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The Myth of Immigrant Women as Secondary Workers: Evidence from Canada

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The existing literature on the employment choices and trajectories of women in immigrant families is divided. Some researchers argue that immigrant women are secondary workers, that is, they join the labor market mostly as a response to family income shocks and become employed mainly in unskilled jobs to support their husbands' investment in local skills (Long 1980; Baker and Benjamin 1997, Worswick 1999). As men assimilate (and financial constraints ease) their spouses' participation in the labor market is expected to drop to levels similar to those of native-born women. This view is, however, at odds with findings in Blau et al. (2003), among others, where married immigrant women make labor supply decisions guided by their own opportunities in the labor market, as natives do, rather than conditional on the needs of their partners (Blau and Khan 2007).¹

To determine the patterns of labor participation and earnings of female immigrants, in this paper we exploit a sample of over 800,000 women taken from the Canadian census for the period from 1991 to 2006, combining it with information on the skill requirements of the jobs women hold. Besides employing a large data set, this paper is the first one to assess the labor market advancement of immigrant women through the changes in the task content of their occupations – in line with recent work in the labor field (Acemoglu and Autor 2011).

Our findings reveal that labor behavior of female immigrants in Canada seems to follow a path of assimilation similar to that of men and that, at best, only relatively uneducated immigrant women in jobs requiring very basic skills may fit the profile of secondary workers (as in Kim and Varasani 2011). More specifically, we find, first, that the participation rate of immigrant women at arrival is much lower than that of similar natives but that it rises steadily over time. Second, immigrant women participate in unskilled occupations at a much higher rate than Canadian women do. At first glance, this seems consistent with the view that immigrant women are secondary workers. However, immigrant women in low-skill occupations have a significantly higher level of education than Canadian women in the same occupations. Third, the patterns of skill assimilation of educated immigrant women indicate their increasing integration into the labor force over time: a reduction in the need for

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¹The labour market assimilation of immigrant men has been well documented (Borjas, 2013 and references herein).

physical strength and a gradual increase in the relative amount of analytical skills required in their jobs.

I. Methodology and Data

In line with the methodology of previous studies, we estimate the following logit regression to compare participation rates of immigrant women to those of the native-born

$$Y_{it} = X_{it}\beta_1 + \sum_{h=I,NB} \sum_t \sum_k \tau_{kt} C_{ik}^{Wh} * t + \sum_{w=I,NB} \sum_t \sum_k \tau_{kt} C_{ik}^{Hw} * t + \gamma t + \varepsilon_{it} \quad (1)$$

where the dependent variable (Y_{it}) is a dichotomous measure of labor force participation of women i , in survey year t ; X_{it} is a vector of individual/household characteristics that include age, age squared, fertility indicators, husband wage, linguistic proximity of mother tongue to English or French, education, and province of residence; C_{ik}^{Wh} , C_{ik}^{Hw} are indicators for different k -immigrant arrival cohorts of immigrant wives/husbands, which we interact with the indicator for survey year (t) to track the evolution of different cohorts over time. Cohorts are defined over five years (i.e. the '91 cohort includes individuals arriving between 1986 and 1991). To differentiate mixed couples, cohort effects vary depending on whether the husband/wife (h/w) of the immigrant is him/herself immigrant or Canadian born. The coefficients for the cohort-time indicators τ_{kt} are the key parameters of interest.

Our data comes from the restricted files of the 20 per cent sample of the Canadian Census (1991 through 2006). We match individual Census records to reconstruct all pertinent household information of women and their families. We select a sample of married women (or women in common union), aged 18 to 45. To focus on the assimilation of young (adult) immigrant women, who constitute the majority of the immigrants, we further select those who migrated at age 18 or after. The final sample contains over 800,000 observations. To analyze the skill requirements of the jobs women work at, we match their four-digit Standard Occupational Category (SOC) to a skill index obtained from the Occupational Information Network (O*NET). The O*NET compiles detailed information about the tasks associated with different occupations. This information is summarized into indexes of cognitive skills (analytical and social) and manual skills (visual, fine motor and physical strength) developed by Imai et al (2011) using Principal Component Analysis (PCA). Figure 1 displays the density distribution of analytical and strength requirements of these jobs. A unit of the skill score (with mean zero) can be interpreted as one standard deviation in the skill distribution of the Canadian-born population. A positive index indicates either more physical strength or analytical demands than the job held by the average worker.

