for immigrants as a whole it actually turns out slightly negative. A reduction in average age for all

immigrants would not seem to make sense here. But as principal applicants get older, they are likely to have more accompanying dependants who make it just above the 20-year old lower-bound age cut-off for inclusion in the database, hence lowering overall average age.

Since Economic class immigrants are on average (31.55 – 26.26 =) 5.29 years younger than non-Economic class immigrants, one would expect that increasing the Economic class share of total immigration would reduce the overall average age of immigrants as a whole. Indeed, the composition effect or first term in expressions (2) and (4) is precisely this mean age differential of –5.29 years. The average skill effect of increasing the Economic class share is negative for both principal applicants and the Economic class group as a whole, consistent with bringing in "more skilled" (i.e., younger) immigrants, analogous to the finding for education in the previous section. The average skill effect in expressions (2) and (4) is thus estimated as between -0.26 (based on the Economic class regression) and –0.48 (from the PA regression). Again, the average skill effect is far secondary to the basic composition effect. Combining them yields the indirect estimate that increasing the Economic class share of total immigration by 10 percentage points yields a reduction in the average age of all immigrants of 0.56 – 0.58 years. The effect on average of all immigrants of increasing the Economic class share by 10 percentage points is thus almost exactly twice as strong as that of raising the total immigrant inflow rate by 100 thousand arrivals per year. Alternatively stated, the latter effect is equivalent in its effect on overall average age of all immigrants to increasing the Economic class share by 5.0 – 5.2 percentage points.

As more weight is allocated to points for age within the Point System schedule with the objective of favouring younger principal applicants, as expected average age of PAs declines. Increasing the points allocated to age by 10 percentage points is estimated to reduce average age of principal applicants by 0.17 years. Again, this reduction doesn't show up for all immigrants. But again, this may reflect that younger PAs have younger children who are less likely to be included in the estimation sample for all immigrants because of its age-20 lower bound, hence there would be a reduction in who would otherwise be young accompanying immigrants. Indeed, this lower age bound inclusion criterion for our samples is likely the sources of more anomalous results for the age regressions over all immigrants than for the other skill dimension regressions over all immigrants. Furthermore, if Economic class immigrants are getting younger on average while the age weighting effect results in the average age rising among all immigrants, then the average age of non-Economic class immigrants must be rising. This could occur if a greater emphasis on bringing in younger principal applicants results in families who might otherwise be admitted as Economic class immigrants now applying and becoming admitted under the Family class category, thus raising the average age on non-Economic class immigrants.

Business cycles also have a quite major effect on average age of immigrants. A higher Canadian unemployment rate brings in older immigrants across all three immigrant groups and a higher U.S. unemployment rate makes Canada relatively more attractive and brings in younger principal applicants and Economic class immigrants. Interestingly here, the Canadian unemployment rate effect turns out stronger than that for the U.S., which is opposite to what was found for education. Even more interesting is the

magnitude of these effects. A one percentage point increase in the Canadian unemployment rate is estimated to reduce principal applicants' average level of education by 0.10 years (see Table 6), while the same increase is found to raise the average age of PAs by 0.51 years. A one percentage point increase in the U.S. unemployment rate is estimated to increase PAs' average level of education by 0.20 years, but to reduce PAs' average age by 0.39 years. So the business cycle effects operate much more strongly on the age of arriving principal applicants than on their education levels – by about five times with respect to Canadian unemployment rate and by about two times for the U.S. unemployment rate. Again the results are much stronger for principal applicants than for immigrants as a whole.

With respect to the region-of-settlement controls, the Atlantic provinces stand out, and to a lesser extent British Columbia, as attracting older immigrants, while Ontario (the most prosperous province over the period covered) attracts the youngest principal applicants and Economic class immigrants. Younger non-Economic class immigrants, however, evidently settle in a number of other regions as well, thus yielding a rather different pattern of coefficient signs for all immigrants as a whole. With respect to region-of-origin controls, the youngest immigrants come from the Other Pacific region, while the oldest come from China, Hong Kong and Taiwan. Relatively young non-Economic class immigrants also arrive from Africa and the Middle East and from Latin America.

V.3 Effects on Official Language Fluency

Regression results for English or French language fluency as the dependent variable[8] are presented in Table 9. From the admission class coefficients, one can see that fluency in either official language is highest on net among Economic class immigrants and markedly lower for Family class immigrants (by 26 percent) and lower still for refugees (by almost 35 percent).

While the trend is towards greater fluency in an official tongue on net among immigrants as a whole (by about 3 percentage points per decade), among principal applicants and their dependants interestingly the trend on net has been downwards (by about 5 percentage points per decade) over the period covered. Obviously, non-Economic class immigrants on net are becoming more fluent in either English or French. Note, however, these trends are net of the positive effect of the increasing weight put on language fluency within the Point System.

Increasing the total inflow of immigrants also has mixed but very small effects on language fluency. An increased inflow of 100 thousand arrivals per year is estimated to reduce the language fluency rate for immigrants as a whole by 1.1 percentage points. The finding of a positive effect on principal applicants, however, is anomalous and different from results for the other two skill dimensions where an increased inflow had the effect of reducing average skill levels of principal applicants. But the magnitude is quite small at less than one percentage point for a 100 thousand increase in overall immigration levels.

An increase in the Economic class share of the inflow is found to have a fairly strong positive effect on language fluency across all three immigrant groups. A direct

estimate predicts that a 10 percentage point increase in the Economic class share (holding total inflow constant) will raise fluency rates among all immigrants by 2.5 percentage points. If one calculates an indirect estimate using equations (2) and (4), one finds a composition effect of (64.3 – 49.1 =) 15.2 percent or 0.152 and an average skill effect of 0.0018 – 0.0007, so an indirect estimate of 0.153 – 0.154. Again the composition effect clearly dominates. Thus an indirect estimate of a 10 point increase in the Economic class share of total immigration is to raise overall fluency rates by 1.5 percentage points. This is comparable to the magnitude of the analogous effect on the proportion arriving with a university degree. Since the total inflow effect on language fluency is so weak, however, the effect of raising the inflow rate by 100 thousand is equivalent in magnitude to raising the Economic class share by only 2.5 percentage points.

Increasing the maximum language points (as a share of the total pass mark) in the Point System schedule is associated with an increase in official language fluency for both principal applicants and for immigrants as a whole. Raising language points by 10 percentage points is estimated to increase principal applicants' average language fluency rate by 0.9 points, a rather weak effect.

Business cycle effects again turn out to be highly statistically significant, but surprisingly they are exactly opposite in sign to what was found earlier for the other skill dimensions. In this case, recessions in Canada are estimated to increase average level of language fluency, while recessions in the United States have the opposite effect. When separate regressions are run for English fluency and for French fluency, the above pattern of unemployment rate effects is replicated in the English language fluency results, but not in the French language fluency results (see Tables 10 and 11). The current results in

Table 9 are thus consistent with the behaviour that, when the Canadian unemployment rate is high, immigrants view English proficiency as a greater necessity for finding a job or a greater priority than otherwise, and when the U.S. unemployment rate is high there is less of a need if they are coming to Canada. Why this should be the case, though, is puzzling. One possible explanation is that those applying with English language fluency may be more confident in immigrating in recessions because of their language advantage over other immigrants. Another possible explanation is that, in recessions, immigration officers may reduce the numbers admitted – since they do have discretion in awarding points in the case of language fluency – who lack English language fluency, and in expansions they ease up.[9]

With respect to region of settlement, the most fluent go to Ontario, the Territories, and (in the case of all immigrants) the Atlantic provinces. The provinces receiving immigrants with the lowest degree of official language fluency are Manitoba/ Saskatchewan, British Columbia and Alberta – all from western Canada. With respect to region of origin, obviously the source region with the highest degree of official language fluency is the (default) set of English-speaking countries. The regions providing the least fluent immigrants are China, Hong Kong and Taiwan, Other European, and (in the case of all immigrants) India, Sri Lanka and Pakistan.

Since different patterns may be at work for immigrants fluent in French rather than English, the above regressions were rerun separately for English proficiency and for French proficiency. The results appear in Tables 10 and 11, respectively. The results for English language fluency are virtually the same as already discussed in Table 9. The only differences are the expected ones that immigrants with only English language fluency

were less likely to settle in Quebec and more likely to settle in the Atlantic provinces, and they were (obviously) more likely to have come from English-speaking countries and less likely to have come from Latin America, Other European countries, and Africa and the Middle East.

The results for French language fluency appearing in Table 11 do show some marked differences from those in the previous two tables. The expected differences indeed show up in regional effects that immigrants with proficiency in French are much more likely to settle in Quebec and much less likely to come from English-speaking countries (and hence more likely to come from everywhere else). There is also a net positive trend in French fluency across all three immigrant groups including principal applicants. Also the language points effect, while positive, is not statistically significant for either principal applicants or all Economic class immigrants. But the most dramatic difference is that the coefficient signs for the business cycle effects on French proficiency are opposite to those for English-language proficiency. That is, in times of recessions in Canada, French-language fluency declines just as other skill dimensions also fall off; and in times of U.S. recessions, French-language fluency of immigrants to Canada increases just as other skill dimensions of Canadian immigrants also improve. So the apparent anomaly lies in the English-language fluency response to business cycle fluctuations.

