Are Canadian Immigrant Women Secondary Workers?

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Extended Abstract

A popular explanation of the differences between the labour supply behaviour of immigrant and native-born women points to the role of women as secondary (or lower-wage) earners in the household. In this context, economic theory suggests that financing primary worker's investment in human capital or skill is an important determinant of secondary worker's participation decisions. As immigrants often have to acquire host-country specific skills upon immigration, it follows that the patterns of participation should differ between immigrant and native-born secondary workers. We explore the question of whether immigrant women behave as secondary workers, remaining marginally attached to the labour market and experiencing little career progression over time. We use four waves of the Canadian Census to follow the labour force participation of female immigrant cohorts from 1991 to 2006, using the occupational skills embodied in the jobs they perform to assess their career progression relative to native born women. Occupational skills offer a new dimension in the analysis of assimilation not previously explored. We find no evidence supporting the idea that Canadian female immigrants are secondary workers in terms of labor force participation, or wages. There is however, some evidence of slower skill mobility and of low status job-traps for low educated migrants.

1. Introduction

A popular explanation of the differences between the labour supply behaviour of immigrant and native-born women points to the role of women as secondary (or lower-wage) earners in the household. This explanation relies on traditional views of gender roles within families, with a (male) primary earner devoted to labour market activities and a (female) secondary earner devoted to household production and only occasionally entering the labour market in response to income shocks. In this context, economic theory suggests that financing primary worker's investment in human capital or skill is an important determinant of secondary worker's participation decisions. As immigrants often have to acquire host-country specific skills upon immigration, it follows that the patterns of participation should differ between immigrant and native-born secondary workers. This traditional view is being challenged in western economies by the increasing labour participation of women in the labour market and their increasing role in being primary workers in the family.[1] We explore the question of whether immigrant women behave as secondary workers, remaining marginally attached to the labour market in response to labour shocks and experiencing little career progression over time. This could be the case, for instance, if immigrant males have a higher potential productivity, if their skills are more easily transferred to the host country, or if the perception of gender roles within immigrant households does not support a female's active role in the labour market, regardless of the labour status of the male immigrant.

2. Theoretical Framework

While the majority of the earlier studies documenting the earnings of immigrants typically looked solely at male immigrants, a few papers also look at the labour market outcomes of immigrant women (Amuedo-Dorantes and de la Rica, 2007; Adsera and Chiswick, 2007; Ferrer and Ridell (2008); Dustmann and Fabri, 2005; Shoeni, 1998; Duleep and Sanders 1993; Beach and Worswick, 1993). The evidence from these segregated studies indicates that in general, the assimilation pattern of female immigrants is different from that of males. In looking for an interpretation of this result, Long (1980) first suggested that the Family Investment Hypothesis (FIH) – that is the notion that secondary workers support primary worker investment in human capital - specifically applies to immigrant households. Since recent immigrant families are more likely to be credit constrained than

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[1] In Canada, the fraction of single-earner couples has plummeted from 46% in 1976 to 18% in 2011, whereas the fraction of couples with the wives as primary earners has increase from 8% to 31% during the same period

the native born, female immigrants may be more likely to work initially than similar Canadian born women. They will also be more likely to work in lower status occupations with less mobility over time. As the (male) primary worker improves his labour market outcomes (and the financial constraints ease) their spouses' participation in the labour market will converge to that of similar Canadian-born women. Further, since higher levels of education might be more difficult to transfer across borders than basic studies; the higher the educational level of the spouse, the more likely that immigrant women follow these patterns as potential gains from supporting the primary worker's human capital investments increase (Chiswick, Lee and Miller, 2005).[2]

