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**The Economics of Citizenship: A Common Intellectual Ground for Social  
Scientists?**

**Don J. DeVoretz**

**December 2005**

## **RIIM**

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**The Economics of Citizenship: A Common Intellectual Ground for Social Scientists?**

**Don J. DeVoretz**  
Co-director RIIM  
Simon Fraser University  
devoretz@sfu.ca

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**Abstract:** Economists studying the economic behavior of immigrants have tended to avoid serious interdisciplinary work. I argue that given a set of research questions, which lend themselves to a utility maximization framework with explicit testable hypotheses, an economist is now able to pursue true interdisciplinary work. I argue that the necessary if not sufficient ingredient for true economic collaborative research has been met in the field of citizenship acquisition by defining a set of questions with broad interests and support this position with a review of the existing empirical research.

**Keywords:** Immigration, Citizenship

## Introduction

Since 1996, the Metropolis Project in Canada has attempted to draw together multidisciplinary networks in Vancouver, Halifax, Toronto, Montreal and the Canadian Prairies to study the impact of recent immigrant arrivals on these cities.<sup>1</sup> The central intellectual thrust of this largely successful project is that the process of immigrant integration can only be understood if economists, geographers, sociologists and other social scientists can find a common research agenda to explore.

It is interesting to note that both financial and institutional structures were put into place to encourage multidisciplinary research projects at the Vancouver Centre.<sup>2</sup> One clear lesson has emerged; economists have been largely unable to do serious collaborative work with other social scientists while studying immigration. The most telling example that clearly portrays the existence of these two solitudes, economists and other social scientists arose in the first three years of the monthly putative multidisciplinary seminars at the Vancouver Centre. In short, when economists gave a paper, only economists were in the audience, but when other social scientists gave a paper, there appeared a blending of social scientist including an occasional economist. Thus, the experiment of a multidisciplinary immigration seminar was, *de facto*, declared a failure by the economics group after three years. Now there exists a monthly economics seminar on immigration with a periodic more multidisciplinary seminar at a separate location.

What caused the failure of this earnest attempt? After all, major immigration journals publish work across a variety of fields to explain the integration process of immigrants.<sup>3</sup> Moreover, why are economists so uniquely unable to collaborate with other social scientists in this field? One is tempted to use hubris as the primary explanatory tool but more substantive arguments may lie in the restrictive formal modeling structure that is inherent in the economics paradigm. Moreover, the advent of applied econometrics as a major investigative tool in the economics of immigration has tended to

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<sup>1</sup> The author is Co-director of RIIM the Vancouver Centre that consists of approximately 75 researchers drawn from economics, education, geography and other social sciences. See [www.riim.metropolis.net](http://www.riim.metropolis.net) for a complete description of this multidisciplinary institute.

<sup>2</sup> In particular, the Centre awards research grants on the basis of their degree of interdisciplinary content.

<sup>3</sup> For example, *International Migration Review* and *Journal of Immigration and Integration* offer interdisciplinary articles.

isolate the economist's audience and also tempted economist's audience and also tempted economists to marginalize empirical work on immigration that does not involve substantial data sets.<sup>4</sup>

The central thesis of this essay is that to expand an economist's horizon across two or more disciplines while researching the integration of immigrants requires posing a uniquely defined research question. In other words, the research question must lend itself to the economic paradigm of utility maximization, which in turn allows the derivation of hypotheses. These hypotheses in turn must be subjected to tests with the available large data sets to refute or support the hypotheses in question to satisfy the economist's curiosity.

However, the existence of a potentially cogent question embedded in a utility maximization framework is not sufficient to create true multidisciplinary work by an economist. The economist's model must also incorporate central features of the relevant political, social or geographical environment in his/her economic model to go beyond simple economic imperialism. There are several emerging topics or questions that readily lend themselves to economists meaningfully branching out, but this paper will focus on the emerging research in the economics of immigrant citizenship acquisition.<sup>5</sup>

Seminal work on this topic began under the aegis of the Willi Brandt Professorship at Malmö University in 2004 when an exploratory workshop brought together European and North American economists, sociologists, political scientists and an anthropologist. The aim of this workshop was to draw up a common set of research questions and an acceptable methodology to explore the motivation for immigrant citizenship acquisition. After ten paper presentations, the consensus of this group was that there did not exist a common methodology shared across all disciplines, especially economics. However, two broad questions emerged which piqued the interests of all participants. Namely, why do immigrants ascend to citizenship at differential rates, and what are the political, social and economic consequences of this ascension?

Thus, I argue that the necessary, if not sufficient, ingredient for true economic collaborative research has been met in the field of citizenship acquisition by defining a set of questions with broad interests across social science, which lends itself to a utility maximization framework.