V.4 Cross-Weight Effects of Skill Points

In each of the above regressions, only the Point System skill weight corresponding to each of the dependent variables was included. But it is possible that changing the weight on some other Point System skill component could have an effect as well in these

reduced-form regressions. For example, since highly educated foreigners are probably more likely to be proficient in English (or French) than their less educated compatriots, raising the Point System weight on higher levels of education could potentially have the side effect of raising the official language fluency of arriving immigrants as well. Such an impact will be referred to as a cross-weight effect, in contrast to the own-weight effects discussed in the previous sets of regressions. Accordingly, all the principal applicant and Economic class regressions have been rerun so that each includes all three Point System skill weight variables. Thus each regression will allow for both an own-weight effect as well as two cross-weight effects. This will potentially allow us not only to examine the relative strengths of the own-weight and cross-weight effects, but also to evaluate the degree of complementarity or substitutability among the three skill weight variables and to evaluate possible trade-offs in shifting weights allocated to these alternative skill dimensions within the Canadian Point System.

Results for these own-weight and cross-weight effects are presented in Tables 12 (on the education outcomes of immigrants), 13 (on the age outcomes), and 14 (on language fluency outcomes). Only the own- and cross-weight effects are presented; the rest of the regression results show virtually no differences from what has already been discussed. One should note, as an aside, that the questions being asked here demand a lot from the data. While there are large numbers of cross-sectional observations in the CLD database, identification of the own- and cross-weight effects comes from a relatively few time series changes in the Point System weighting scheme and pass mark for admission. Nonetheless, most of the weight coefficients turn out significant at least at the five percent level.

Inspection of the coefficients in Tables 12-14 reveals, first of all, that the skill weight effects are, in all cases, stronger for principal applicants than for Economic class immigrants as a whole, very much as one would expect. Also, own-weight increases have skill-enhancing effects (positive for education and language fluency, and negative for age) in all cases except for French language fluency – which is a change from Table 11 where only the language fluency skill weight was included.

A ten percentage point increase in maximum points awarded for education is estimated to raise principal applicants' average years of education by 1.4 years and their proportion with a university degree by about 13 ½ percentage points. But it also raises average English language fluency by 12 ½ percentage points. It has no statistically significant effect on French fluency rates. And it increases average age of principal applicants by 0.76 years as greater education takes longer to get and thus results in older applicants on average. Raising maximum points for age by 10 percentage points results in average age of principal applicants declining by 0.46 years, but average years of education also declining by 0.65 years (as younger arrivals generally have lower education levels), the proportion with a university degree declining by 2.4 percentage points, the English fluency rate declining by 20 percentage points and the French fluency rate going up by 2.6 percentage points. Finally, raising maximum points for official language fluency by 10 percentage points is estimated to increase English fluency rates by 2.7 percentage points, reduce the French fluency rate by 2.3 percentage points, reduce principal applicants' average age by 1.2 years, reduce their average years of education by 0.76 years, and reduce their proportion with a university degree by 7.9 percentage points. All three skill factors have relatively strong effects on the age of principal applicants and

relatively weak effects on their official language fluency rates. Education and language fluency weights have relatively strong effects on the educational attainment of PA arrivals, while the age weight shows up with a relatively weak effect. In general, the strongest skill weight effects are to be had on educational attainment and age, while the weakest effects occur on language fluency outcomes.

The estimates for own- and cross-weight effects show that the education and language fluency outcomes are complements with respect to the education points weight. Education and age outcomes are substitutes with respect to both the age points weight and the language fluency points weight. Among the three skill dimension outcomes, the clearest trade-offs occur for educational attainment where the own-weight effect strongly improves the average education outcomes while the two cross-weight effects turn out to have fairly strong education-reducing impacts. Trade-offs in the other two skill outcome dimensions are not at all clear cut.

Again, wariness of these cross-weight estimates should be expressed. Three weight coefficients are being estimated from only four sets of policy changes over the period covered. The estimated effects seem unreasonably large. In the age and language fluency outcomes, the own-weight effects are dominated by the cross-weight effects, which does not seem to make much sense. In light of this likely multicollinearity, these results are not highlighted in the summary of main findings in the next section.

VI. Conclusions: Lessons for U.S. Immigration Policy

Making predictions or prescriptions for one country based on the experience of another country is always tentative at best. Nonetheless, Canada has had considerable experience

over several decades with application of a Point System on skill-evaluated or Economic class immigrants. The unique Canadian Landings Database used in this paper also provides an unusual opportunity to test empirically a number of hypotheses about the effectiveness of such a system. Relative strength of the different policy levers is set out in Table 15 which expresses the various policy effects all in terms of percent changes in the different skill outcome variables. The total inflow percentages refer to raising the total inflow of immigrants by 100 thousand persons per year. The proportion of immigrants arriving under the Economic class refers to increasing the Economic class share by 10 percentage points. The Point System own-weights refers to the effect of increasing the maximum skill points for a given skill dimension by 10 percentage points relative to the pass mark on that respective skill.

Five main conclusions arise from the empirical analysis of this paper and that may provide some useful input to the current U.S. debate. First, with respect to total immigration rates, it has been found that increasing overall annual inflows of immigrants lowers the average skill levels of the arriving cohort. This reduction in skill levels occurs most strongly for educational attainment of arriving immigrants, more moderately with respect to age of arriving immigrants, and very weakly (if at all) for official language fluency of immigrants. For example, raising total inflow levels by 100 thousand per year (or by about 35 percent from recent levels) is estimated to reduce average years of education of Economic class immigrants by 2.6 percent, to increase their average age by 1.7 percent, and to reduce the average rate of English or French language fluency by 0.2 percent.

Second, for a given level of total inflow, increasing the proportion of skill-evaluated or Economic class immigrants – at least in the way they are designated in the Canadian system – is found to raise the average skill levels of principal applicants and Economic class immigrants and, by inference, of all immigrants as a whole. In making the latter inference, the so-called "composition effect" set out in equations (2) and (4) is clearly the dominant factor. Increasing the Economic class share in total immigration has its strongest effect on official language fluency of arriving cohorts, has a significant effect on average education levels, and has a moderate effect on average age of arriving immigrants. For example, raising the Economic class share of total immigration by 10 percentage points is estimated to increase average levels of education of all immigrants by 1.5 percent, to reduce their average age by 2.0 percent, and to increase their official language fluency rates by about 2.7 percent.

Third, it is found that business cycle effects on skill level outcomes of immigrant cohorts to Canada are highly statistically significant, and generally operate so that higher Canadian unemployment rates reduce average skill levels of arriving immigrants (with the exception of English language fluency rates), and higher U.S. unemployment rates have the opposite effect (with the same exception). Such business cycle effects appear to operate more strongly through average age and education levels of principal applicants.

Fourth, with respect to the operation of the Canadian Point System itself, it has been found that increasing the weights on specific skill dimensions within the Point System schedule indeed has the intended effect of raising average skill levels in this dimension among arriving principal applicants. Basically, the Point System does appear to work as it is intended. The strongest effects occur for education, moderately strong for

language fluency of immigrants, and rather weak effects occur on age of arriving immigrants. For example, if there is a 10 percentage point increase in the weight allocated to a specific skill measure within the Point System (with no cross-weight effects), the result is that the average years of education of principal applicants are estimated to increase by 2.7 percent, their average age declines by 0.6 percent, and their average official language fluency rate goes up by 1.2 percent.

This study has identified three broad sets of policy tools for bringing about improvements in immigrant outcomes. One is a change in the total rate of inflow of immigrants, the second is a change in the Economic class share of total immigration, and the third is various changes in the Point System weights allocated to various skill dimensions. Correspondingly, the study has examined three sets of benchmark changes in these policy tools: increasing the total inflow rate by 100 thousand immigrants per year, raising the Economic class share by 10 percentage points, and increasing each of the three Point System skill weights by 10 percentage points. When all is said and done, then, which of the three major sets of policy tools appears to be most effective in bringing about desired changes in the skill outcomes of arriving immigrants? It turns out there is no simple across-the-board rule. Again referring to Table 15, it can be seen that the proportion of Economic class immigrants seems to have the strongest across-the-board impact.[10] The rise in the proportion of Economic class immigrants, though, would be expected to gradually increase the effect of changing Point System weights on average immigrant skills as a whole. The education outcome variable stands out as being the most responsive among the three skill dimensions. In general, the Point System appears to have strong effects on education outcomes of arriving immigrants, moderate effects on

language fluency outcomes, and rather weak effects on age outcomes of arriving immigrants.[11] Obviously, further analysis of the issues raised in this study will help refine the design of an effective immigration policy for a complex and dynamic economy.

Endnotes

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[1] Ideally, one would like to estimate these effects across several leading immigrant-receiving countries jointly, say as a set of seemingly unrelated regression equations. But unfortunately, comparable data for other countries were not available.

[2] Unfortunately, the CLD database does not include the Point System score (either by skill dimension or in total) awarded to each arriving principal applicant. Nor does it include a variable for pre-arrival work experience even though this is a skill dimension rewarded by the Point System. The CLD values for arriving immigrants refer to information at time of landing rather than at time of original application.

[3] Since the regressions already include a time trend variable, this effectively transforms the two raw unemployment rate variables into trend-adjusted cyclical indicators.

[4] Data limitations prevent us from also including in the reduced-form skill-outcome regressions such additional potential regressors as the federal immigration department's budget constraints and immigration policy changes in alternative recipient countries such as the United States, Australia, and the European community nations. On the other hand, we have chosen not to include a gender dummy regressor as gender differences in skill outcomes are not an objective of immigration policy and are not of interest in this paper.

[5] Indeed, if E(S | NES) were also a function of w, then the average skill effect would involve the difference in the derivatives of E(S | EC, w) and E(S | NEC, w) with respect to w, and would be even more ambiguous.

