A Family Affair: The Labor Market Experience of Immigrant Spouses*

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Objective. This research examines the role of the family in the immigrant settlement process by assessing the labor supply behavior of immigrant spouses. *Methods*. We make use of a unique data set—the Longitudinal Survey of Immigrants to Australia (LSIA), which provides detailed demographic, human capital, and labor market information for both principal applicants and their spouses. *Results*. Family circumstances such as the presence of young children, partners' hours of work, and family income are important determinants of labor supply. Similarly, human capital, particularly English language ability, is closely related to hours worked, and there is some evidence that spouses' employment is related to the visa category of their partners. *Conclusions*. Since immigration is not a solitary undertaking, evaluations of immigration policy and the economic status of immigrants that ignore interactions between family members may be inaccurate in their representation of the financial health and economic contributions of immigrants.

Immigration is an important economic and demographic phenomenon in many industrialized nations. Given this, it is not surprising that studies of the way that immigrants adapt to and influence labor market opportunities in the host country have become increasingly important. Most early studies focused on male immigrants: in particular, male labor force participation, wage differentials between foreign- and native-born men, and the unemployment experience of male migrants. Recognizing that immigration is not an exclusively male phenomenon, researchers then turned to the labor market behavior of migrant women (Chiswick, 1980; Long, 1980; Reimers, 1985; MacPherson and Stewart, 1989; Beach and Worswick, 1993; Schoeni, 1998). Recently, studies have begun to explicitly recognize that migration is also not a solitary undertaking and that the "migrating unit"

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often includes a husband, wife, and children (Duleep and Sanders, 1993; Worswick, 1996; Baker and Benjamin, 1997).

The challenge to understanding the role of families in the immigration process, however, is that although labor force surveys and censuses may identify the foreign born, they typically provide only limited information about the migrating unit or the immigration process itself. Principal applicants are usually indistinguishable from accompanying family members, and information about an immigrant's visa status is often lacking. In addition, standard data sets typically identify family units at the time of data collection, not at the time of migration. Thus, many interesting questions regarding the role of the family unit itself in facilitating labor market adjustment remain unanswered.

The objective of this research is to examine the early labor market experience of immigrant spouses. To this end, we take advantage of a unique Australian data set. The Longitudinal Survey of Immigrants to Australia (LSIA) provides detailed demographic, human capital, and labor market information for both principal applicants and their spouses over the first 18 months of the settlement process. This allows us to look at the decision to work by immigrant spouses while controlling for their partners' labor supply decisions. In addition, information on visa category allows us to test whether the spouses of immigrants who are selected under different policy regimes have different labor market outcomes.

Our goal is to add to the growing literature that focuses on the role of the family in the immigration and assimilation process by documenting the contribution of immigrant women to the economic status of their families. At the same time, we have a unique opportunity to explicitly analyze the behavior of men who migrate as spouses. Although previous research has assessed the labor market behavior of principal applicants in Australia (Cobb-Clark, 2000; Cobb-Clark and Chapman, 1999), nothing is yet known about the employment decisions of their spouses. Finally, we contribute to the literature that assesses the importance of selection criteria in determining labor market outcomes for immigrants by considering whether the spouses of immigrants selected on the basis of labor market skills have different labor supply behavior shortly after migration than spouses of family reunification and humanitarian migrants.

Understanding the Labor Supply Decisions of Immigrant Spouses

Although conceptually, immigrant "spouses" can be husbands as well as wives, standard data sets often do not separately identify primary migrants and spouses. Therefore, researchers interested in spouses or secondary workers usually study the labor market behavior of married women. These studies clearly demonstrate that women's decisions about labor market work are intricately bound up with their individual family circumstances, in particular, the presence of children, spouses, and other adults living in the home

(MacPherson and Stewart, 1989; Schoeni, 1998; Worswick, 1996; Duleep and Sanders, 1993).