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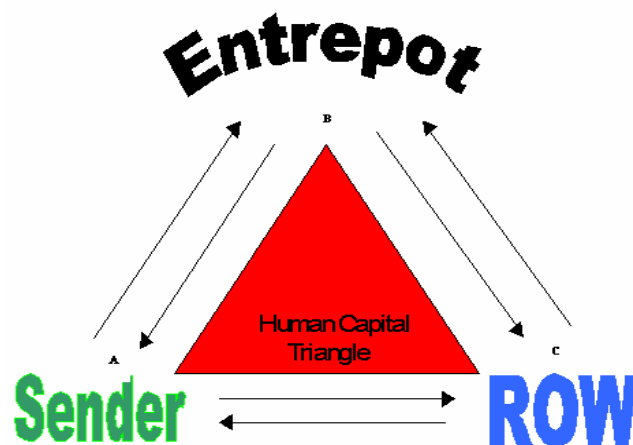
<sup>4</sup> At RIIM, economists as well as others have access to an administrative data base (IMDB) which contains records on over 4 million immigrants who arrived to Canada since 1981 including their yearly tax records. The existence of this data set alone has been a major inducement for economists to join RIIM.

<sup>5</sup> The areas of immigrant health, education, language acquisition have a substantial body of economic literature to illustrate my point. See [http://www.riim.metropolis.net/frameset\\_e.html](http://www.riim.metropolis.net/frameset_e.html) for a sample of these attempts.

To illustrate the evolution of the collaborative-based research, I develop a history of thought in the economics of citizenship acquisition below. The question of differential immigrant ascension to citizenship was first subjected to a collaborative analytical approach by a geographer and an economist in 2002.<sup>6</sup> Figure 1 below represents the essence of their multidisciplinary approach.

## Literature Review

**Figure 1: Triangular Movement**



Source: DeVoretz and Ma, 2002

The argument embedded in Figure 1 is that the citizenship ascension decision appears after the immigrant migrates across space from the sender country (A) to the entrepôt country (B). This entrepôt country is defined as an immigrant-receiving area that provides extensive subsidized human capital to recently arrived immigrants. Thus, the citizenship decision is embedded in a geographical space since the decision to become a citizen is made after time in the entrepôt country (B). This citizenship acquisition has further geographical implications since a new passport can facilitate further movement to (C) or the rest of the world (ROW). However, citizenship ascension can in turn reduce the probability of return movement to the sender country (A) if dual citizenship is not recognized by either country.

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<sup>6</sup> See DeVoretz and Ma (2002).

Moreover, an immigrant who is risk averse and wants to invest in herself will leave country (A). In addition, while residing in the *entrepôt* country, forces appear which condition the immigrant's naturalization decision.<sup>7</sup> In particular, the immigrant who chooses the *entrepôt* destination is argued to be risk averse and concerned with accumulating human capital. In this triangular model the *entrepôt* destination is distinguished from the ROW by the presence of private and public agents who provide subsidized human capital and free public goods (DeVoretz and Ma 2002). The subsidized provision of human capital includes language training, retraining for certification of credentials, extended welfare benefits and anticipated future social security benefits as well as subsidized formal educations. Moreover, with little or no waiting period, the *entrepôt* country provides three public goods to immigrants: family reunification privileges, citizenship and a passport and near visa-free travel.

On the other hand, the ROW is defined as a set of countries (e.g. USA) where the immigrant receives no subsidized human capital and must wait an extended time period to obtain public goods, and hence this environment attracts risk-taking immigrants.<sup>8</sup>

Given the provision of subsidized human capital benefits, it is argued by DeVoretz and Ma (2002) that the risk-averse immigrant will rationally choose the *entrepôt* destination or the ROW and then refrain from or ascend to citizenship. However, ascension to citizenship in an *entrepôt* destination will only occur if, at a later stage, a secondary calculation reveals that the costs of ascending to citizenship are less than the benefits.

What are these costs of immigrant ascension to citizenship? The major cost arises in the absence of mutually recognized dual citizenship policy by both the sending and receiving countries since under these conditions immigrant ascension to citizenship in the *entrepôt* country reduces or eliminates future access to the sending country's labour market. The economic benefits to immigrant citizenship ascension are argued to include greater access to both the *entrepôt*'s labour market and all labour markets accessible by the immigrant via the newly acquired passport from the *entrepôt* country.

Several major predictions now appear under this triangular model with a combined geographical time-space dimension and an embedded individual utility maximizing decision process to determine citizenship ascension. These include immigrant self-selection with risk-averse

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<sup>7</sup> See Bo (2005) for a theoretically derived set of conditions to move and stay or leave country B with or without citizenship acquisition.

<sup>8</sup> The ROW is characterized by no public goods provision to immigrants as well as a non-progressive income tax structure, thus attracting risk-taking immigrants who shun public services and desire untaxed income.



immigrants choosing country B and risk takers moving directly to country C. In addition, once an immigrant chooses the entrepôt country B, ascension to citizenship will primarily occur for those immigrants who will enjoy mutual dual citizenship recognition and have, while in residence, accumulated substantial subsidized human capital. Moreover, given this human capital acquisition and a wider geographical labour market after naturalization, then it is predicted that ascension to citizenship will yield higher incomes to naturalized citizens.