Long's suggestion has received some attention within the literature of immigrant assimilation. Duleep and Sanders (1993) compare the labor market outcomes of immigrant couples to the US, from different origins, and show that the labor force participation of married immigrant women appear to depend on the husbands' investment in skills. Worswick (1996, 1999) finds that credit constraints significantly affect the labor supply decisions of recently arrived immigrant families to Canada. These studies, however, do not take into account other confounding factors that can affect labour supply of women, such as the lack of skill transferability or the variation in preferences for work. Baker and Benjamin (1997) proposed a solution to this problem, using mixed couples (in which one spouse is native-born and one spouse is foreign-born) to distinguish between immigrants that are less credit constraint than others (those in immigrant couples). Blau et al. (2003) implement similar strategy to examine this hypothesis for the case of US immigrants. They find that both immigrant husbands and wives work and earn less than comparable natives upon arrival in the US, and show positive assimilation profiles of similar magnitude in labor supply and wages, hence rejecting the predictions of the model for the US. Conflicting evidence regarding the labour market outcomes of married immigrants is not surprising. Different countries provide different institutions for immigrant assimilation, attracting different types of immigrants, which results in differences in the determination of time allocation within immigrant families across countries. Even within a country the composition of immigration changes over time. Duleep and Dowhan (2002) analyze longitudinal data and suggest that immigrant women from earlier arrival cohorts follow an earnings path consistent with the theory of women as secondary workers, but recent cohorts do not. Kim and

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[2] Duleep and Regets (1999) predict a greater initial downgrading among well-qualified immigrants because their skills are less transferable, but also a swifter recovery as a result of a greater investment in human capital because of the lower opportunity costs and the higher expectations of profitability.

Varansi (2012) use the Current Population Survey to replicate the results in Blau et al. (2003) and find evidence that in the US immigrant women working low status jobs show behaviour consistent with the theory.

Our analysis of the labour market outcomes of immigrant women follows Baker and Benjamin (1997) and Worswick (1996). The strategy is to use variation in the immigrant status of the families (both spouses are immigrant, both spouses are native born and mixed families) to estimate the wife's labour market response to different levels of credit constraints. The assumption is that immigrant households are the most constrained, whereas Canadian born households are the least.

3. Econometric Specification and data

To study whether the patterns of labor force attachment vary across women by nativity and by the origin of her spouse in our estimating equation we interact the terms of the immigrant assimilation profiles by origin indicators.

$$Y_{it} = X_{it}\beta_1 + \beta_2 L_i + \Sigma_{hw}\Sigma_t\Sigma_k \tau_{kt} C_{ik} * I^h * I^w * t + \gamma\, t + \upsilon_{it} \qquad (1)$$

where the dependent variable (Y_{it}) is a measure of labour force performance of women i, at time t; X_{jt} is a vector of individual/household characteristics that affect female wages such as age, fertility, education, and employment effort of the husband; L_i is a measure of linguistic distance; C_{ik} is an indicator for different k-immigrant arrival cohorts interacted with the indicator for survey year (t) to track the evolution of different cohorts over time, and with an indicator of immigrant husband (I^h) to differentiate mixed couples. We typically include the assimilation profile of the husband to see how it affects the assimilation of immigrant women.

3.1 Linguistic Distance

A distinctive feature of our analysis is the incorporation of a measure of linguistic distance to assess the role of linguistic proximity on the assimilation of immigrant women. As suggested by previous research, both fluency in the language of the destination country and the ability to learn it quickly will influence immigrant's success in destination countries' labor markets (Chiswick and Miller (2002, 2007, 2010). Hence, variation in linguistic proximity can be used to further determine the extent of credit constraints in immigrant households. However, this type of analysis was not possible as the Canadian Census has no measure of linguistic fluency. The linguistic proximity index developed in Adsera and Pytliková (2012) is a continuous variable that ranges from 0 to 1 depending

on the number of levels at the linguistic tree (from the Ethno-linguistic tree) two languages (those of the source and destination countries) share, where 0 denotes that the immigrant mother tongue and host country language are the most distant languages and 1 denotes that they are the same.

3.1 Occupational Skills

A second distinctive feature of our analysis is our focus on occupational skills. This is an important dimension to consider because the according to the traditional view of gender roles, secondary workers will increase participation only to support their partner's temporary investments in human capital, which implies that no real career progression is to be expected (Kim and Varansi, 2012). However, if immigrant women are not secondary workers, we expect to observe some career progression, as measured by the occupational skills of the jobs they held. Occupational skills might track women's assimilation better than wages, as some career jobs are initially lower paid than some unskilled jobs. Hence in alternative specifications of the model, Y_{it} will become a measure of occupational skills.