In part as a result of the 1996 immigration policy that introduced a point system, in our sample immigrant women (in immigrant couples) are more likely to have university education (34 percent) than native-born women married to Canadian-born spouses (20 percent). However, immigrants seem to work in jobs that involve higher strength and lower analytical skills, which are both characteristics of low status occupations, than those held by natives. On average, the analytical skills required in jobs held by immigrants are 0.13

standard deviations below those required in jobs held by the average Canadian worker. The physical demands in their occupations are 0.12 standard deviations below the average – men tend to do more manual work – but 0.18 standard deviations above those of native-born women.

II. Labor force participation and skill assimilation

Table 1 presents odd ratio estimates of labor force participation of married immigrant women, following arrival cohorts through census years, relative to native women. The participation rate of immigrant-women arriving in the 1990s and early 2000s is much lower than that of similar Canadian born – the odds ratio ranges from 0.6 for the 1991 cohort to 0.3 from the 2006 cohort – but it rises steadily with years since arrival (Column 1). This pattern of rising participation does not conform with a need to support (only temporarily) the household upon migration, but rather with a labor market assimilation process similar to what is found for immigrant men.

Columns (2) and (3) show that immigrant women participate in unskilled jobs (those requiring skills at either the bottom quartile of the analytical skill distribution or the top quartile of the strength distribution) at a similar or higher rate than Canadian born women during their first five years in Canada – with an odds ratio that ranges between 1.0 and 1.6, but that increases to around 1.5 – 1.8 after 11–15 years in Canada. While a high participation rate in unskilled jobs at arrival agrees with the view of immigrant women as secondary workers, the interpretation of their rising participation in those jobs over time is ambiguous because we are only following cohorts. On the one hand, it could be that some immigrant women leave unskilled jobs over time but are simply replaced by women from the same cohort who were not working before. On the other hand, it may be that some women who initially held jobs requiring higher skills lose these jobs and reenter the labor market as low-skill workers. Both hypotheses seem unlikely, however, because we find significant wage assimilation over time for immigrant women in unskilled occupations relative to native-born women (Adserà and Ferrer 2013).

Given that immigrant women to Canada are more educated on average than natives, the characteristics of women in unskilled jobs from both groups are probably different. Overall only around 6.9 of percent university-educated native women hold jobs in the lower quartile of the analytical distribution, but this percentage stands at 20 percent among immigrant women. Their relative participation in occupations requiring low analytical skills increases with years in Canada (up to 3.7 times higher than natives) and stays stable around 1.5–1.7 for high-strength occupations. This finding suggests that some educated female immigrants might have limited opportunities to develop their careers beyond their relatively poor entry jobs.²

To complete our analysis of the labor market of immigrant women, we look at the wage and skill assimilation of immigrant cohorts. We look at university- and non-university-educated

²This may be related to difficulties in acquiring the local language. Adserà and Ferrer (2013) find that the return to skills used on the job varies with the linguistic distance of the mother tongue of the migrant to either French or English (as measured in Adserà and Pytlikova 2012).

women separately. The last two columns of Table 1 show that educated immigrants experience remarkable wage assimilation: their wages start between 40 to 65 percent below those of educated native-born women and are around 26 percent below 10 to 15 years after migration. Less-educated immigrants experience slower, but more complete wage assimilation: their wages are 18 to 33 percent below those of native-born women upon arrival but 15 years after migration they are only 6 to 9 percent lower.

Finally, we turn our focus to the tasks involved in women's occupations. Using OLS, we estimate equation (1) again, where now the dependent variable is either the analytical or the strength skill index of the job held, regressed against the same set of controls included in the participation models. Figure 2 displays the estimated cohort-time effects that follow over time the skill needs of the jobs held by different cohorts of immigrant women relative to those of natives. Panels A and C do not show any assimilation in analytical or strength requirements for immigrant women over the years in Canada – rather a flat or even worsening pattern relative to natives. In panels B and D we repeat the analysis for university-educated women and find some assimilation in analytical skills and a much sharper movement out of jobs requiring relatively higher levels of physical strength than those held by natives.³ During the first five years in Canada, jobs held by the '96 cohort, for example, require strength skills around 0.3 standard deviations above those held by natives with similar characteristics, but that gap shrinks down to 0.15 standard deviations or less in the following years. Our findings on skill mobility suggest that most of the career progression of educated immigrant women is related to switches in the tasks required for their jobs.