[6] Further empirical work could take account that total immigration flows and possibly the Economic class share are not completely exogenous, but reflect in part immigrants' choices. Also the regression errors are likely not fully i.i.d. and may have clustering characteristics in the time-series dimension (associated with introducing macro-economic regressors in cross-sectional regressions) meaning that OLS-reported standard errors are underestimated.

[7] Again, estimating the regressions by OLS rather than by probit or logit maximum likelihood methods means that standard errors are not fully correct in the presence of heteroscedasticity due to the 0-1 nature of the dependent variables. But since conditional means are not close to the 0-1 bounds and the numbers of observations are so large, we opted for the simpler linear estimation technique.

[8] See endnote 7.

[9] We wish to thank Professor Weili Ding at Queen's for these suggested explanations.

[10] If we use the formula that

$$\frac{\partial E(S)}{\partial w_s} = \text{wp} \cdot \frac{\partial E(S|PA, w, w_s)}{\partial w_s},$$

where w_s is the maximum Point System weight allocated to skill dimension S, the implied relative effects on all immigrant mean skill levels of the figures in the last row of Table 15 are 0.5%, 0.1%, and 0.2% respectively.

[11] The reason age comes through as the least responsive of the three Point System variables may reflect that age captures the effects of both youth and work experience (see endnote 2), and hence is being pulled in conflicting directions. If the CLD reported information on work experience as well as age for all principal applications, these two separate effects being picked up by the age variable could be separately identified.

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Table 1

The Canadian Points System Over Time
(Maximum Points)

Factor	'67	'74	'78	'86	'93	'96
Education	20	20	12	12	14	21
Experience	--	--	8	8	8	9
Specific vocational preparation	10	10	15	15	16	--
Occupational demand	15	15	15	10	10	--
Labour market balance	--	--	--	--	--	10
Age	10	10	10	10	10	13
Arrange employment or designated occ.	10	10	10	10	10	4
Language	10	10	10	15	14	21
Personal suitability	15	15	10	10	10	17
Levels adjustment factor[1]	--	--	--	10	8	--
Relative	0/3/5+	0/3/5	5	--	–	5
Destination	5	5	5	--	--	--
Total	**100**	**100**	**100**	**100**	**100**	**100**
Pass Mark	**50**	**50**	**50**	**70**	**67**	*****

Source: Green and Green (1999), p. 433.

[1] A discretionary allocation that can be used to control the number of persons entering over a period.

* The pass mark varies by skill level.

Table 2
Immigrant Characteristics at Landing
Level of Education and Admission Category, 1980, 1990, and 2000
(proportions)

	Canada		
	1980	1990	2000
Education			
University – Post-Graduate	.0177	.0289	.0902
University – Undergarduate	.0583	.1100	.2506
Post-Secondary	.1645	.1996	.1558
Secondary	.5898	.5316	.3526
Elementary or Less	.1676	.1297	.1507
Admission Category			
Economic	.3486	.4419	.5870
Family Class	.3587	.3436	.2663
Humanitarian	.2819	.1668	.1322
Other	.0108	.0477	.0145
Total Number of Landings	143,136	216,402	227,313

Source : Calculations by the authors from the CLD data.

Table 3

Immigrant Characteristics at Landing Level of Education:
Economic Immigrants, 1980, 1990, and 2000
(proportions)

	Canada		
	1980	1990	2000
University - Post-Graduate	.0333	.0438	.1337
University - Undergraduate	.0900	.1365	.3364
Post-secondary	.2331	.2092	.1389
Secondary	.4900	.4797	.2258
Elementary or Less	.1508	.1308	.1652
Total Number of Landings	49,895	95,627	133,422

Source : Calculations by the authors from the CLD data.

Table 4

Immigrant Characteristics at Landing Level of Education: 1990 and 2000
Economic Immigrants who were Principal Applicants
(proportions)

	Canada		Quebec		Ontario	
	1990	2000	1990	2000	1990	2000
Education						
University – Post-Graduate	.0896	.2473	.0838	.2134	.0825	.2579
University – Undergraduate	.2296	.5363	.2401	.3616	.2255	.5790
Post-secondary	.3425	.1548	.3217	.3216	.3563	.1134
Secondary	.3255	.0555	.3455	.0998	.3231	.0440
Elementary or Less	.0127	.0061	.0089	.0036	.0126	.0057
Total Number of Landings	37,659	56,292	9,566	8,155	18,195	34,115

Source : Calculations by the authors from the CLD data.

Table 5

Language Fluency of Immigrants by Immigrant Class
1980-2001
(percent)

	English	French	Bilingual	Other
Economic Class	54.1	4.7	5.5	35.7
Non-Economic Class	42.4	4.2	2.4	50.9
All Immigrants	47.4	4.6	3.8	44.1

Source : Calculations by the authors from the CLD data.

Table 6

Years of Education Regression Results

	All Immigrants	Economic Class	Principal Applicants
Admission Class			
Family	-2.639**	n.a.	n.a.
	(.0052)		
Humanitarian	-2.040**	n.a.	n.a.
	(.0073)		
Other	-1.719**	n.a.	n.a.
	(.010)		
Test Variables			
Time trend (0-21)	0.1984**	0.1912**	0.1800**
	(.0014)	(.0019)	(.0024)
Total inflow (in '000s)	-0.00310**	-0.00314**	-0.00211**
	(.000084)	(.00012)	(.00015)
Economic share of inflow	-0.00051	0.00656**	0.01338**
(out of 100)	(.00057)	(.00080)	(.00099)
Education points as share of pass	0.01397**	0.02922**	0.03534**
mark (out of 100)	(.00081)	(.00114)	(.00143)
Indicator for 1993 or later	-0.2001**	0.2811**	0.4150**
	(.0102)	(.0154)	(.0197)
Cdn. unemployment rate	-0.0921**	-0.0914**	-0.0967**
	(.0036)	(.0047)	(.0059)
U.S. unemployment rate	0.2045**	0.1888**	0.1958**
	(.0047)	(.0066)	(.0082)
Region of Residence			
Atlantic provinces	0.580**	0.445**	0.724**
	(.017)	(.022)	(.029)
Quebec	-0.084**	-0.249**	-0.263**
	(.006)	(.009)	(.011)
Manitoba or Saskatchewan	-0.106**	0.130**	0.212**
	(.012)	(.019)	(.024)
Alberta	0.016	0.116**	0.186**
	(.008)	(.012)	(.015)
British Columbia	0.0084	-0.133**	-0.145**
	(.006)	(.009)	(.011)
Territories	-0.0017	-0.323**	-0.295**
	(.068)	(.099)	(.119)
Source Region			
Other European	-1.610**	-1.619**	-1.844**
	(.010)	(.013)	(.016)
Africa & Mid. East	-0.699**	0.150**	0.070**
	(.012)	(.017)	(.021)
China, H.K. & Taiwan	-2.125**	-1.355**	-1.293**
	(.010)	(.012)	(.016)
India, Sri Lanka & Pakistan	-1.582**	-0.708**	-0.759**
	(.010)	(.015)	(.018)
Latin America	-2.388**	-1.766**	-2.257**
	(.011)	(.016)	(.020)
Other Pacific	-2.926**	-2.624**	-2.794**
	(.036)	(.082)	(.103)
Other countries	-2.010**	-1.034**	-1.251**
	(.009)	(.013)	(.016)
Intercept	13.159**	11.794**	11.778**
	(.049)	(.067)	(.084)
R^2	0.1760	0.1295	0.1602
P-value for F test	Less than 0.0001	Less than 0.0001	Less than 0.0001
RMSE	3.642	3.380	3.378
Sample size	2,683,524	1,192,230	753,137

Note: 1. Standard errors are presented in parentheses.
2. ** and * denote significant at 1 and 5 percent levels, respectively.
3. The default categories are: 1) Economic class for the admission class controls, 2) resident of Ontario for the region of residence controls, and 3) English-speaking for the source region controls.