In sum, this triangular model predicts that more risk adverse immigrants will choose the entrepôt country, and then some will selectively ascend to citizenship and reap economic rewards from naturalization.

Prior to the advent of the triangular model, the extant economic literature concentrated on only one aspect of the immigrant citizenship question that pertained to the economic impact. The work by Bratsberg *et al.* (2002) illustrates this point when they choose to investigate the earnings and employment prospects of citizens and non-citizens in the United States labour market. They found that selected groups of United States immigrants received an economic reward from immigrant ascension.<sup>9</sup> This labour market impact approach in the economics literature has been replicated by many authors in a variety of contexts. Both Scott (1999) and Bevelander (2000) argue that the impact of citizenship acquisition in the Swedish context is negative as labour market participation is diminished after naturalization. Pivnenko and DeVoretz (2004) argue that Ukrainian immigrants resident in either the United States or Canada earn an income premium after citizenship acquisition in either country. In fact, the earned premium is so large for Ukrainians that their lifetime earnings exceed the native-born averages in either country. The conclusion to be drawn from this selective review is that there exists a modern day literature in the economics realm that addresses one-half of the questions appearing in the immigrant-citizenship research nexus.

There exists a second and separate branch of literature on the naturalization process which has been until very recently addressed by non-economists. This literature addresses the prior question of why immigrants ascend to citizenship at differential rates. The primary example of this literature is owing to Yang (1994) who focuses on the conditioners of immigrant ascension to citizenship by providing a lifecycle model with contains demographic, economic and political variables. Yang's model, whilst identifying the importance of dual citizenship, home ownership, age and gender to explain United States immigrant citizenship acquisition on an *ad hoc* basis, in the absence of a formal model that motivates immigrant citizenship ascension, he provides often a weak rationale and

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<sup>9</sup> Chiswick (1978) dissents from this finding when he argues that after controlling for a variety of factors citizenship acquisition did not improve the earnings prospects of United States immigrants.

ambiguous arguments on the direction of the effects of the cited variables to buttress his findings. Mata (1999) repeats this methodological *ad hoc* approach (i.e. no model) when he confronts the question of Canadian immigrant naturalization with a vector analysis to isolate the relative contribution of economic and non-economic forces in determining take up rates of citizenship. Mata concludes that there exists no economic argument to support immigrant naturalization and that non-economic forces are more significant. Bloemraad (2000) again addresses the question of Canadian immigrant naturalization and highlights the importance of the dual citizenship option that is open to some immigrants, which significantly affects naturalization. Thus, the conclusion to be drawn from this separate body of literature is that ascension decision, when researched in isolation from the impact decision, leaves a minor role for economic determinants or begs for a more rigorous model construction with a cross-disciplinary component.

One of the core methodological paradigms of economics is the general equilibrium nature of economic decisions. In other words, utility-maximizing decisions made in one market often have impacts in a second market. Moreover, the impact in the second market may induce a feedback effect on the first market. This is the key insight that allows a resourceful economist to merge the immigrant ascension question to the economic impact question and to create a common ground for which economic, geographic, political and social arguments can explain the immigrant-citizenship question.

There is even a more profound insight common, but not exclusive, to the economic paradigm that necessitates the merging of the ascension and impact effects of immigrant naturalization. In short, the decision to ascend and the economic impact may be endogenous (DeVoretz and Pivenko 2004). To wit, the choice of ascending to citizenship may not be independent from the economic impact of citizenship acquisition in the labour market and vice-versa. In other words, if you expect to earn a premium from citizenship you may invest in yourself in anticipation of citizenship by acquiring more education and linguistic skills, which simultaneously affect your decision to become a citizen.

In sum, economic methodology strongly supports the merging of the ascension and impact dimensions of citizenship acquisition. Thus a common ground has emerged in which economists can work with other disciplines on both questions that heretofore were addressed in isolation.