It is useful to evaluate the labor supply behavior of immigrant women within a model of family or household behavior. Mincer (1978) was among the first to explicitly model the migration decision in the family context. He postulated that some spouses might in fact be "tied movers" who migrate because the overall returns to migration are positive for the family even though their own individual returns are negative. Tied movers would be expected to be less likely to participate in the labor market than individuals who migrated independently. In fact, there is some evidence that women who were married before migration—and are therefore more likely to be tied migrants—have lower participation rates (MacPherson and Stewart, 1989), although this is not true for all national-origin groups (Duleep and Sanders, 1993).

The family investment model provides another important framework for conceptualizing the work decisions of immigrant spouses. First proposed by Long (1980), the family investment hypothesis speculates that because of credit constraints, immigrant families who need to invest in host country–specific human capital must finance that investment themselves. As a result, immigrant wives (generally secondary workers) undertake those labor market activities that facilitate their husbands' investments in host country–specific human capital. The family investment hypothesis predicts, therefore, that immigrant wives are more likely to work, work longer hours, and forego their own investment in human capital by taking better-paying but dead-end jobs. Empirical tests of the family investment hypothesis have produced somewhat mixed results. As expected, women married to foreign-born men work more upon arrival, have flatter wage profiles, and are less likely to invest in schooling relative to immigrant women married to native-born men (Baker and Benjamin, 1997). On the other hand, Worswick (1996) concludes that the relative wage growth of immigrant women exceeds the relative wage growth of immigrant men, suggesting that relative to their native-born counterparts, immigrant women are actually investing more in human capital than are foreign-born men.

Recently, researchers have begun to compare the experiences of immigrants admitted on the basis of different selection criteria (Duleep and Regets, 1992, 1996; Jasso and Rosenzweig, 1995). The primary question is whether skill-based immigrants find the adjustment to the host country labor market easier than immigrants admitted on the basis of family relationships or as refugees.[1] Although there is evidence that principal applicants selected on the basis of their labor market skills enter the Australian

[1] Lowell (1996) suggests several reasons why the superior performance of skill-based immigrants may not be a foregone conclusion. In particular, family reunification migrants often receive substantial support from sponsoring family members, whereas skill-based immigrants may be unable to completely transfer their skills to the new economy.

labor market more quickly and find employment more readily than other migrants (Williams, Murphy, and Brooks, 1997), this difference dissipates over time (Cobb-Clark and Chapman, 1999; Cobb-Clark, 2000). In a similar vein, Jasso and Rosenzweig (1995) conclude that the occupational disparity between skill-based and other immigrants in the United States also tends to diminish over time. Visa category appears to be quite important in the first few years after migration, but there is little evidence that—with the possible exception of refugees—these differences will persist over the long run (Chiswick and Miller, 1992; Wooden, 1990).

The above review of the literature leaves us with several unanswered questions. First, the verdict is still out about the degree to which the family investment model explains the postmigration labor supply decisions of immigrant spouses. Second, since the employment and unemployment experiences of both husbands and wives determine the economic well-being of immigrant families, the question remains as to whether spouses of skilled migrants have different labor market profiles than spouses of family reunification or humanitarian migrants. If family units facilitate the successful adjustment of immigrants, then studies that focus only on individual immigrants paint an incomplete picture of the immigrant settlement process.

The Longitudinal Survey of Immigrants to Australia

The LSIA generalizes to all principal applicants aged 15 and older who arrived in Australia between September 1993 and August 1995. A total of 5,192 principal applicants were interviewed starting in March 1994 approximately five to six months after their arrival. Starting in March 1995 (approximately 18 months after arrival), 4,469 members of the original sample were reinterviewed. Our estimation sample consists of the 1,769 Wave 1 and the 1,530 Wave 2 principal applicants with spouses who were also interviewed.[2]

Nonhumanitarian immigration to Australia is separated into two components: one based strictly on family relationships (Preferential Family) and the other based on potential labor market contributions. Skill-based migration includes migrants without family relationships who are points tested (Independents), migrants with prearranged offers of employment (Employer Nomination Scheme, or ENS), and migrants intending to establish businesses in Australia who meet certain capital requirements (Business Skills). The Concessional Family program assesses individuals on the basis of both