The focus on skills is important. Recent papers emphasize the heterogeneity of skills required within broad occupational categories and how this heterogeneity biases the estimation of wage changes (ref.). Typically, most job changes (and accompanying wage changes) involve substantial changes in skill requirements but no change in the occupational category. This has implications when one is interested in measuring occupational assimilation. The literature of occupational matching uses the detailed information in occupation databases - either the Dictionary of Occupational Titles (DOT) or Occupational Information Network (O*NET) – to derive a small set of fundamental skills requirements for each job. The skills we consider here come from Imai et al (2011) and are derived from the O*NET. These include two indexes for cognitive skills (interpersonal and analytical) and three indexes for manual skills (fine motor skills, physical strength, and visual skills). To facilitate interpretation of the data, the detailed information in the O*NET is summarized by constructing a low dimensional vector of occupational characteristics using Principal Component Analysis (PCA).[3] The result is a vector of skills necessary to perform the job tasks associated with each 4-digit occupational category using the O*NET. The factor analysis uses as weights the distribution of the skill

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[3] In the PCA, factor loadings are calculated so that variation of the data explained by the constructed variable is maximized. A detailed description of the procedure can be found in Imai et al. (2011).

distribution of the Canadian population; hence a unit of the skill score can be interpreted as 1 standard deviation in the skill distribution of the Canadian-born population.

3.3 Data

We use four waves of the Canadian Census to follow the labour force participation of female immigrant cohorts from 1991 to 2006, to assess the career progression of married immigrant women relative to native born women, focussing on the occupational skills embodied in the jobs they take. This focus on occupational skills offers a new dimension in the analysis of assimilation rarely explored in this literature.

We select a sample of married (or common-law, CL) women for our analysis, age 18 to 45, where immigrant women immigrated as adults – at age 18 or over. This selection allows us to focus on the assimilation of younger (adult) immigrant women, which constitute the majority of the immigrants.[4]

Summary statistics are presented in table 1. Immigrant women are older and more likely to have university education than natives. By family type, immigrant women in immigrant couples have the highest strength score and the lowest analytical score, both characteristics of low status occupations. For instance, the average skill requirements in jobs held by immigrant women in mixed marriages involve social and analytical skills that are on average 0.26 and 0.09 standard deviations above the average Canadian worker (both men and women pooled together). In contrast their motor and strength skill requirements are 0.36 and 0.30 standard deviations below that of the average Canadian worker. Immigrant women in immigrant couples work in occupations that require below average social and analytical skills (0.10 and 0.13 standard deviations below the average Canadian worker). Their motor and strength skill requirements are also below those required for the average Canadian worker, but are the highest among married women. Figure 1 shows the full distribution of analytical and physical strength skills by family type.[5] Conditional on working, immigrant women are less likely to be currently in school and work fewer weeks per year. On the other hand, the husbands of immigrant women are more likely to be in school than native born husbands.

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[4] The behavior of child immigrants is likely very different from that of adult immigrants (Adsera and Ferrer, 2013; Mayer and Riphalm, 2000; Beck et al. 2012)

[5] Note that skills here measure the skills involved in performing the job, not the actual skills of the worker.

Among immigrants, linguistic proximity is the lowest for women in immigrant couples. Around 40% of these women speak English or French as a mother tongue - versus 60% among those in mixed marriages – while a larger fraction (23%) have a mother tongue that has no branch in common with English or French.

4. Preliminary findings

We find no evidence supporting the idea that Canadian female immigrants are secondary workers in terms of labor force participation, or wages. There is however, some evidence of slower skill mobility and of low status job-traps for low educated migrants.

Labour force participation

In our preliminary models we find similarities between immigrant women in immigrant couples and those in mixed partnerships. Although the first group shows somewhat lower levels of participation than those in mixed couples – particularly for later cohorts - participation evolves at similar paces for those groups, hence not supporting the implications of differences in the extent of credit constraints between the two types of families. Moreover, all immigrant women show lower levels of participation than the Canadian born, with participation rising steadily over the years. This is contrary to the expectation that secondary workers are supposed to work more when financial constraints are in place and reduce work as credit constraints are lifted. What we observe, instead, is much like the increase in participation experienced by immigrant men during their assimilation process.