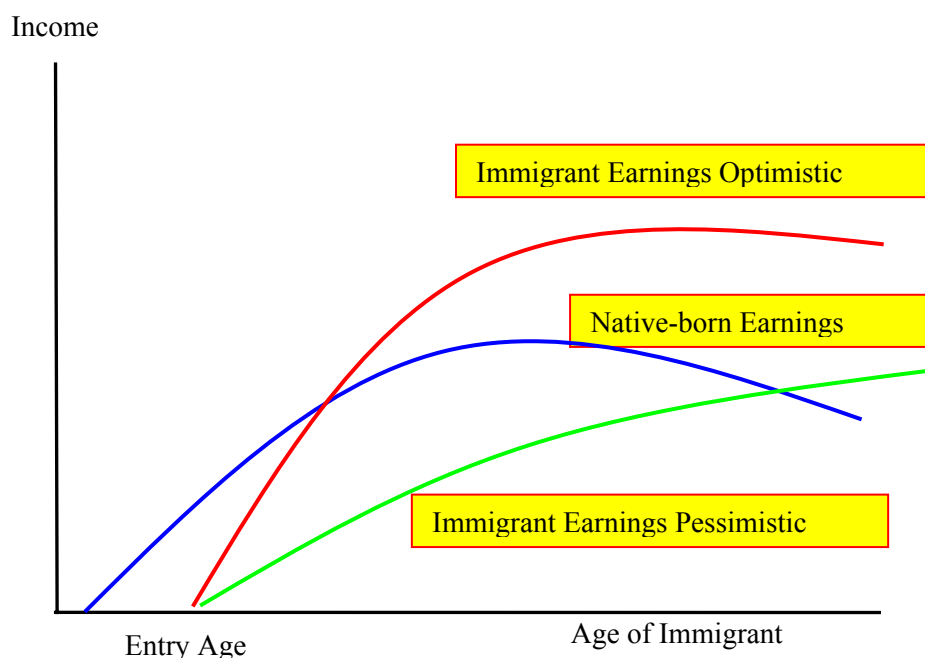
### **Some Stylized Facts**

Barry Chiswick (1978) in his seminal work on immigrant earnings posited the concept of the *catch-up* in the race to close the earnings gap between immigrants and native-born in the United States. Central to this concept of the catch-up is that immigrants enter the economy at a disadvantage since they lack specific human capital as well as language skills and knowledge of the labour market

(general human capital) upon entry. This gap will dissipate with time and greater human capital acquisition. After 10-15 years, the foreign born and Canadian born should have equal earnings. Thereafter, the double self-selection inherent in the immigration process would assure that within each skill cohort the representative foreign-born worker would outperform a native-born worker.<sup>10</sup>

Figure 2 depicts the optimistic and pessimistic views of the earnings “catch-up” model. Immigrants upon entry earn considerably less until X as they must accumulate specific human capital to “catch-up” to their native-born cohort’s earnings. In the optimistic case with no labour market impediments and considerable human capital investment immigrants “catch-up” and then outperform their earnings cohort given their superior unobservable endowments (e.g. intelligence, energy) owing to their self-selection. In the pessimistic case immigrants either are unable or choose not to accumulate human capital and never achieve a “catch-up” point.

**Figure 2: Age-earnings Gap and Citizenship**



<sup>10</sup> Double selection occurs since the immigrant selects to move in the first stage and in the second stage the receiving country selects or rejects this immigrant arrival. With an explicit point system to evaluate some immigrants such as in Canada and Australia the principal applicant would be closely screened for her potential labour market performance and hence doubly selected.

However, Chiswick argues that naturalization does not affect this earnings catch-up since any observed *citizenship effect* is simply owing to years of residence whilst awaiting citizenship eligibility. A rebuttal to this argument, which is consistent with the Chiswickian view that human capital accumulation hastens the catch-up point, would be that becoming a citizen involves further human capital accumulation that would not appear for those immigrants who choose not to be naturalized (DeVoretz and Pivnenko 2006)

What would be the economic motivation for the immigrant citizenship candidate to acquire extra human capital when contemplating citizenship? First, the immigrant citizenship candidate has observed greater occupation mobility and earnings for past-naturalized immigrants (Bratsberg *et al.* 2002). Under these circumstances, with greater labour market opportunities after citizenship acquisition, the rational immigrant would accumulate more human capital to exploit this advantage if s/he had decided in advance (during the 3-5 year waiting period) to ascend to citizenship. In other words, naturalized citizens self select into citizenship based upon the economic benefits derived from acquiring citizenship.<sup>11</sup> Thus, those who judge themselves most able to take advantage of naturalization will invest more than those who are less able to take advantage of the opportunities arising from citizenship.

If this self-selection argument is correct, we should observe in an uncontrolled nature that moving into citizenship should be correlated with higher earnings and greater human capital acquisition for those who choose to naturalize as opposed to those who do not. Below I present several examples of the dramatic earnings changes and employment effects in the recent Canadian context for immigrants from alternative sending regions.

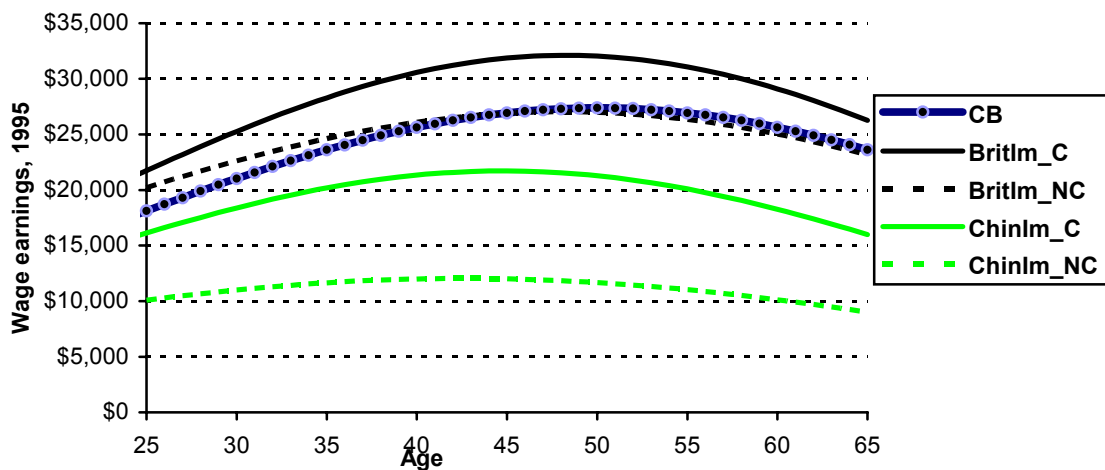
DeVoretz and Pivnenko (2006) first reported in the Canadian case that the act of acquiring citizenship resulted in an upward shift in the naturalized immigrant's earnings. Figures 3 and 4 illustrate the citizenship effect on earnings for pairs of old (British and United States) and new (Chinese and Indian) vintages of Canadian immigrants.