[2] In Wave 1, 1,837 principal applicants had migrating-unit spouses eligible for interviews. Of these spouses 96.3 percent (1,769) were actually interviewed. In Wave 2, there were 1,530 principal applicants with spouses eligible for interviews, and of these 95.4 percent (1,604) were interviewed. Spouses and principal applicants were each interviewed separately.

their family connections and their skills. Finally, a number of immigrants are selected for entry into Australia on the basis of humanitarian concerns.[3]

Unfortunately, the LSIA does not contain information about a control group of nonimmigrants. Thus although it is possible to examine how the experiences of different types of immigrants differ, it is not possible to make statements about how immigrant status in and of itself matters. For descriptive purposes, however, we compare the labor market status of LSIA families to that of Australian couple families to ascertain whether the experience of recent immigrant families differs from others in Australia.[4] In order to facilitate comparisons to the native population, in this section we focus on LSIA husbands and wives instead of principal applicants and spouses.

Table 1 presents information on the labor market status of immigrants to Australia at 6 months and then again at 18 months after entry.[5] Participation rates are higher among immigrant husbands in the Concessional Family, Business Skills, and Independent categories than among Australian husbands, but lower in the Preferential Family and Humanitarian visa categories. Resident wives are more likely to be labor market participants than are immigrant wives. Indeed, after 18 months, only wives of Concessional Family immigrants have participation rates similar to those of Australian wives. It is important to note, however, that participation rates increase for all groups (except Preferential Family) immigrants over time.[6] Note also that although labor market participation rates are higher among some groups of immigrants, unemployment rates are also higher. Only male Business Skills/ENS immigrants have unemployment rates that equal those of Aus-

[3] Information about visa status comes from Department of Immigration and Multicultural Affairs administrative records, not self-reports. All members of the migrating household share the visa category of the principal applicant.

[4] Previous studies for the United States have found that recent male immigrants had lower rates of employment and higher rates of unemployment than the native born, but employment rates increased and unemployment decreased with duration of residence (Chiswick, Cohen, and Zach, 1997). Labor force participation rates for immigrant women in the United States are less than for native-born women (Chiswick and Sullivan, 1995). Data have shown that immigrant women in the United States work more hours than nonimmigrant women (Long, 1980); however, Canadian data show no difference between the hours of nonimmigrant and immigrant women (Worswick, 1996).

[5] The term "labor market status" covers three mutually exclusive individual states: employed, unemployed, and not in the labor force. "Employed" individuals are those in paid employment at some time in the previous two weeks. "Unemployed" indicates that the respondent has actively searched for work in the previous two weeks. Finally, "not in the labor force" indicates individuals who are neither employed nor unemployed. Note that the Australian Bureau of Statistics asks about job search over the previous four weeks (ABS, 1995), which may lead LSIA unemployment rates to be understated and nonparticipation rates to be overstated relative to the ABS data.

[6] Although Preferential Family migrants represent the largest group of migrants to Australia, they often do not come as a migrating unit but represent spouses being reunited with earlier migrants. Therefore, the labor market experiences of those Preferential Family immigrants migrating with spouses may not be typical of the category as a whole.

