Age at Migration, Language and Fertility transitions among migrants to Canada

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Extended Abstract

This paper explores the fertility decisions of Canadian immigrants using the 20 percent sample of the Canadian Census of Population for the years 1991 through 2006. To reduce computing time to reasonable length, from each Census, we select all immigrant observations plus a 20% random sample of native-born individuals. We weight observations accordingly. The four censuses are then pooled together resulting in approximately 1,800,000 observations.

Among other factor that influence fertility decisions of immigrants, we focus on age at migration, and mother tongue conditional on place of birth. Age at migration has been shown to affect immigrant assimilation for two reasons: 1) Early arrival, more time already lived there, more likely to attend school and to understand the rules/institutions that govern its socio-economic life (more assimilation); 2) Age at migration by "itself" matters if there are critical ages at which to learn particular behavior or skills, such as the local language. i.e, Bleakley and Chin (2008) for US: if arrive before age nine (the critical period) become fluent in English regardless of their country of origin, and more assimilated).

We use information on age at migration and on mother tongue. We do some extensions with language used at home. Mother tongue is classified to be official if it is either English or French in the appropriate destination province.

A- How does age at immigration "work"? Through language acquisition?

The hypotheses to be tested are the following. If age at immigration affects language acquisition, and, in turn language barriers impede assimilation of cultural norms regarding fertility we should expect: 1) Immigrants with an Official Mother Tongue to resemble Native born regardless of age at migration and those without not; 2) immigrants who arrived as young children will behave similarly regardless of language background.

We find a non-linear relationship between age of migration and immigrant fertility, with those migrating in their late teens having the highest fertility rates when compared to the Canadian born. Regarding language we do not find a clear "critical period" as previous research has found for other outcomes such as education. Immigrants with a non-official mother tongue seem to have higher fertility rates independently of age at migration. This indicated that other factors beyond language, such as close cultural ties to the country of origin of the parents do play an additional role in the fertility outcome.

Indeed, cultural ties somewhat persist in fertility behaviour. Place of birth (included as controls in all the analyses) is shown to be relevant in accounting for the speed of fertility assimilation of migrants. In separate analyses we find that although second generation Canadians have on average similar fertility rates to those of the Canadian born, there are still large differences in fertility by place of origin of parents, with those of Asian descent having substantially lower fertility rates than those of Mexican, European, and Middle Eastern parentage.

B- How does age at immigration "work"? Through education?

Hypothesis: If age at immigration only affects fertility through schooling. Immigrant fertility will resemble that of similarly educated Native Born. There should be no effect among uneducated child immigrants

However, once we analyze groups separately by education, migrants who have reached the university behave like native born regardless of age at migration. Only those with less than university education show a gap in fertility with respect to natives growing with age at migration particularly from age six until the late teens. Thus education (itself affected by language) could be a channel through which age at immigration affects fertility. The analysis of those results clearly needs many caveats on the endogeneity of the education outcomes and age at migration (ultimately chosen by parents but potentially related to some unobservables).

Preliminary Findings

A nonlinear relationship between age of migration and immigrant fertility - increasing fertility rates by year of immigration until late teens

Language acquisition does not seem to be the reason why age at immigration matters for fertility - immigrants with an official mother tongue also have different fertility behaviour than the Native Born

Education could be a channel through which age at immigration affects fertility. University educated young immigrants behave like Native Born

Preliminary Tables:

FIGURE 1

TABLE 1. Immigrant Fertility by age at immigration

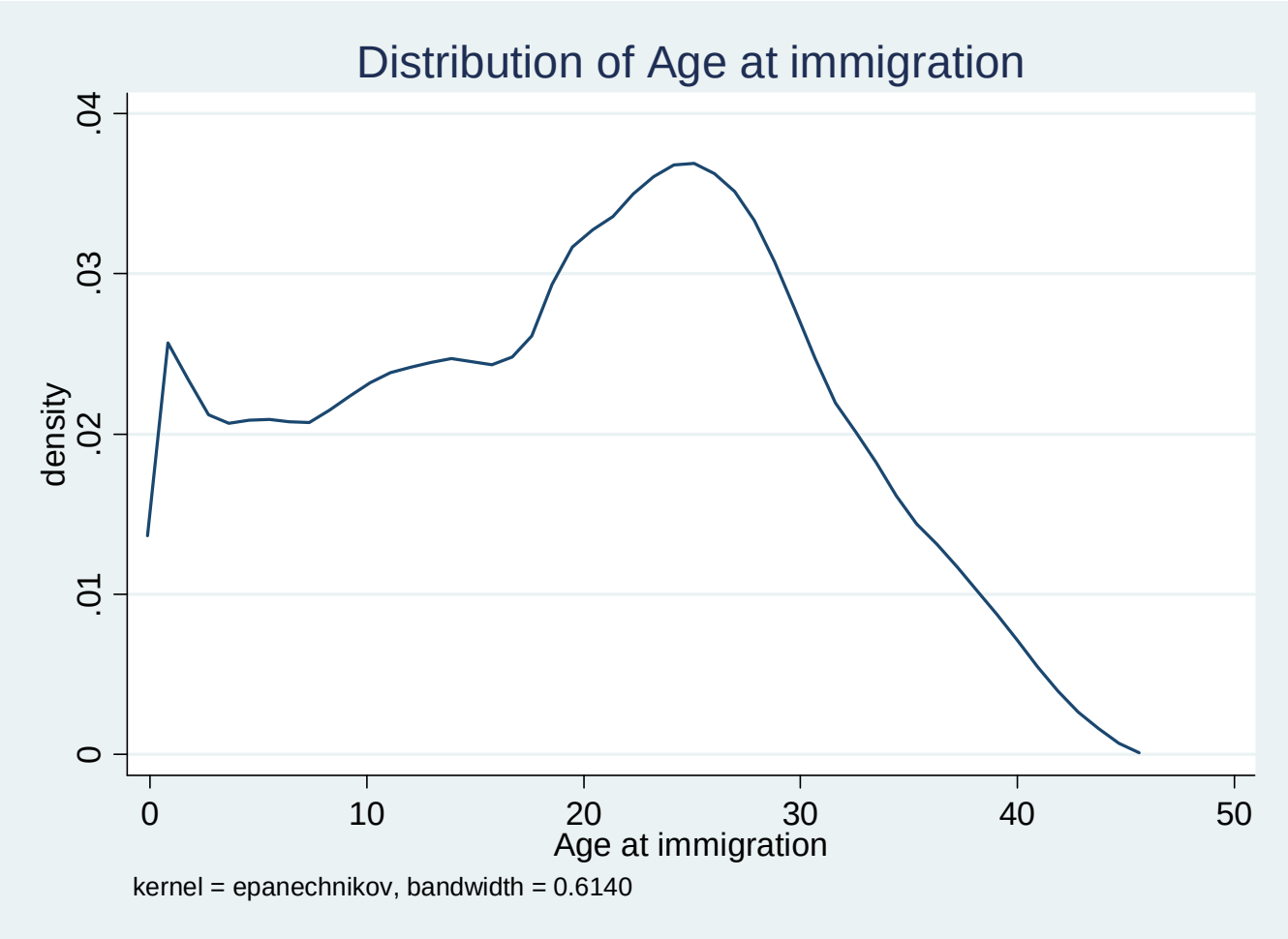
	Relative Fertility Rate	Predicted number of Children
I. *Basic Model*		
Native born	--	1.77
Immigrant	1.104**	1.85
II. *Age at immigration*		
Age at immigration 0-5	1.016**	1.73
Age at immigration 6-11	1.050**	1.82
Age at immigration 12-16	1.100**	1.94
Age at immigration 17-19	1.183**	2.14
Age at immigration 20-45	1.093**	1.83
III. *Mother tongue*		
Native born (non official mother tongue)	--	1.70
OMT (Official Mother Tongue)	1.034**	1.77
Immigrant (non official mother tongue)	1.143***	1.85
OMT (Official Mother Tongue)	0.951***	1.85
IV Test Relative Fertility	(Cumulative) RFR	z
Immigrant OMT = NB non OMT	1.125	29.39
Immigrant OMT = NB OMT	1.087	37.98
Immigrant OMT = Immigrant non OMT	0.984	-7.39
Observations	1,839,560	1,839,560