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<sup>11</sup> Clearly, refugees are exempt from this economic argument since many refugees can not return and naturalization is often a foregone conclusion.

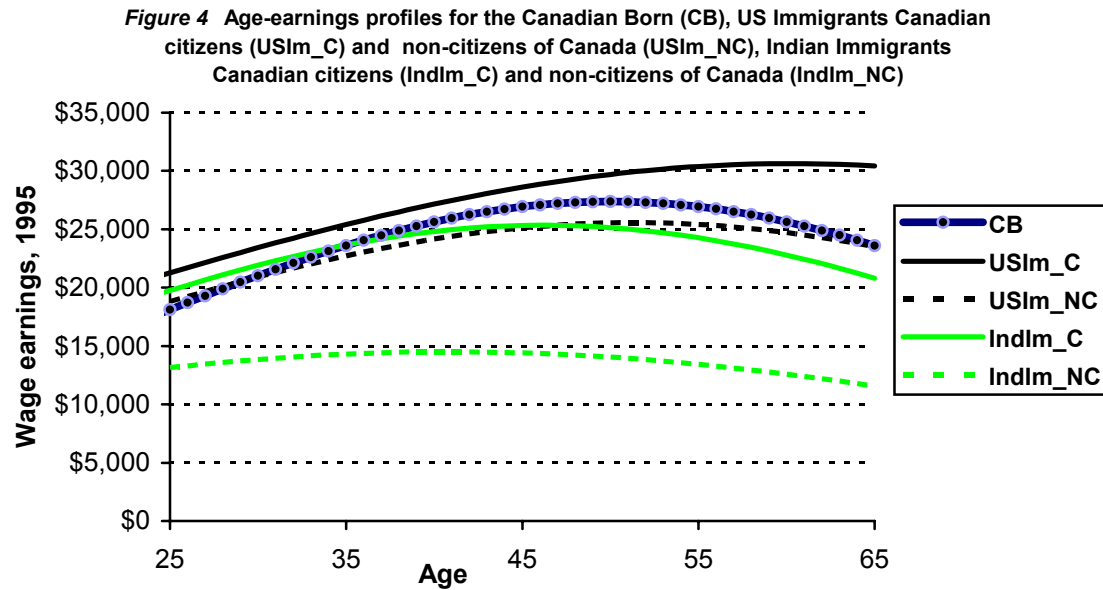
Figure 3 indicates sizable citizenship effects for both the Chinese and the British. However, the citizenship effect on Chinese earnings is larger. The Canadian-born age earnings functions are reported as a reference point (CB), and further highlight the citizenship effect on earnings. As noted a Chinese immigrant experiences a substantial earnings disadvantage upon arrival, but by becoming a citizen augments his/her earnings rise such as to nearly equal that of the Canadian-born. The observed citizenship effect on British immigrant earnings is smaller but sufficient to make these immigrants “overachievers.” In other words, without citizenship British immigrants do not suffer an initial earnings disadvantage relative to the Canadian-born. However after obtaining citizenship British immigrants become “overachievers” and earn more than the Canadian-born.

**Figure 3: Age-earnings profiles for the Canadian Born (CB), British Immigrants Canadian citizens (BritIm\_C) and non-citizens of Canada (BritIm\_NC), Chinese Immigrants Canadian citizens (ChinIm\_C) and non-citizens of Canada (ChinIm\_NC)**