TABLE 1

Labor Market Status by Visa Category:
LSIA and Australian Husbands and Wives

	Preferential Family		Concessional Family		Business Skills/ENS		Independent		Humanitarian		Australian Residents (June 1995)
LSIA Immigrants	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	
Husbands											
Employed percentage	11.5	21.3	53.7	72.2	78.8	90.6	59.3	74.1	6.4	25.3	72.4
Unemployed percentage	24.8	12.7	31.3	17.7	3.5	4.0	26.2	13.8	49.4	40.1	4.2
Unemployment rate	68.3	37.3	36.8	19.7	4.3	4.2	30.6	15.7	88.5	61.3	5.5
Participation rate	36.3	34.0	85.0	89.9	82.3	94.6	85.5	87.9	55.8	65.4	76.6
Hours worked	34.4	28.9	42.4	42.2	44.5	45.9	40.6	41.5	39.3	32.1	41.6
Wives											
Employed percentage	6.1	7.7	22.8	40.3	24.8	33.4	24.6	33.7	2.8	15.7	53.4
Unemployed percentage	4.8	0.7	21.9	13.5	3.9	2.2	17.2	9.7	17.6	8.3	2.7
Unemployment rate	44.0	8.3	49.0	25.1	13.6	6.2	41.1	22.4	86.3	34.6	4.8
Participation rate	10.9	8.4	44.7	53.8	28.7	35.6	41.8	43.4	20.4	24.0	56.1
Hours worked	17.5	22.8	31.4	31.3	30.8	29.8	31.8	32.2	28.2	25.5	28.1

NOTE: Information on Australian couple families is taken from *June 1995 Labour Force Status and Other Characteristics of Families,* Australia, Product No. 6224.0.40.001, Table 5.

tralian natives. Over time, however, unemployment rates fall dramatically for other immigrant groups (Chiswick and Miller, 1992).

In addition to labor force status, hours worked is a strong indicator of economic well-being. Average hours of work for employed LSIA husbands and wives are also given in Table 1. Australian husbands who worked full-time in June 1995 averaged 43.3 hours per week, and part-timers averaged 16.9 hours; as an overall average, Australian husbands worked 41.6 hours per week. Concessional Family and Business Skills/ENS husbands worked more hours than Australian husbands, and Independents matched the Australian hours. Australian wives who worked full-time averaged 38.5 hours per week, and part-timers worked 16.1 hours, for an overall average of 28.1

hours each week. Except for individuals with Humanitarian and Preferential Family visas, employed immigrant wives worked more hours than Australian wives. Even so, the Humanitarian and Preferential Family wives' employment generates close to half of total family income and is thus very important to the economic well-being of their families.[7]

The Hours of Immigrant Spouses

Becker (1965) and Mincer (1978) introduced the importance of the family as a decision-making unit, and since then there has been a great deal of debate in the economics literature about how to best model the interdependence of family members' behavior. Despite the theoretical debate, most empirical studies examine the labor supply of husbands and wives independently. Although in some cases this decision is based on ease of computation and data availability, dissatisfaction with the joint decision-making framework also plays a role (Lundberg, 1988). Following the literature, we examine the labor supply decisions of accompanying spouses conditional on their partners' decisions. In our case this is a particularly sensible strategy since, unlike previous researchers, we can use the detail of the LSIA data to identify principal applicants (who can be thought of as primary workers) separately from their "spouses" (who are more likely to be secondary workers).

Estimation Strategy

We focus explicitly on those factors related to the hours of work of immigrant spouses while controlling for their partners' labor supply decisions. Specifically, we assume that immigrant spouses' desired hours of work are given by the following:

$$H_i^* = X_i\beta + \mu_i \tag{1}$$

where $i = 1 \ldots N$ indexes individuals, X_i is a vector of demographic and human-capital variables thought to influence hours of work through their effect on market or reservation wages, and $\mu_i \sim N(0,1)$ is an independently distributed error term. Although, we do not observe desired hours of work, we can observe actual hours of work (H_i) such that:

$$H_i = \begin{cases} H_i^* & if\ H_i^* > 0 \\ 0 & if\ H_i^* \leq 0 \end{cases} \tag{2}$$

[7] For example, the weekly income of Humanitarian husbands six months after arrival is on average $88.62 AUD (Australian dollars), and the income of their wives is on average $75.35

The above hours-of-work equations were estimated for our full sample of workers and nonworkers using Tobit analysis. Rather than considering the coefficients from the above regression directly, it is useful to show how changes in each independent variable affect expected hours of work.[8] Following McDonald and Moffitt (1980), these marginal effects,

$$\frac{\delta E(H_i)}{\delta X_i}$$

can be expressed as follows:

$$\frac{\delta E(H_i)}{\delta X_i} = F(z)\left(\frac{\delta E(H_i^*)}{\delta X_i}\right) + E(H_t^*)\left(\frac{\delta F(z)}{\delta X_i}\right) \tag{3}$$

where

$$z = {}^{X\beta}\!/_{\sigma}$$

and *F(z)* is the cumulative normal distribution function. Thus, the total effect of changes in the independent variables on observed hours of work can be decomposed into two parts: first, the change in the average hours of workers (weighted by the probability of being employed), and second, the change in the probability of being employed (weighted by the average hours of workers).