Table 7

Proportion with a University Degree Regression Results

	All Immigrants	Economic Class	Principal Applicants
Admission Class			
Family	-0.2301**	n.a.	n.a.
	(.00058)		
Humanitarian	-0.2651**	n.a.	n.a.
	(.00082)		
Other	-0.2347**	n.a.	n.a.
	(.0012)		
Test Variables			
Time trend (0-21)	0.02335**	0.02963**	0.03171**
	(.00016)	(.00026)	(.00032)
Total inflow (in '000s)	-0.000438**	-0.000487**	-0.000452**
	(.00000)	(.000017)	(.000020)
Economic share of inflow (out of	-0.00137**	-0.00019	0.000627**
100)	(.00006)	(.00011)	(.00013)
Education points as share of pass	0.00305**	0.00473**	0.00614**
mark (out of 100)	(.00009)	(.00015)	(.00019)
Indicator for 1993 or later	-0.0159**	0.0269**	0.0421**
	(.0012)	(.0021)	(.0026)
Cdn. unemployment rate	-0.0317**	-0.0409**	-0.0471**
	(.00040)	(.00064)	(.00079)
U.S. unemployment rate	0.0347**	0.04367**	0.0531**
	(.00053)	(.00089)	(.00109)
Region of Residence			
Atlantic provinces	0.0440**	0.0268**	0.0636**
	(.0019)	(.0030)	(.0038)
Quebec	-0.0437**	-0.0886**	-0.0946**
	(.0007)	(.0012)	(.0015)
Manitoba or Saskatchewan	0.0077**	0.0150**	0.0171**
	(.0014)	(.0025)	(.0031)
Alberta	-0.0069**	-0.0172**	-0.0123**
	(.0009)	(.0016)	(.0020)
British Columbia	-0.0188**	-0.0447**	-0.0446**
	(.0007)	(.0012)	(.0015)
Territories	-0.0388**	-0.0986**	-0.0937**
	(.0076)	(.0134)	(.0158)
Source Region			
Other European	-0.0256**	-0.0305**	-0.0682**
	(.0011)	(.0018)	(.0022)
Africa & Mid. East	0.0050**	0.0857**	0.0672**
	(.0014)	(.0023)	(.0028)
China, H.K. & Taiwan	-0.0638**	-0.0439**	-0.0254**
	(.0011)	(.0017)	(.0021)
India, Sri Lanka & Pakistan	.0294**	0.0868**	0.0645**
	(.0012)	(.0020)	(.0024)
Latin America	-0.1369**	-0.1459**	-0.1936**
	(.0012)	(.0022)	(.0026)
Other Pacific	-0.1852**	-0.2484**	-0.2787**
	(.0040)	(.0111)	(.0136)
Other countries	-0.0094**	0.0369**	0.0214**
	(.0011)	(.0017)	(.0021)
Intercept	0.2923**	0.1071**	0.0578**
	(.0055)	(.0091)	(.0111)
R^2	0.1538	0.1499	0.1974
P-value for F test	Less than 0.0001	Less than 0.0001	Less than 0.0001
RMSE	0.4092	0.4551	0.4473
Sample size	2,683,524	1,192,230	753,137

Note: 1. Standard errors are presented in parentheses.
2. ** and * denote significant at 1 and 5 percent levels, respectively.
3. The default categories are: 1) Economic class for the admission class controls, 2) resident of Ontario for the region of residence controls, and 3) English-speaking for the source region controls.

Table 8

Age at Immigration Regression Results

	All Immigrants	Economic Class	Principal Applicants
Admission Class			
Family	6.501**	n.a.	n.a.
	(.018)		
Humanitarian	-1.353**	n.a.	n.a.
	(.026)		
Other	5.249**	n.a.	n.a.
	(.037)		
Test Variables			
Time trend (0-21)	-0.0815**	0.0238**	0.0487**
	(.0044)	(.0043)	(.0055)
Total inflow (in '000s)	-0.00290**	0.00435**	0.00826**
	(.00030)	(.00031)	(.00038)
Economic share of inflow (out of 100)	0.0377**	-0.00579**	-0.0244**
	(.0019)	(.0019)	(.0023)
Ages points as share of pass mark (out of	0.03720**	-0.01160**	-0.01707**
100)	(.0029)	(.0030)	(.0037)
Cdn. unemployment rate	0.1690**	0.5717**	0.5144**
	(.0119)	(.0112)	(.0143)
U.S. unemployment rate	0.0132	-0.4604**	-0.3926**
	(.0174)	(.0175)	(.0220)
Region of Residence			
Atlantic provinces	1.324**	1.975**	2.889**
	(.061)	(.0553)	(.0729)
Quebec	-0.400**	0.155**	0.130**
	(.023)	(.0224)	(.0280)
Manitoba & Saskatchewan	-0.695**	0.061	0.054**
	(.042)	(.046)	(.059)
Alberta	-0.463**	0.259**	0.246**
	(.030)	(.030)	(.039)
British Columbia	0.503**	1.157**	1.305**
	(.022)	(.021)	(.028)
Territories	-1.709**	0.647**	0.631*
	(.241)	(.246)	(.299)
Source Region			
Other European	0.747**	-0.977**	-1.137**
	(.035)	(.033)	(.041)
Africa & Mid East	-1.638**	-0.639**	-0.688**
	(.044)	(.042)	(.053)
China, H.K. & Taiwan	3.400**	0.413**	0.699**
	(.034)	(.031)	(.039)
India, Sri Lanka, & Pakistan	0.219**	-0.383**	-0.054
	(.036)	(.036)	(.046)
Latin America	-1.684**	-0.723**	-0.604**
	(.038)	(.041)	(.050)
Other Pacific	-3.189**	-2.724**	-3.122**
	(.125)	(.203)	(.258)
Other Countries	0.364**	0.350**	0.482**
	(.033)	(.032)	(.040)
Intercept	31.140**	32.314**	32.392**
	(.166)	(.160)	(.202)
R^2	0.0728	0.0226	0.0315
P-value for F-est	Less than 0.0001	Less than 0.0001	Less than 0.0001
RMSE	13.126	8.401	8.520
Sample size	2,789,599	1,202,559	757,436

Note: 1. Standard errors are presented in parentheses.
2. ** and * denote significant at 1 and 5 percent levels, respectively.
3. The default categories are: 1) Economic class for the admission class controls, 2) resident of Ontario for the region of residence controls, and 3) English-speaking for the source region controls.

Table 9

English or French Language Fluency Regression Results

	All Immigrants	Economic Class	Principal Applicants
Admission Class			
Family	-0.2605**	n.a.	n.a.
	(.00060)		
Humanitarian	-0.3478**	n.a.	n.a.
	(.00086)		
Other	-0.0232**	n.a.	n.a.
	(.0012)		
Test Variables			
Time trend (0-21)	0.00309**	-0.00715**	-0.00547**
	(.00016)	(.00022)	(.00025)
Total inflow (in '000s)	-0.00011**	-0.000011	0.000089**
	(.00000)	(.00001)	(.00001)
Economic share of inflow (out of 100)	0.00246**	0.00392**	0.00362**
	(.000065)	(.00010)	(.00011)
Language points as share of pass mark	0.00168**	-0.00072**	0.00091**
(out of 100)	(.00012)	(.00018)	(.00020)
Cdn. unemployment rate	0.02470**	0.04563**	0.04281**
	(.00037)	(.00049)	(.00055)
U.S. unemployment rate	-0.00275**	-0.04324**	-0.04317**
	(.00049)	(.00069)	(.00076)
Region of Residence			
Atlantic provinces	0.01391**	-0.00973**	-0.00480
	(.0020)	(.0026)	(.0031)
Quebec	0.00315**	-0.00753**	-0.01112**
	(.00076)	(.0011)	(.0012)
Manitoba & Saskatchewan	-0.05480**	-0.02659**	-0.03432**
	(.0014)	(.0022)	(.0025)
Alberta	-0.04932**	-0.00581**	-0.00614**
	(.00098)	(.0014)	(.0016)
British Columbia	-0.05130**	-0.02715**	-0.02280**
	(.00074)	(.0010)	(.0012)
Territories	0.03051**	0.03829**	0.03192**
	(.00797)	(.0117)	(.0126)
Source Region			
Other European	-0.4548**	-0.3105**	-0.2462**
	(.0012)	(.0015)	(.0017)
Africa & Mid East	-0.1382**	-0.0636**	-0.0543**
	(.0014)	(.0020)	(.0022)
China, H.K. & Taiwan	-0.5505**	-0.4102**	-0.3486**
	(.0011)	(.0015)	(.0017)
India, Sri Lanka, & Pakistan	-0.4387**	-0.1256**	-0.0981**
	(.0012)	(.0017)	(.0019)
Latin America	-0.2078**	-0.1684**	-0.1287**
	(.0013)	(.0019)	(.0021)
Other Pacific	-0.0778**	-0.0199*	-0.0219**
	(.0041)	(.0097)	(.0108)
Other Countries	-0.3688**	-0.2384**	-0.1852**
	(.0011)	(.0015)	(.0017)
Intercept	0.8129**	0.8473**	0.8124**
	(.0053)	(.0074)	(.0082)
R^2	0.1896	0.1008	0.0935
P-value for F-est	Less than 0.0001	Less than 0.0001	Less than 0.0001
RMSE	0.4339	0.4012	0.3581
Sample size	2,789,626	1,202,569	757,438

Note: 1. Standard errors are presented in parentheses.
2. ** and * denote significant at 1 and 5 percent levels, respectively.
3. The default categories are: 1) Economic class for the admission class controls, 2) resident of Ontario for the region of residence controls, and 3) English-speaking for the source region controls.