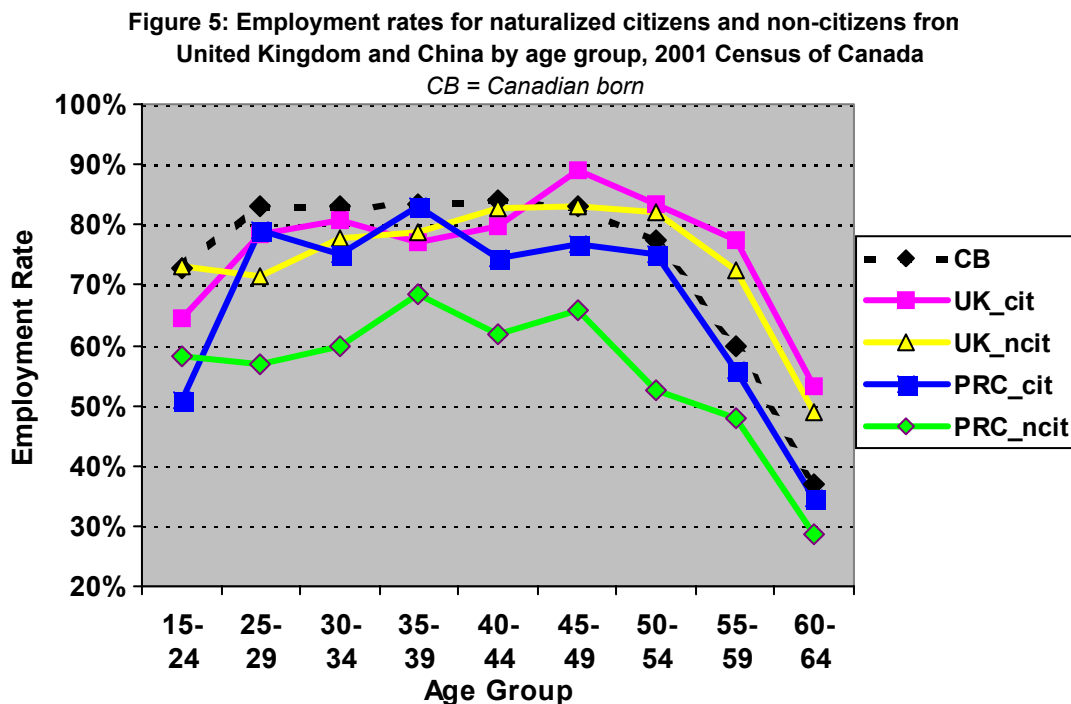
Source: Authors' calculations from 1991, 1996 and 2001 Census of Canada

Figure 4 portrays a similar effect when we pair the earnings performance for the United States and Indian immigrants. Citizenship status grants United States immigrants a slight lifetime earnings premium relative to the Canadian-born. There is once again a substantial boost in the earnings of Indian immigrants from citizenship acquisition, such that Indians nearly overtake the earnings of the Canadian-born at age 45.



Source: Authors' calculations from 1991, 1996 and 2001 Census of Canada

Figure 5 repeats the citizenship acquisition effect in terms of Canadian employment rates in 2001. In the employment context the citizenship effect unambiguously raises the employment rates for naturalized Chinese immigrants. In fact naturalized Chinese immigrants often approach the Canadian-born employment rates over the lifecycle. However, the employment outcomes for naturalized citizens from United Kingdom are mixed between the crucial ages of 25 to 45 as sometimes (aged 35-45) non-citizens have a greater employment rate than naturalized United Kingdom immigrants.



Given this Canadian example of the observed economic impacts derived from Canadian citizenship, I now turn to an economic-demographic model, which will predict differential rates of immigrant citizenship ascension in alternative host countries and explain this rise in earnings.<sup>12</sup>

### Theory: Costs and Benefits of Ascending to Citizenship

The economic problem that immigrants face is to choose a state: citizenship or non-citizenship, which maximizes their income net of citizenship ascension cost given their human capital stock.

<sup>12</sup> I should note that the studies cited above also indicate impacts on employment, job choice and use of public services after immigrant naturalization.

Both the acquisition of subsidized human capital and the prospects of receiving a free public good (a passport) will increase the probability that this immigrant will ascend to citizenship, if the expected earnings stream in the host country – net of costs – exceeds the option of returning home. The latter result is an outcome of an assumption that the sending country (e.g. China) does not recognize dual citizenship, and would prohibit return migration as a naturalized citizen of the host country.

In the absence of mutual recognition of dual citizenship by both Canada and the sending country, the major cost of ascending to Canadian citizenship is the loss of home country citizenship. This implies:

- no access to the home country labour market;
- the possible loss of the right to hold land, or the requirement to pay higher land taxes
- loss of entitlement to home country public services, such as subsidized education for children;
- curtailing of social benefits in home country.

Application fees and any foregone income arising from continued residence in Canada to fulfill citizenship requirements add to the costs of ascending to citizenship.

On the other hand, the benefits from Canadian citizenship include:

- access to the federal government labour market;
- potential access to merged labour markets (e.g. NAFTA or EU);
- any wage premium paid by private employers to citizens;
- a host country passport with its implied visa waivers, which lead to greater worldwide mobility.

If this cost-benefit framework holds, then rates of ascension to citizenship are a positive function of the immigrant's age, years in the host country, skilled occupational status. Furthermore, home ownership, marital status and presence of children increase the costs of return migration and thus raise the incentive to naturalize. In addition, the greater the immigrant's earned income in the host country, the greater the probability of later ascending to citizenship.

In sum, human capital characteristics plus immigrant source country characteristics (level of development, dual citizenship recognition and portability of home citizenship) should be incorporated in an economic model of citizenship acquisition.