We will analyze this in more detail by different parts of the distribution of participants according to the skills required by their jobs.

Hours

We have started to look at hours of work to get a better sense of the intensity of work effort by female immigrants compared to the native born. The results are very similar to those shown for participation, as most of the variation in hours comes from moving from no-work to full or part time work. Figure 2 presents the distribution of female usual hours and log of weekly wages by immigrant status of husband.

Wage assimilation

Another important dimension along which to study the labour market outcomes of immigrant women is wages (Duleep and Dowhan 2002; Basilio et al.2009). Initial estimates show the opposite pattern of what the "secondary workers" framework would posit. Generally, immigrant women in immigrant couples show wage assimilation profiles very similar to those of immigrant men, with low initial earnings – between 60 and 50% lower for recent cohorts - that gradually converge to those of the native born but still remaining as low as 20% below after fifteen years in Canada. The wage profiles of immigrant women with native-born partners also show some assimilation but are typically flatter and closer to those of the native-born after fifteen years in Canada.

Skill assimilation

The last part of our analysis will study patterns of skill mobility among immigrant women, using the model in equation (1) where the dependent variable is the measure of the skill index. Our purpose is to assess whether there is mobility in the skills required for the jobs immigrant women perform. Preliminary analysis show some analytical skill assimilation for immigrant women in mixed couples but not for those married to immigrants, once more in disagreement with the family investment hypothesis expectations.

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Table 1. Sample Summary Statistics of women (16-45). Census 1991-2006

|		Canadian born		Immigrant	
		NB partner	Immigrant partner	NB partner	Immigrant partner
Age		35	35	36	36
	HS or less	0.46	0.40	0.32	0.45
Education	Non university	0.34	0.31	0.30	0.22
	Bachelor	0.17	0.23	0.29	0.26
	Graduate	0.03	0.05	0.09	0.08
Hours of Work		25.3	25.4	23.0	21.3
Labour Force Participation		0.81	0.82	0.76	0.72
	Social	0.240	0.376	0.299	-0.094
Skills	Motor	-0.338	-0.459	-0.382	-0.122
	Strength	-0.298	-0.426	-0.323	-0.117
	Quantitative	0.061	0.177	0.119	-0.117
	1	1.00	1.00	0.63	0.41
Linguistic proximity	0.7			0.11	0.15
	0.45-0.25			0.09	0.03
	0.10			0.08	0.18
	0			0.10	0.23
Husband characteristics					
Age		37	40	40	40
Education	HS or less	0.45	0.37	0.33	0.38
	Non university	0.36	0.35	0.31	0.23
	Bachelor	0.15	0.20	0.25	0.26
	Graduate	0.04	0.08	0.11	0.13
Hours of Work		39.4	39.0	39.7	34.3
Labour Force Participation		0.95	0.94	0.94	0.89
% Observations		74%	6%	3%	17%