Table 10

English Language Fluency Regression Results

	All Immigrants	Economic Class	Principal Applicant
Admission Class			
Family	-0.2558**	n.a.	n.a.
	(.00062)		
Humanitarian	-0.3247**	n.a.	n.a.
	(.00088)		
Other	-0.0109**	n.a.	n.a.
	(.0013)		
Test Variables			
Time trend (0-21)	0.00244**	-0.00794**	-0.00585**
	(.00017)	(.00023)	(.00027)
Total inflow (in '000s)	-0.00069**	-0.000015	0.000032
	(.00000)	(.000014)	(.000016)
Economic share of inflow (out of 100)	0.00223**	0.00335**	0.00283**
	(.000067)	(.00010)	(.00011)
Language points as share of pass mark	0.000822**	-0.000997**	0.000702**
(out of 100)	(.00013)	(.00019)	(.00022)
Cdn. unemployment rate	0.02639**	0.04873**	0.04607**
	(.00038)	(.00052)	(.00060)
U.S. unemployment rate	-0.00846**	-0.05227**	-0.05341**
	(.00050)	(.00073)	(.00083)
Region of Residence			
Atlantic provinces	0.00384	-0.01724**	-0.01376**
	(.0021)	(.0028)	(.0033)
Quebec	-0.2085**	-0.2295**	-0.2517**
	(.00078)	(.00011)	(.0013)
Manitoba or Saskatchewan	-0.05631**	-0.02890**	-0.03753**
	(.0015)	(.0023)	(.0027)
Alberta	-0.05239**	-0.00544**	-0.00631**
	(.0010)	(.0015)	(.0018)
British Columbia	-0.06052**	-0.03690**	-0.03243**
	(.00076)	(.0011)	(.0013)
Territories	0.02096**	0.03705**	0.02940*
	(.0082)	(.0123)	(.0137)
Source Region			
Other European	-0.5048**	-0.3772**	-0.3137**
	(.0012)	(.0016)	(.0019)
Africa & Mid. East	-0.2858**	-0.2166**	-0.1905**
	(.0015)	(.0021)	(.0024)
China, H.K. & Taiwan	-0.5491**	-0.4044**	-0.3456**
	(.0012)	(.0016)	(.0018)
India, Sri Lanka, & Pakistan	-0.4374**	-0.1271**	-0.1000**
	(.0012)	(.0018)	(.0021)
Latin America	-0.2808**	-0.2412**	-0.2122**
	(.0013)	(.0020)	(.0023)
Other Pacific	-0.0916**	-0.0351**	-0.0381**
	(.0042)	(.0102)	(.0118)
Other Countries	-0.3798**	-0.2433**	-0.1880**
	(.0011)	(.0016)	(.0018)
Intercept	0.8778**	0.9354**	0.9225**
	(.0055)	(.0078)	(.0090)
R^2	0.1793	0.1226	0.1330
P-value for F-test	Less than 0.001	Less than 0.001	Less than 0.001
RMSE	0.4459	0.4223	0.3898
Sample size	2,789,626	1,202,569	757,438

Note: 1. Standard errors are presented in parentheses.
2. ** and * denote significant at 1 and 5 percent levels, respectively.
3. The default categories are: 1) Economic class for the admission class controls, 2) resident of Ontario for the region of residence controls, and 3) English-speaking for the source region controls.

Table 11

French Language Fluency Regression Results

	All Immigrants	Economic Class	Principal Applicant
Admission Class			
Family	-0.0445**	n.a.	n.a.
	(.00034)		
Humanitarian	-0.1085**	n.a.	n.a.
	(.00048)		
Other	-0.0374**	n.a.	n.a.
	(.00069)		
Test Variables			
Time trend (0-21)	0.00211**	0.00255**	0.00243**
	(.00091)	(.00014)	(.00019)
Total inflow (in '000s)	-0.000049**	0.000072**	0.000174**
	(.00000)	(.00000)	(.000011)
Economic share of inflow (out of 100)	-0.000376**	0.000339**	0.000298**
	(.000037)	(.000063)	(.000080)
Language points as share of pass mark	0.000570**	0.0000754	0.0001836
(out of 100)	(.000072)	(.00012)	(.00015)
Cdn. unemployment rate	-0.00609**	-0.00656**	-0.00759**
	(.00021)	(.00032)	(.00042)
U.S. unemployment rate	0.00850**	0.00983**	0.00959**
	(.00027)	(.00045)	(.00058)
Region of Residence			
Atlantic provinces	0.02617**	0.01808**	0.02486**
	(.0011)	(.0017)	(.0023)
Quebec	0.3520**	0.4138**	0.4612**
	(.00042)	(.00070)	(.00089)
Manitoba or Saskatchewan	-0.00521**	-0.01139**	-0.01293**
	(.00079)	(.0014)	(.0019)
Alberta	-0.00047	-0.00773**	-0.00862**
	(.00055)	(.00095)	(.0012)
British Columbia	0.01115**	0.00982**	0.00771**
	(.00041)	(.00067)	(.00089)
Territories	0.01698**	0.01648*	0.01304
	(.0045)	(.0077)	(.0096)
Source Region			
Other European	0.1178**	0.16219**	0.1752**
	(.00065)	(.0010)	(.0013)
Africa & Mid. East	0.2528**	0.2928**	0.2872**
	(.00081)	(.0013)	(.0017)
China, H.K. & Taiwan	-0.03419**	-0.05218**	-0.05554**
	(.00063)	(.00097)	(.0013)
India, Sri Lanka, & Pakistan	-0.01961**	-0.03728**	-0.04612**
Latin America	(.00067)	(.0011)	(.0015)
	0.06428**	0.05630**	0.05519**
Other Pacific	(.00071)	(.0013)	(.0016)
	0.00795**	0.00109	-0.00032
Other Countries	(.0023)	(.0064)	(.0082)
	0.03103**	0.02338**	0.02115**
Intercept	(.00062)	(.00099)	(.0013)
	0.01429**	-0.05189**	-0.05657**
	(.00299)	(.00486)	(.00626)
R^2	0.3067	0.3731	0.4124
P-value for F-test	Less than 0.001	Less than 0.001	Less than 0.001
RMSE	0.2437	0.2636	0.2725
Sample size	2,789,626	1,202,569	757,438

Note: 1. Standard errors are presented in parentheses.
2. ** and * denote significant at 1 and 5 percent levels, respectively.
3. The default categories are: 1) Economic class for the admission class controls, 2) resident of Ontario for the region of residence controls, and 3) English-speaking for the source region controls.

Table 12

Trade-Offs Between Skill Weight Effects on

a) Years of Education			b) Proportion with a University Degree		
	Economic Class	Principal Applicants		Economic Class	Principal Applicants
Education points	0.10090** (.00586)	0.14012** (.00718)	Education points	0.00884** (.00079)	0.01345** (.00095)
Language points	-0.05098** (.00277)	-0.07593** (.00353)	Language points	-0.00498** (.00037)	-0.00790** (.00047)
Age points	-0.04483** (.00616)	-0.06494** (.00742)	Age points	-0.00076 (.00083)	-0.00235* (.00098)

Table 13

Trade-Offs Between Skill Weight Effects on Age at Arrival

	Economic Class	Principal Applicants
Education points	0.03324* (.01449)	0.07554** (.01804)
Language points	-0.08029** (.00686)	-0.11832** (.00889)
Age points	-0.00843 (.0152)	-0.04629* (.01864)

Table 14

Trade-Offs Between Skill Weight Effects on

a) English Language Fluency Proportion			b) French Language Fluency Proportions		
	Economic Class	Principal Applicants		Economic Class	Principal Applicants
Education points	0.01169** (.00073)	0.01264** (.00082)	Education points	0.000061 (.00045)	0.00023 (.00058)
Language points	0.00106** (.00034)	0.00266** (.00041)	Language points	-0.00181** (.00022)	-0.00230** (.00028)
Age points	-0.01902** (.00077)	-0.02007** (.00085)	Age points	0.00221** (.00048)	0.00262** (.00060)

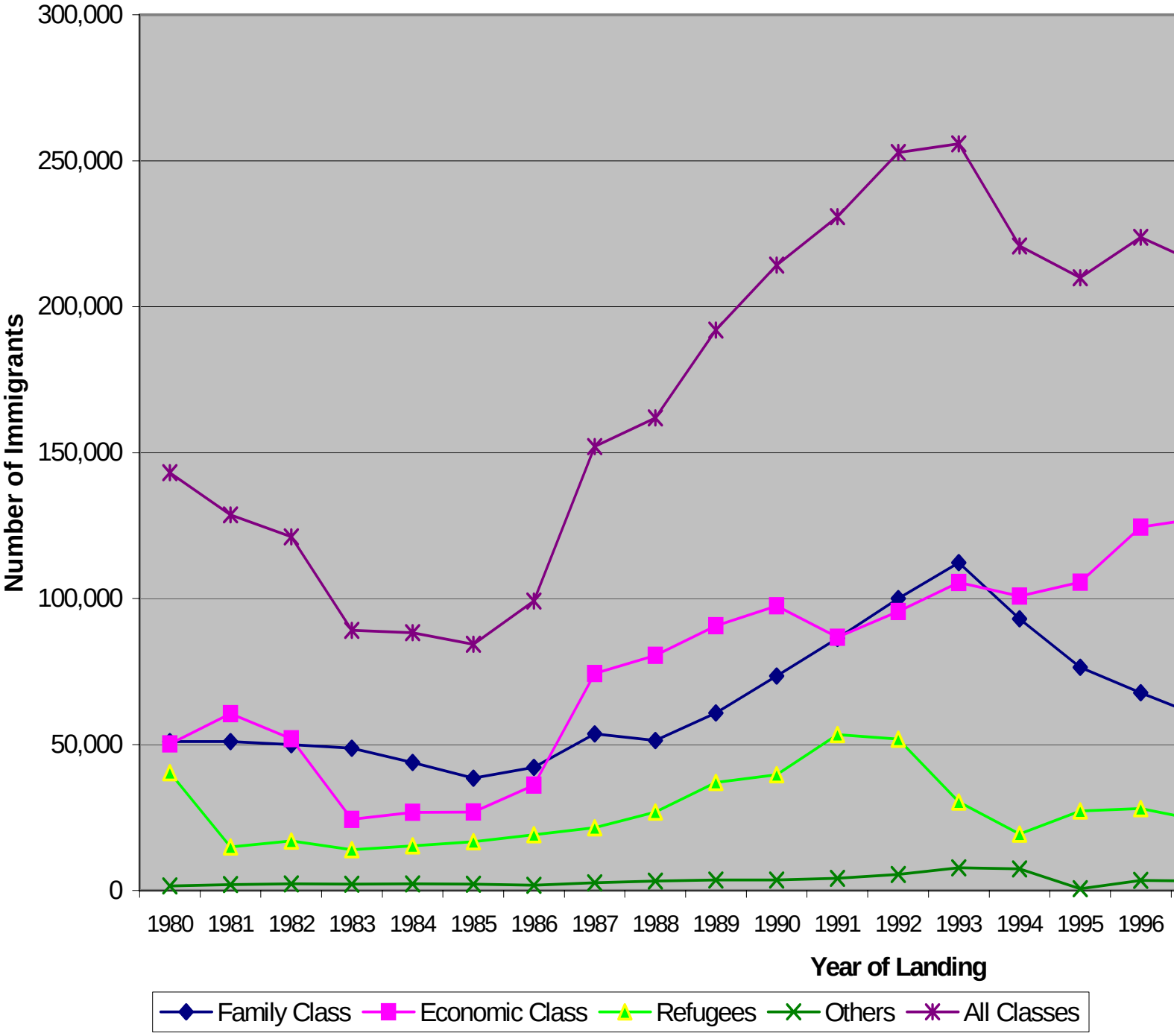
Table 15

Relative Strength of Policy Drivers
(absolute value of percentage changes in dependent variables)