III. Conclusion

This paper is the first one in the literature to exploit a large data set of over 800,000 individuals (representing one fifth of the Canadian census) to assess the skill mobility, in the context of employment assimilation, of married female immigrants. The labor market patterns of immigrant women do not fit the profile of secondary workers, but rather conform to the recent experience of married native women with rising participation (and wage assimilation) (Blau and Kahn, 2007). This finding has significant policy implications. How policy-makers perceive the strength of the labor market attachment of immigrant women affects the range of support services they might deem necessary to provide. Moreover, a large presence of educated immigrant women in low-skilled occupations suggests the existence of significant obstacles at entry. However, judging by the gradual convergence between the tasks required for their jobs and those of natives, these barriers seem to ease over time and lead to some wage assimilation (up to 80 percent of the wages of similar native-born women after 15 to 20 years in Canada). For the less-educated, skill progression does not happen, although wages still rise gradually over time, reaching 90 percent of the wages of similarly-educated native women (Adserà and Ferrer 2013). In countries with immigration policies that place strong emphasis on human capital, policy-makers need to

³Results are robust to restricting the analysis to women who were 18 to 24 years of age in 1991 (to avoid bias due to the changing age composition of women in the sample) or to women working full time/full year. We also consider whether immigrant husband's education affects the participation and job skill progression of women and find no differential effects.

recognize difficulties in the advancement of immigrant women if they want to take full advantage of their potential.

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Figure 1.
Epanechnikov density distribution of skills required in jobs held by married women

Figure 2.
Estimated skill requirements of jobs held by married immigrant women relative to similar natives, by cohort and years in Canada.

Table 1

Odds ratio of labor force participation and wage assimilation of immigrant women relative to similar natives^(a)

	Years since migration	University-educated women in unskilled occupations ^(b)						Log weekly earnings (relative). All occupations.	
		Unskilled occupations ^(b)			University-educated women in unskilled occupations ^(b)			University educated	Non-university
		Low analytical skills	High Strength skills	High Strength skills	Low analytical skills	High Strength skills	High Strength skills		
All		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1991 Cohort	5	0.58	1.38	1.43	2.66	1.70	-0.43	-0.16	
	10	0.71	1.35	1.43	2.21	1.55	-0.35	-0.12	
	15	0.86	1.63	1.50	2.82	1.45	-0.24	-0.06	
	20	0.88	1.81	1.72	3.20	1.64	-0.18	-0.06	
1996 Cohort	5	0.34	1.01 *	1.29	1.87	1.79	-0.62	-0.24	
	10	0.64	1.60	1.46	3.38	1.73	-0.34	-0.19	
	15	0.72	1.79	1.63	3.57	1.72	-0.28	-0.09	
2001 Cohort	5	0.27	1.25	1.17	2.63	1.53	-0.56	-0.28	
	10	0.50 *	1.58	1.36	3.33	1.52	-0.41	-0.18	
2006 Cohort	5	0.27	1.56	1.30	3.71	1.66	-0.65	-0.33	
Observations		828,650	828,650	828,650	226,230	226,230	166,550	416,670	

Notes: Specifications include cohort-time effects for immigrants and their spouses, plus controls for woman's age and age squared, education, province of residence, survey year, husband's wage, number of children before migration, number of children 0-5 and 6-14 in the household, age at first birth and the linguistic proximity index to either French or English. The profiles shown correspond to those of immigrant women with immigrant spouses, relative to Canadian born women with Canadian born spouses

(a) The sample is restricted to women 18-45 years of age married or in common law unions. Immigrants are adults (18 or older) at arrival.

(b) The dependent variable is an indicator equal to 1 if the woman participates in a job requiring skills either at the bottom quartile of the analytical distribution or at the top quartile of the strength distribution.

* indicates p-values less than 0.10; all other estimates are significant at 1 percent.