### Some Empirical Evidence

The typical immigrant citizenship ascension model takes the form of logistic function

$$P(Y_i = 1 | X_i) = \frac{\exp(X_i\beta)}{1 + \exp(X_i\beta)}$$

where  $P(Y_i = 1 | X_i)$  is a probability of observing a citizen in our

immigrant sample conditioned on vector of explanatory variables  $X_i$  which includes individual attributes and the socio-economic context variables which, as we discussed earlier, which may influence the naturalization decision. The vector of parameters  $\beta$  is estimated by the Maximum Likelihood Method.

In Table 1 I report the results for the Canadian case of citizenship ascension for a sample drawn from Canada's major immigrant-sending countries. The maximum likelihood estimates of the logistic model yield a curvilinear relationship between age and naturalization rate. The fact that the rate of ascension is increasing in age but at decreasing rate is consistent with our human capital view on the naturalization decision. In other words, the younger in age at naturalization, the greater lifetime benefits an immigrant can expect to accrue from the new citizenship status and hence the greater the log odds of naturalization.

**Table 1. Model of probability of acquiring Canadian Citizenship: Immigrants from all countries**

	Coeff.	b/St.Er.	P[ Z >z]	Mean of X	Elasticity
Constant	0.019187	0.164	0.8699		
AGEP	0.007346	1.399	0.1617	45.88071	0.055009
AGESQ	-0.00011	-1.843	0.0654	2222.033	-0.03937
YSIM	0.080457	74.192	0	24.54317	0.322278
YIPOST75	0.01155	0.295	0.7682	0.347505	0.000654
P75_YSIM	0.021916	9.573	0	4.296566	0.015368
TYS	-0.00023	-7.85	0	-57.6105	0.002147
FEMALE	-0.10292	-7.272	0	0.510275	-0.00857
PRO	0.279808	14.964	0	0.220901	0.00957
SKL	0.1378	7.978	0	0.244092	0.005361
LNTINC	0.00012	4.106	0	-42.07	-0.00082
HOWN	0.192035	12.01	0	0.777668	0.02526
DUAL	-0.19443	-9.606	0	0.601698	-0.01885
CMA	0.211616	11.696	0	0.834479	0.030215
OECD	-1.25681	-52.936	0	0.647082	-0.11868
Number of observations		154458	Log likelihood function		-68474.07
Chi squared		15186.62	Restricted log likelihood		-76067.38

Notes: Logistic regression: dependent variable CTZN

Source: Authors' calculations from 1991, 1996 and 2001 Censuses of Canada

Years since immigration (YSM) positively and significantly influenced the log odds of ascending to Canadian citizenship. As expected, the period dummy (YIPOST75) which reflected Canada's change in immigrant source region from originally European sources (pre-1975) to non-European (post-1975) had a positive but statistically insignificant effect on naturalization rates. Contrary to expectations the immigrant's total years of schooling (TYS) had a small and negatively signed effect on the immigrant's propensity to naturalize. The significantly negative coefficient for the gender dummy (FEMALE) suggests that males are more likely to ascend to Canadian citizenship, which supports Yang's (1994) findings.

The estimates in Table 1 also illustrate the role of economic assimilation in the naturalization decision. Home ownership (HOWN) and the logarithm of total income (LNTINC) are significant conditioners and yield the predicted positive signs. Also, a higher occupational status (PRO – professional, SKL – skilled) yields a strong positive relationship with the rate of naturalization.

Where the immigrant lived in Canada proves important since the Census metropolitan area indicator (CMA), is strong and positively signed. This outcome supports the idea that living in urban environment fosters immigrant naturalization. The significant negative coefficient for the OECD dummy indicates that the immigrant's source country level of development is an important

determinant of citizenship ascension. Dual citizenship increases the probability of becoming Canadian citizen for immigrants from non-OECD countries.

In sum, demographic (age and gender), geographic (CMA), political (dual citizenship) and economic variables (home ownership, earned income) all significantly affected Canadian immigrant naturalization circa 1991-2001.

What is the economic impact derived from this Canadian immigrant naturalization? Table 2 points to the economic impact on earnings derived from citizenship acquisition in the Canadian context circa 1991-2001.