Policy Drivers	Skill Outcomes		
	ED	AGE	LF (E or F)
Total Inflow			
- Ec. Class	2.6%	1.7%	0.2%
- All Immigs.	2.8%	1.0%*	0%
Prop. Ec. Class			
- All Immigs.	1.5%	2.0%	2.7%
Point System Own Weights			
- Pr. App.	2.7%	0.6%	1.2%

Note:
1. "Total Inflow" refers to raising total inflow of immigrants by 100 thousand persons per year.
   "Prop. Ec. Class" refers to increasing the proportion of immigrants arriving under the Economic Class category by 10 percentage points.
   "Point System Own Weights" refers to the effect of increasing the maximum skill points (within the Point System) for a given skill dimension by 10 percentage points relative to the Pass Mark on that respective skill.
2. FL (E or F) stands for language fluency in either English or French
3. * indicates figure based on regression coefficient with "wrong" sign.

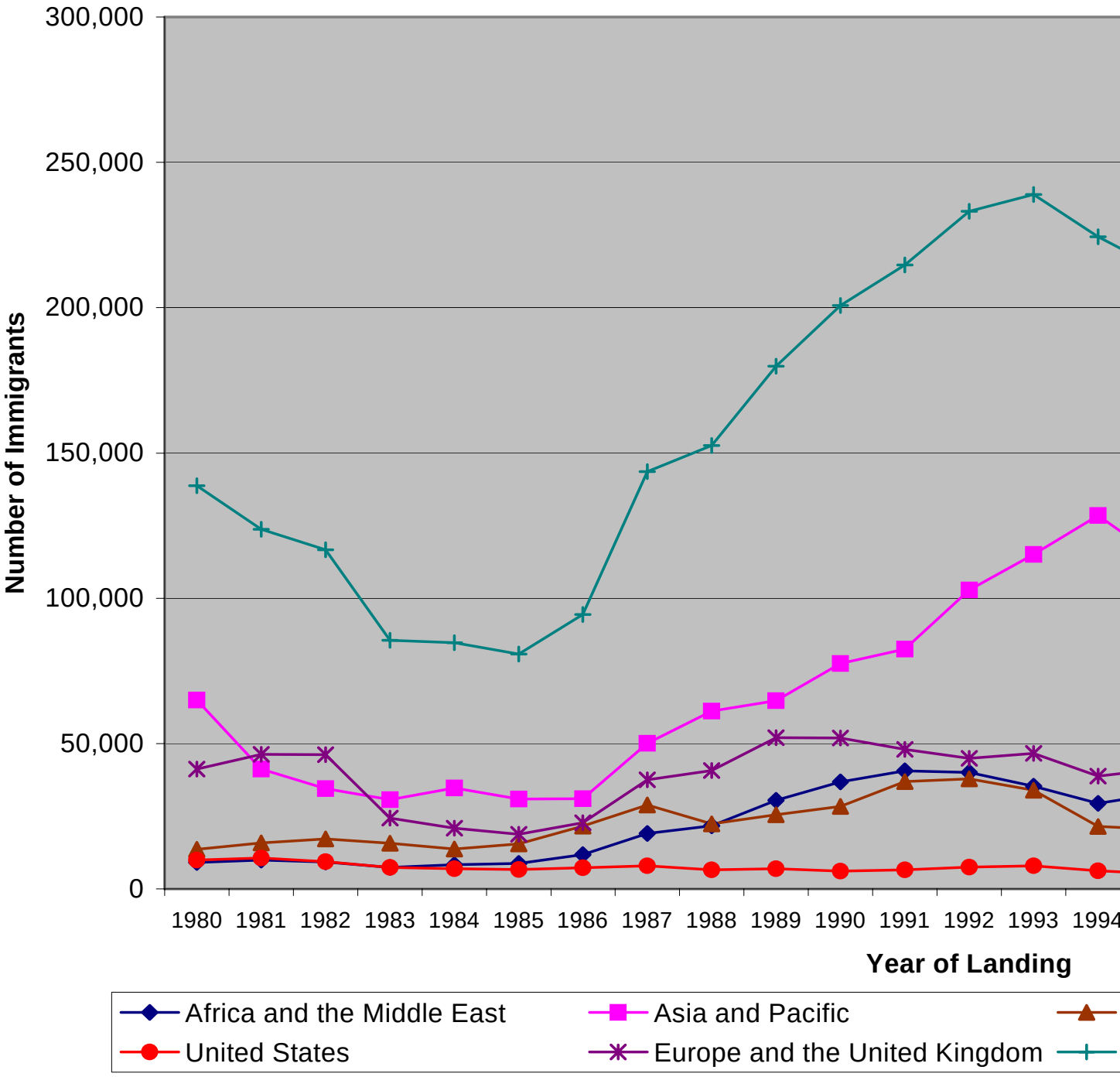
Figure 1
Total Immigrants to Canada by Class, annually, from 1980 to



Source: Citizenship and Immigration Canada, 1980-2004

Figure 2

Immigrants to Canada, by Country of Last Permanent Residen



Source: Citizenshi

Figure 3
The Percentage Distribution of Immigrants from Asia
annually, from 1980 to 2