We do not include own market wages in the model hours because of the possibility that wages and hours of work are jointly determined. Instead, variables thought to determine wages (age, age squared, education) are incorporated into the hours equation. Variables are also included in the model to capture transferability of skills (English ability, qualification assessment, and premigration employment status), cultural factors (country of origin), and family circumstances (age of children and whether another adult is living in the home). Dummy variables for state of residence and wave are included to account for labor market conditions. In assessing the hours of immigrant spouses, we also explicitly condition on the labor market outcomes (hours and income) and student status of their principal-applicant partners.[9] Finally, the principal applicant's (and hence spouse's) visa status is also included.

AUD per week.

[8] The regression coefficients represent the effect of a change in the independent variable on the latent variable (Greene, 1997), that is, desired hours of work. This is not directly of interest here, although the actual Tobit coefficients are available from the authors upon request. The effect of changes in the independent variables on actual hours of work is given by equation (3).

[9] Treating these variables as exogenous is consistent with a "traditional family" model of household labor supply, in which primary workers (usually husbands) are assumed to allocate

Estimation Results

We first estimated a flexible functional form in which the coefficients on the independent variables were allowed to take different values in Waves 1 and 2. This flexible specification was tested against a more restrictive functional form with a single coefficient using a Wald test. For both men and women the null hypothesis that Waves 1 and 2 could be pooled could not be rejected.[10] The total marginal effects (and *t*-statistics) as well as the decomposition[11] resulting from this pooled Tobit regression are reported in Table 2.[12] Results are presented for the total sample and then separately by gender.[13]

As in previous studies (Duleep and Sanders, 1993; MacPherson and Stewart, 1989; Reimers, 1985), we find that English language ability is a strong determinant of labor force participation for immigrant spouses in Australia. Women speaking English well (as opposed to only or best) are employed on average 2.4 fewer hours, while speaking English badly decreases work by more than three hours per week. Fully, 80.8 percent of the decrease is due to changes in the probability of working, whereas 19.2 percent is due to a decrease in hours of women presently working. For male spouses the effect of English language ability is larger, decreasing hours worked by 7.4 and 9.8 hours per week, respectively. As for women, much of

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their time first and secondary workers (usually wives) maximize utility subject to the choices made by their partners (Lundberg, 1988). The advantage of this approach is that we don't have to rely on potentially weak instruments for identifying a more complex model of household behavior. Given our ability to use the detail of the LSIA data to identify primary (principal applicants) and secondary (spouses) workers, we feel that this theoretical framework is well-suited to the task at hand.

[10] Although overall we could not reject the hypothesis that there was no structural change, the results did indicate structural change between Waves 1 and 2 in the effect of visa status on the hours worked by male spouses. In particular, over time male spouses in all visa categories converged toward the hours worked by spouses of Business Skills/ENS migrants.

[11] Note that the decomposition of the marginal effect into its relevant components (see equation 3) is constant across independent variables.

[12] All estimation was done in LIMDEP 7.0. Equation (1) was also specified allowing for unobserved individual effects that in turn produce correlation in the error terms. Using the panel nature of the data to first-difference away these individual effects was not practical, given our short panel because of the limited variability of most of our variables of interest (including, for example, education, English ability, and hours). Random-effects Tobit models were then estimated; however, the estimated within-group correlation was very small, so we have chosen to report the results from the standard pooled Tobit model. Coefficients reported represent the total effect of a change in X_i on observed hours.