In panel I through III, the first column shows the results of a Poisson regression for number of children living at home for a sample of women 16 to 45 years old, including controls for age, marital status, place of residence, place of birth, education and census year. The second column shows the average predicted number of children for married females between 35 and 40 years of age, in each group based on the regressions results shown in the first column and with the other control variables kept at the mean of each group.

In panel IV, the first column shows the relative fertility of different groups, the second column reports the z of the significance of the difference between the groups

(***) indicates significant at 1%, (**) indicates significance at 5 percent.

Distribution of Immigrants by Age at Immigration, 1991-2006



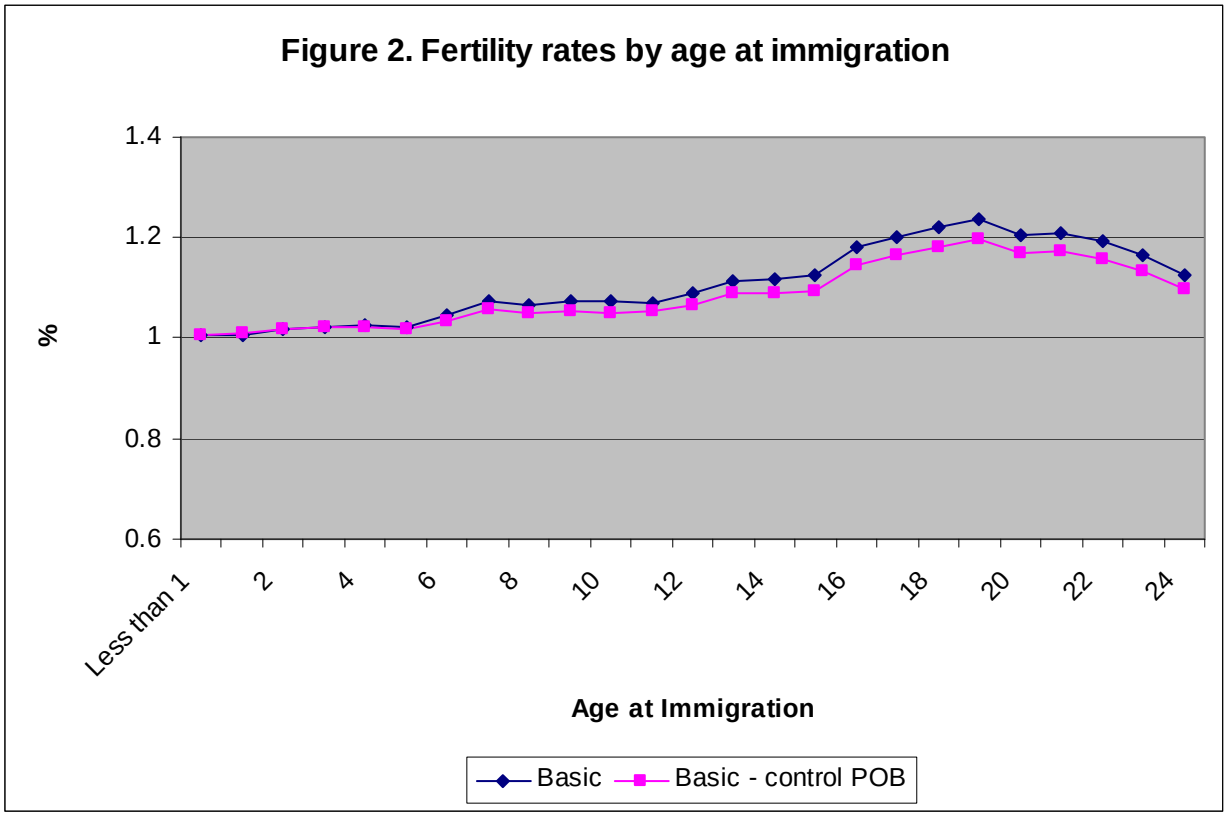


Figure 2. Fertility rates by age at immigration
1.4
1.2
1
0.8
0.6
%
Less than 1
2
4
6
8
10
12
14
16
18
20
22
24
Age at Immigration
Basic
Basic - control POB