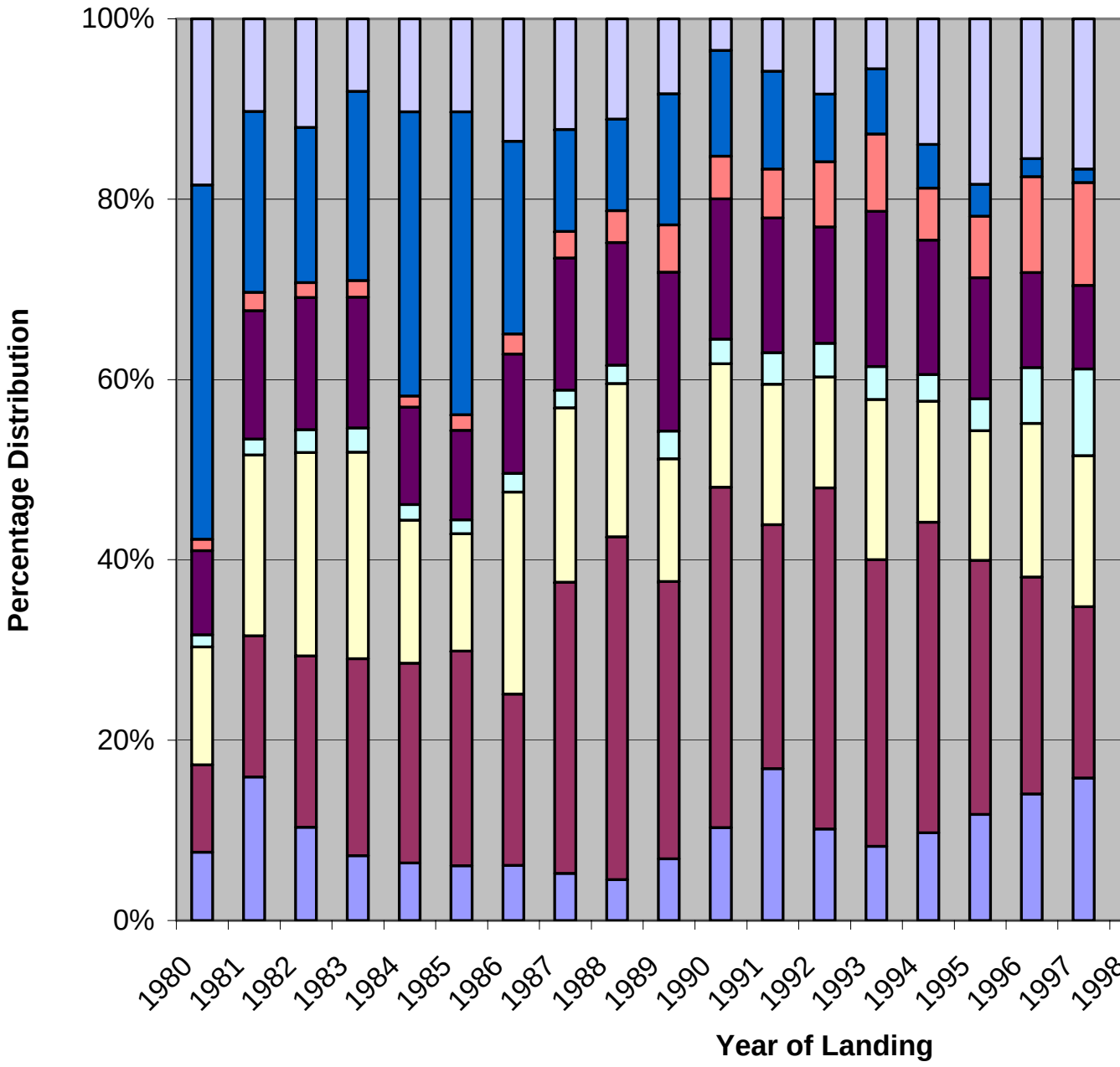
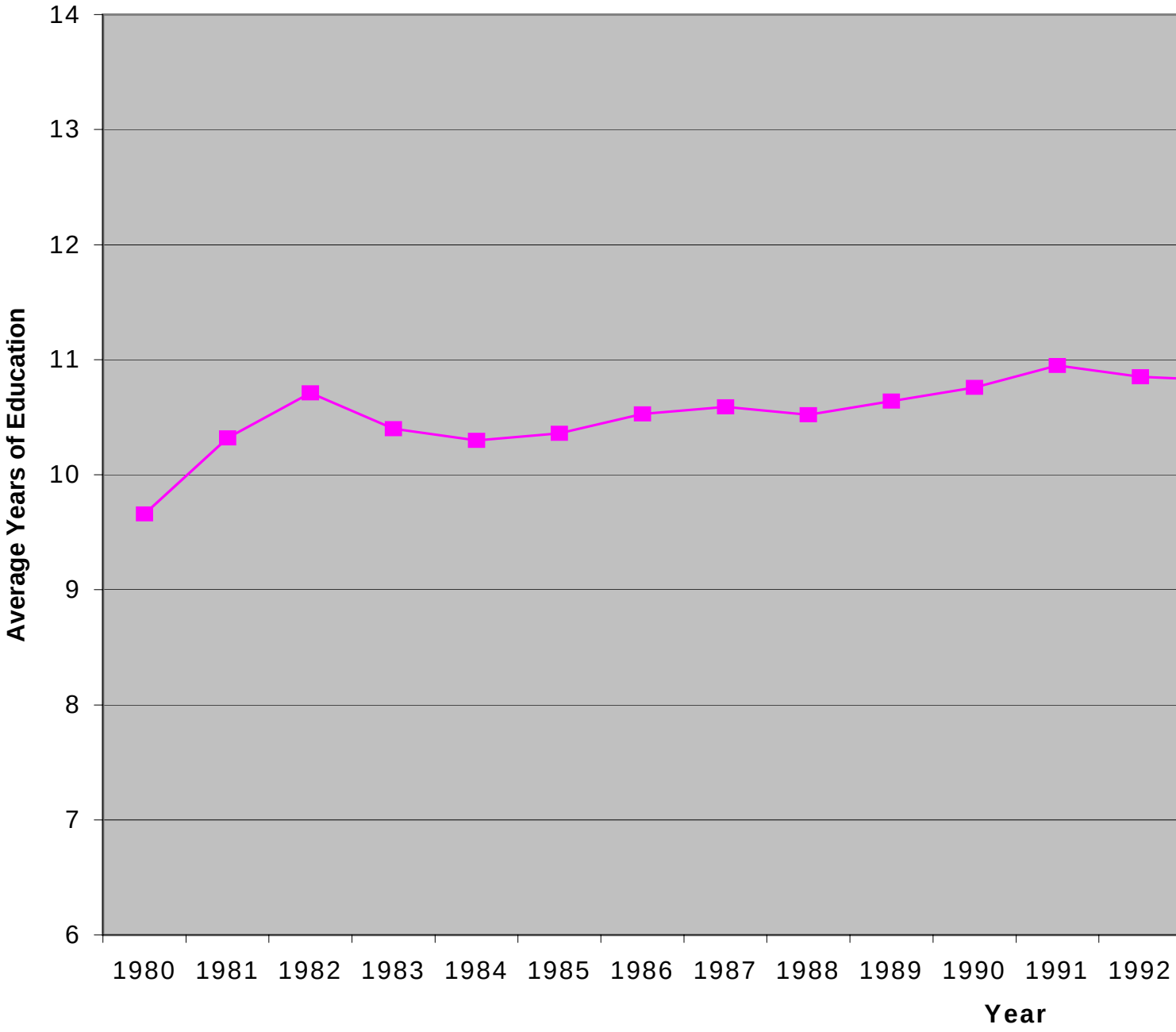


Figure 4
Average Years of Education of Immigrants to Canada,



Source: Citizenship and Immigration Canada, Landings Data, 1980-2001

Figure 5

Percentage of New Economic Immigrants who were
who had a University Degree: 1990-