**Table 2. OLS estimation of log-linear earnings model: Citizenship Effect on immigrant earnings.**

	(1) females non-OECD	(2) males non-OECD	(3) females OECD	(4) males OECD
(Constant)	4.632 (42.820)	4.357 (40.563)	4.411 (49.593)	4.457 (54.064)
Age	.038 (7.573)	.055 (11.286)	.040 (10.380)	.071 (20.581)
Age squared	-.0004 (-7.301)	-.001 (-10.904)	.000 (-9.762)	-.001 (-18.427)
Years since immigration	.013 (16.293)	.013 (17.100)	.003 (6.642)	.0005 (-.605)
Total Years of Schooling	.035 (18.015)	.035 (18.252)	.037 (21.404)	.027 (19.475)
English or/and French spoken at home	.043 (2.859)	.097 (6.349)	.017 (1.161)	.081 (6.578)
Naturalized citizen	.126 (7.713)	.144 (8.887)	.058 (5.128)	.041 (3.817)
Professional occupation	.345 (18.478)	.289 (16.534)	.409 (31.243)	.356 (29.978)
Skilled occupation	.089 (5.361)	.098 (6.782)	.174 (15.321)	.142 (14.043)
LN (Weeks worked)	.799 (70.394)	.812 (63.307)	.877 (95.126)	.759 (70.164)
Indicator: Mainly full-time weeks worked	.594 (34.890)	.699 (26.125)	.700 (63.248)	.870 (42.625)
Adjusted R Square	.358	.318	.413	.279
F-statistics	1144.773	1007.112	2191.931	1437.192

\*Note: t-statistics is given in brackets

*Authors calculations based on 1991, 1996 and 2001 Censuses PUMF*

Holding constant other variables – age, schooling, years in Canada, language ability and labour market controls – Canadian citizenship increased immigrant earnings from 4 to 14.4 percent. Our results suggest that this citizenship earnings premium is greater for immigrants from less developed (i.e. non-OECD) countries. For example, females from non-OECD earn a 12.6% premium versus a 5.8% premium for OECD females. Males from the non-OECD group obtained a 14.4% premium versus only a 4.1% earnings boost in the OECD group after naturalization.

In contrast to the citizenship effect, the earnings effect derived from the immigrant's occupational status is stronger for immigrants from developed countries in the OECD group. For example, the earnings advantage associated with skilled occupations for OECD females is almost twice as high as for non-OECD (17.4% vs. 8.9%).

### **Citizenship: The End of Discrimination?**

At this point we ask if the near equalized earnings for Canadian-born and naturalized citizens depicted in Figures 3 and 4 are a consequence of non-discriminatory treatment due to citizenship, or a result of the fact that newly ascended Canadian citizens have a greater stock of human capital or both? Given that immigrants are either singly or doubly selected, the average immigrant may have a greater human capital endowment than the average native-born Canadian. Then, after acquiring Canadian citizenship, do these better-educated and more experienced immigrants actually earn more than their native-born counterparts? If so, why? In order to answer these questions the literature employs the Blinder-Oaxaca decomposition methodology (Oaxaca, 1973; Blinder, 1974). The basic idea underlying this method is that differences in wages between two population groups can be explained by the differences in their productive characteristics, and by the differences regression coefficients, which in turn represent returns to those characteristics.

The Oaxaca-Blinder decomposition has become a routine method in labor market discrimination studies to explain segmented group wage differences. In my case the citizenship status of an immigrant segments the labour market. Further, we have to adopt one of the estimated wage structures as the nondiscriminatory norm for the group believed to be dominant in the labor market (citizens) relative to the comparison group (non-citizens). We treat non-citizens as a disadvantaged group since non-citizens are discriminated against in the public sector since there is limited job access. The results shown in Table 3 show that labour market outcomes for OECD and non-OECD naturalized immigrants when compared to the reference group of Canadian-born are drastically different. First, females from OECD countries reveal no wage differential since the positive effect owing to their better returns derived from their productive characteristics is offset by their smaller

human capital endowments. In contrast, females from non-OECD countries show a 20.8% wage disadvantage, which is evenly split between their smaller human capital endowments and the “discrimination” component.

Even more dramatic differences follow from the decomposition analysis of the male sample. OECD-born males earn more as citizens because they possess greater human capital and earn greater returns to their human capital (i.e. a negative sign on “discrimination” component). This results in a 12.8% wage earnings advantage over native-born male citizens. In contrast, non-OECD males receive 26.5% lower earnings of which 21.45% is explained by smaller labour market rewards for their human capital characteristics.

**Table 3. Decomposition of wage differentials between naturalized and native-born Canadians**

	Human capital endowments effect	“Discrimination” component	Wage differential
Females			
OECD	5.91%	-5.57%	0.34%
non-OECD	9.87%	10.94%	20.81%
Males			
OECD	-5.81%	-7.06%	-12.86%
non-OECD	5.10%	21.45%	26.55%

Source: DeVoretz and Pivnenko (2006)

In sum, we found that, depending on their birthplace, both male and female foreign-born Canadian citizens experience more or less preferential treatment for their productive characteristics than the Canadian-born.

### **Conclusions on the Common Ground**

What have we learned from this methodological review and the reported suggestive findings for one case study? First, in order to understand the causes and effects of citizenship acquisition we must treat the problem in the context of a multi-disciplinary research topic. The act of citizenship acquisition depends on economic factors and in turn naturalization has economic consequences. Moreover, differential rates of citizenship ascension across immigrant groups are conditioned by political (dual citizenship) demographic (age) and social conditions. Finally, under this new paradigm all these non-economic factors can be translated into a cost-benefit calculus when analyzing the naturalization decision for the representative immigrant.

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