[13] The Tobit model is based upon a single index function, which assumes that independent variables affect in the same direction both the probability of employment and hours of work conditional on being employed. A more flexible two-stage estimation strategy is not practical in our case, since there are not enough employed spouses in the sample to estimate the determinants of hours conditional on being employed. Given this, we also estimated a probit model of the probability of being employed. The results were substantially the same as those obtained from the Tobit model. This is not surprising given the large proportion of immigrant spouses who do not have positive hours of work. (See Appendix Table 1.) These additional results are available upon request.

this decrease (64.2 percent) is due to the reduced probability of being employed rather than as a limit on the hours of workers. Early in the settlement process the lack of English skills acts as a barrier to employment generally, rather than a limit on the hours of workers.

Hours worked increase with age, although the effect is stronger for women than for men. Contrary to the standard results for the native-born population, years of education are not a significant predictor of hours of work. This result, however, is consistent with earlier findings that the transferability of skills is an issue for immigrants and specifically that returns to education are much lower for immigrant women (Worswick, 1996; Beach and Worswick, 1993). Although the LSIA data do not contain direct information about labor market experience, information about work history prior to migration is available. Spouses not employed prior to migrating worked between 2.3 and 5.8 fewer hours each week after migration. These findings for Australia parallel those of Duleep and Sanders (1993), who found that having worked full time prior to migration was associated with a 28 percentage point increase in the probability of working in the United States.

Region-of-origin coefficients can be interpreted as deviations from Europe, the control group. Spouses—both male and female—from the Middle East/North Africa and Southern Asia work significantly fewer hours than their European counterparts. These results are consistent with the results of MacPherson and Stewart (1989), who find that women from developing countries and/or countries with different cultures work less. Duleep and Sanders (1993), however, find that women from Japan (Northeast Asia) work less than European immigrants, whereas women from India (South Asia) work more. Our level of aggregation, however, limits direct comparisons. Given our human-capital controls and the fact that male spouses from these countries also work fewer hours, these differences may reflect cultural attitudes toward work or indicate the presence of discrimination in the Australian labor market. These results are consistent with previous research suggesting that cultural differences may give rise to systematic differences in behavior across ethnic or nativity groups (Reimers, 1985; Antecol, 2001).[14]

Like previous researchers we find that the presence of young children has a strong negative effect on the labor force participation of women (Schoeni, 1998; Nakamura and Nakamura, 1992; MacPherson and Stewart, 1989). The largest effect is for women with children under the age of two. Contrary to previous studies, however, we find a small but negative effect of other adults in the household on the hours of work,[15] though the presence

[14] Keep in mind that since "culture" is not measured, it reflects the absence of a substantive explanation for the effect of the country-of-origin dichotomous variables.

[15] MacPherson and Stewart (1989) found the presence of other adult relatives living in the home increased the probability of participation, especially if children under the age of six