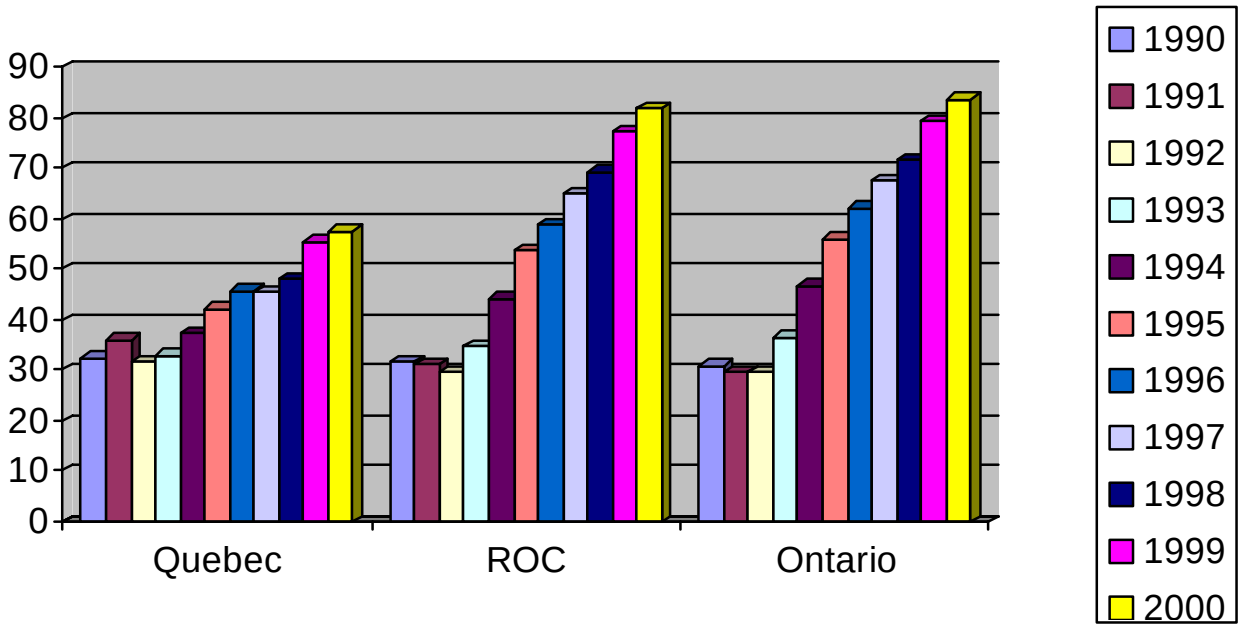


Figure 6

The Average Age of Immigrants to Canada, a

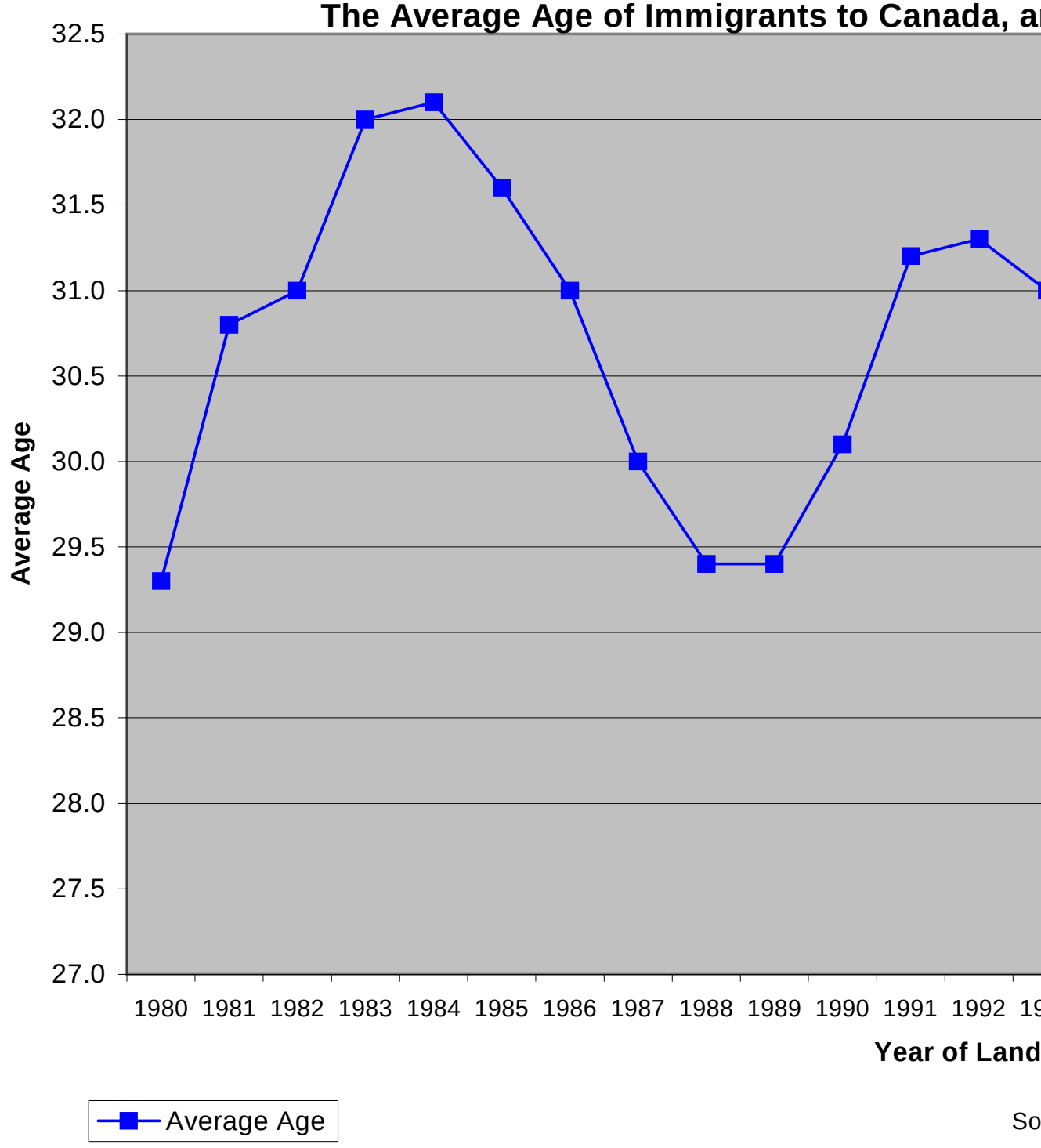
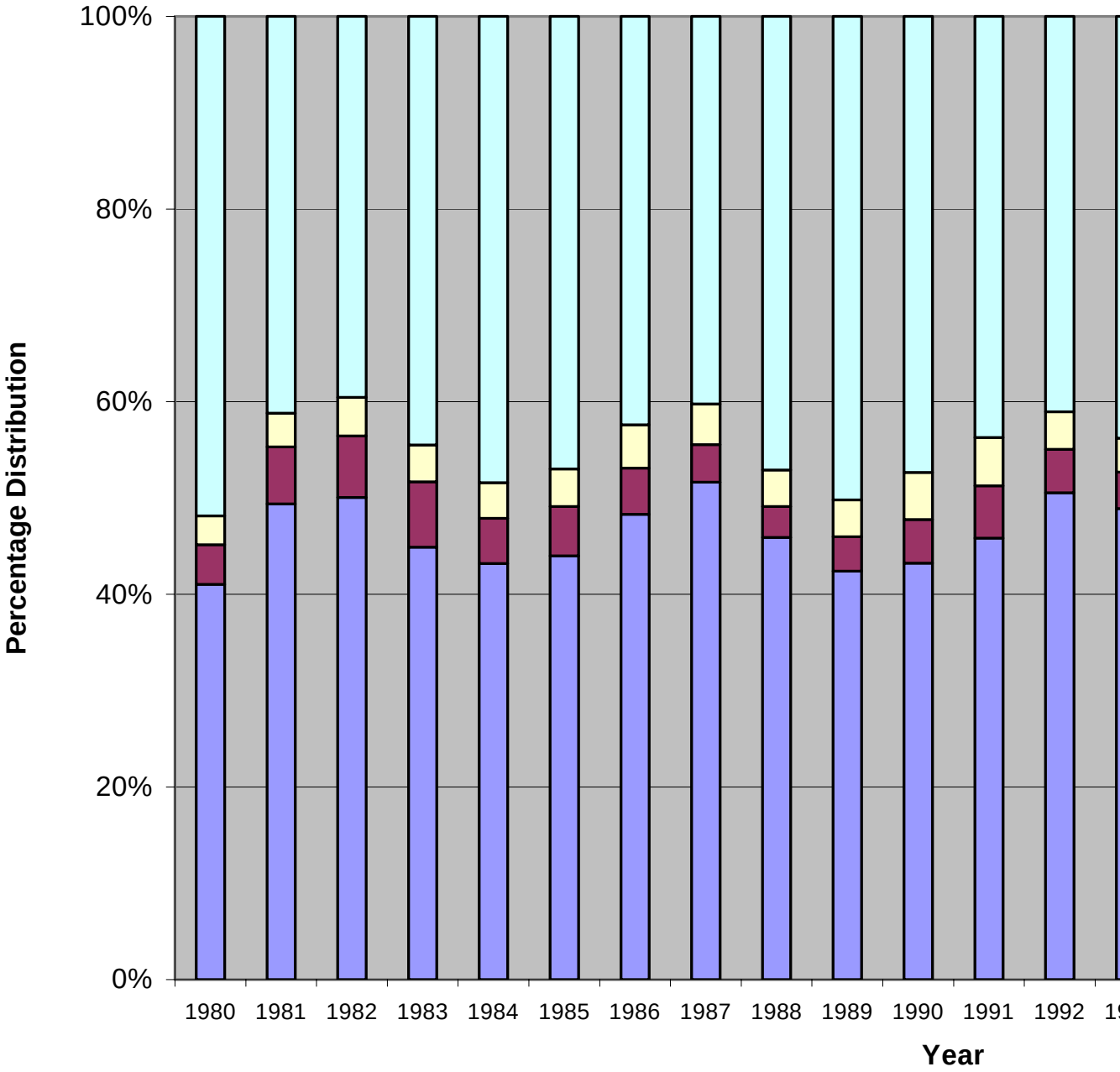
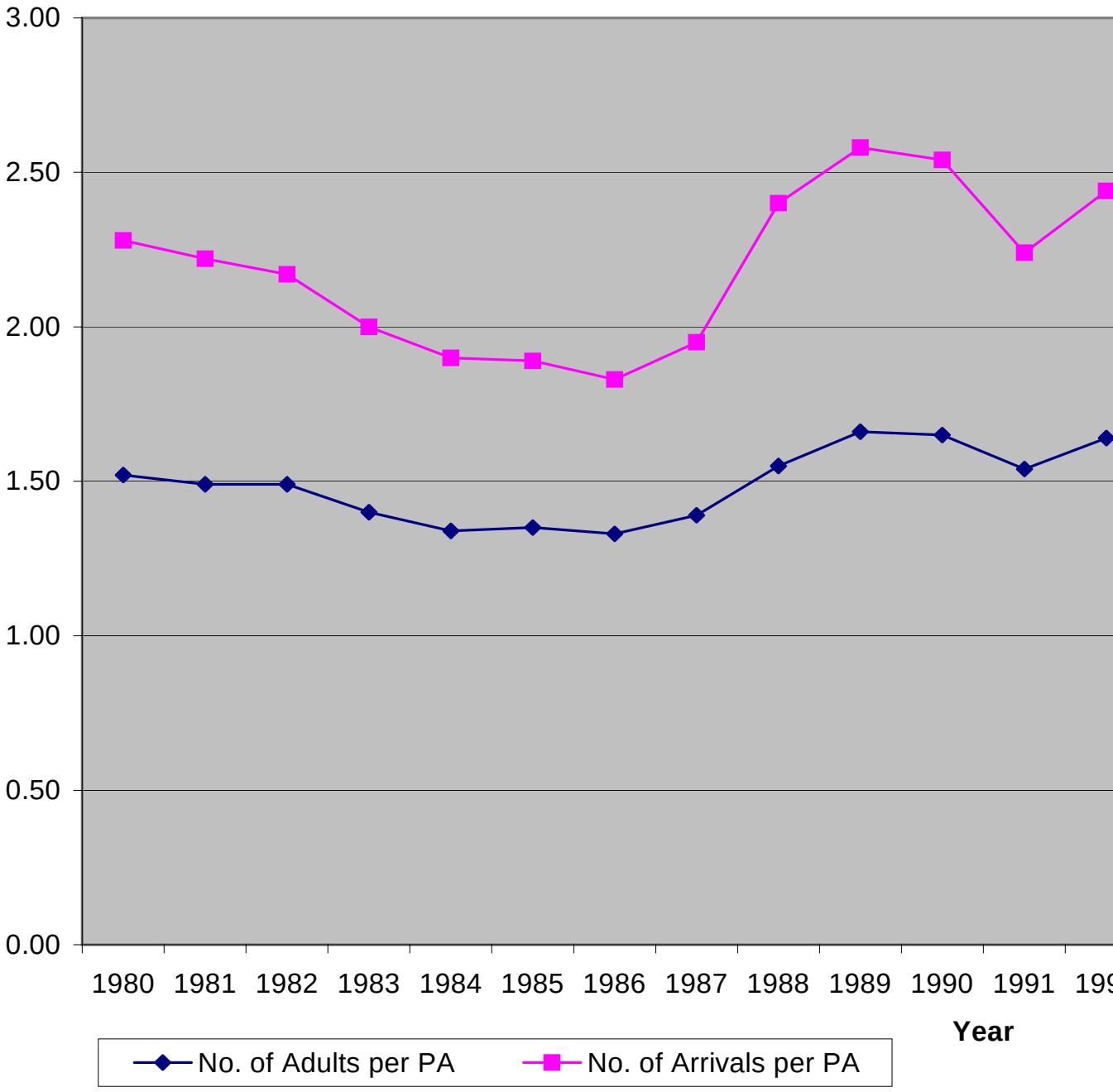


Figure 7
Percentage Distribution of Immigrants by Language Flu



Source: Citizenship and Immigration Canada, Landings Data, 1980-2001

Figure 8
Number of Economic Class Arrivals per Principal A



Source: Citizenship and Immigration Canada, Landings Data, 1980-2001