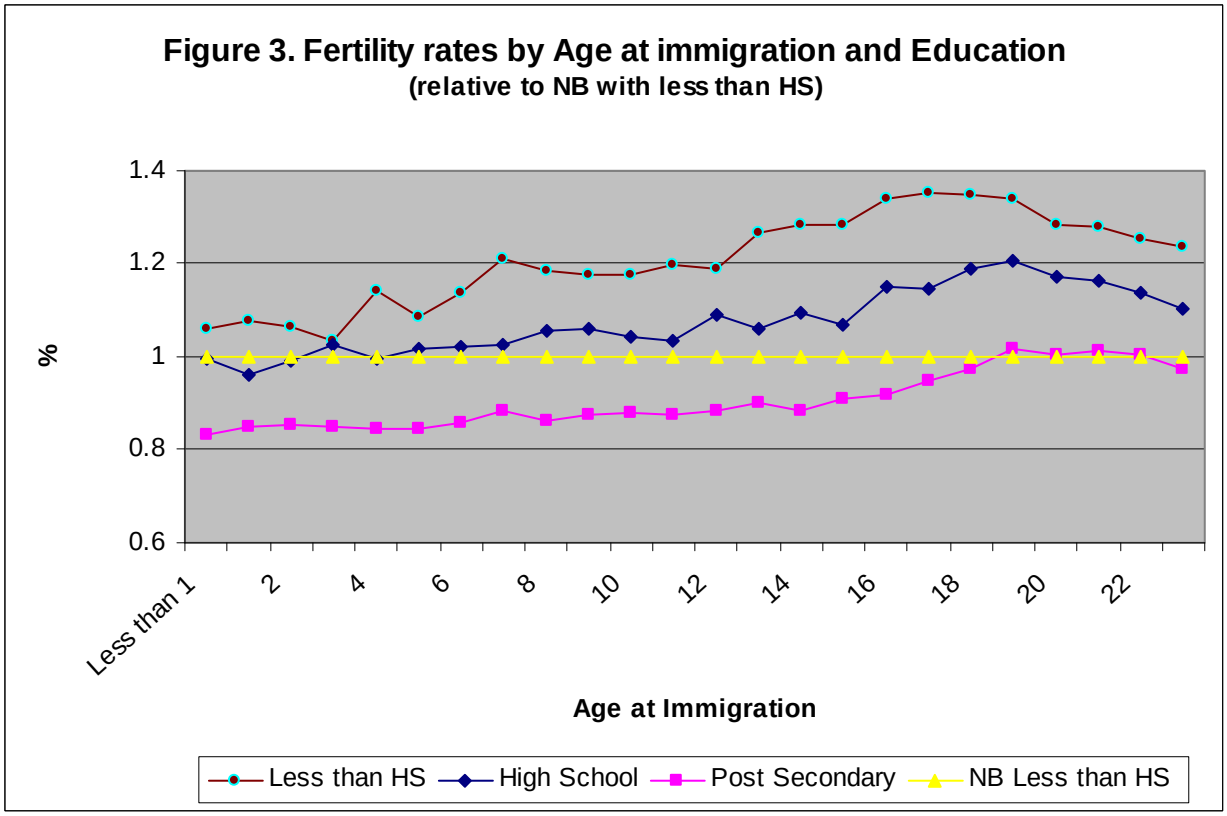


Figure 3. Fertility rates by Age at immigration and Education
(relative to NB with less than HS)
1.4
1.2
1
0.8
0.6
%
Less than 1
2
4
6
8
10
12
14
16
18
20
22
Age at Immigration
Less than HS
High School
Post Secondary
NB Less than HS

Age at migration and Mother tongue