igure 1. Distribution of female skills by family
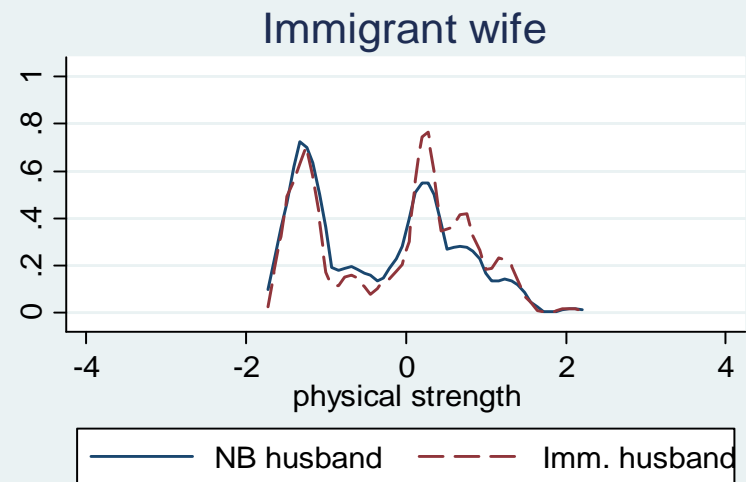
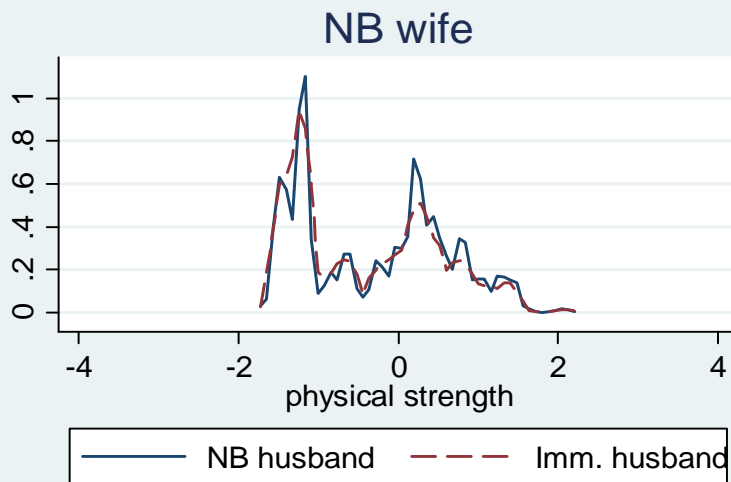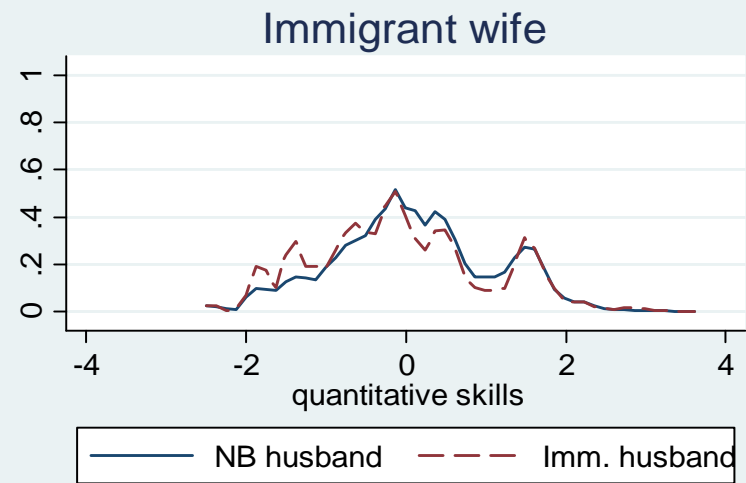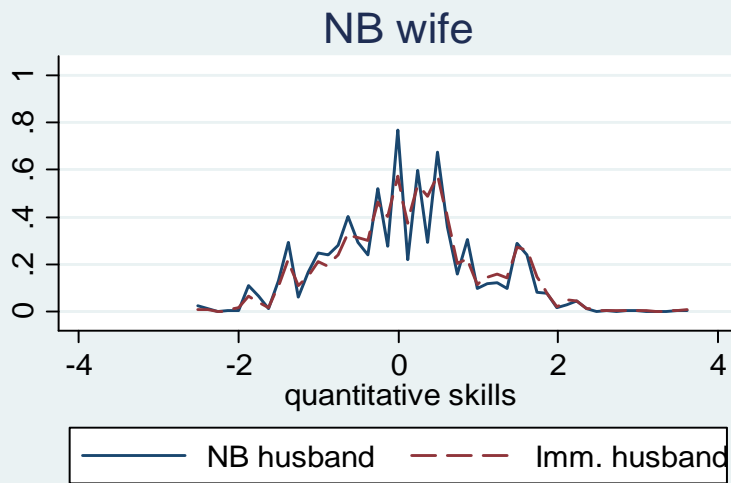**Figure 2**. Distribution of female usual hours and log of weekly wages by immigrant status of husband