TABLE 2

Determinations of Hours of Work:
LSIA Spouses by Gender

	All Spouses		Women		Men	
	Margin	*t*-stat	Margin	*t*-stat	Margin	*t*-stat
Spouse's characteristics						
Female	–6.04	(–13.75)				
Age	0.65	(4.19)	0.44	(3.21)	0.38	(0.56)
Age squared	–0.01	(–5.13)	–0.01	(–3.86)	–0.01	(–1.24)
Speaks English well[a]	–3.35	(–7.00)	–2.37	(–5.73)	–7.35	(–3.86)
Speaks English badly	–4.73	(–7.94)	–3.38	(–6.59)	–9.81	(–4.02)
Postsecondary education	0.30	(0.71)	0.37	(1.05)	0.44	(0.25)
Some high school education	0.10	(0.23)	–0.08	(–0.25)	1.14	(0.51)
Less than 10 years' education	0.91	(1.25)	0.01	(0.03)	5.28	(1.64)
Not employed prior to migration	-3.40	(-8.24)	-2.32	(-6.99)	-5.76	(-2.40)
State[b]						
Victoria	–1.15	(–2.66)	–0.82	(–6.99)	–3.57	(–2.13)
Queensland	–0.12	(–0.24)	0.43	(1.02)	-5.30	(–2.32)
South Australia	–0.83	(–1.17)	–0.32	(–0.58)	–1.23	(–0.36)
Western Australia	–2.38	(–4.41)	–1.34	(–3.04)	–7.46	(–3.05)
Other	–0.05	(–0.07)	0.64	(1.15)	–6.09	(–2.00)
Region[c]						
Oceania/Antartica	–0.26	(–0.22)	0.39	(0.45)	–6.58	(–0.89)
Middle East/North Africa	–3.01	(–3.75)	–1.62	(–2.30)	–8.11	(–2.72)
Southeast Asia	0.12	(0.23)	0.54	(1.14)	–3.73	(–1.77)
Northeast Asia	0.53	(0.95)	0.83	(1.80)	–2.98	(–1.19)
South Asia	–2.86	(–4.64)	–1.91	(–3.53)	–7.41	(–3.13)
North America	–0.41	(–0.44)	–0.12	(–0.17)	3.03	(0.64)
South/Central America	–1.79	(–2.06)	–1.01	(–1.36)	–4.58	(–1.32)
Africa (Except North)	–0.58	(–0.90)	–0.40	(–0.80)	–3.21	(–1.03)
Household characteristics						
Children aged 0-1	–4.49	(–7.96)	–5.13	(–9.44)	–0.83	(–0.40)
Children aged 2-5	–1.76	(–5.98)	–2.23	(–8.11)	1.79	(1.58)
Children aged 6-10	–1.04	(–4.08)	–0.86	(–4.02)	–0.01	(–0.06)
Children aged 11+	–0.44	(–1.68)	–0.62	(–2.90)	2.19	(1.83)
Other adults in household	–0.46	(–2.04)	–0.28	(–1.45)	–0.89	(–1.02)
Relatives in Australia	0.19	(0.49)	–0.20	(–0.63)	4.30	(2.49)
PA's human-capital investment						
Enrolled in English course	–1.66	(–3.34)	–0.52	(–1.21)	–6.74	(–3.52)

were present. Duleep and Sanders (1993) found a strong positive effect on participation for adult relatives living in homes with children under 12.

TABLE 2—continued

Qualifications assessment	–1.35	(–2.84)	–0.74	(–1.87)	–4.26	(–2.18)
Currently enrolled in school	0.01	(0.02)	0.44	(1.11)	–3.17	(–1.50)
Visa[d]						
Preferential family	2.70	(2.48)	1.62	(1.64)	6.87	(1.63)
Concessional family	1.21	(2.24)	0.70	(1.64)	1.11	(0.39)
Independent	0.69	(1.34)	0.29	(0.69)	1.47	(0.58)
Humanitarian	0.35	(0.48)	0.89	(1.41)	–5.29	(–1.64)
PA's employment						
PA's total hours of work	0.13	(11.4)	0.10	(10.3)	0.36	(6.23)
PA's weekly income	–0.41	(5.37)	–0.24	(–3.92)	–0.15	(–3.75)
Wave 2	2.66	(7.27)	2.05	(6.53)	5.67	(3.89)
Constant	–5.01	(1.58)	–7.78	(–2.97)	10.39	(0.72)
N	3231		2602		629	
McDonald and Moffit decomposition proportion of marginal effect due to						
Change in average hours worked			19.2		35.8	
Change in probability of employment			80.8		64.2	

[a]Omitted category for English language ability is "only or best."

[b]Omitted category for state of residence is New South Wales.

[c]Omitted variable for region of origin is Europe.

[d]Omitted variable for visa status is Business Skills/ENS.

of relatives in Australia is positively related to male hours, suggesting that knowledge of local labor markets is important. The work hours of both male and female spouses are positively related to their partners' hours of work, indicating that husbands and wives may be complements in household consumption. Finally, we find the standard negative effect associated with spouse's income.

Evidence on the family investment model is mixed. Consistent with the model, we find that both male and female spouses work fewer hours if their partners have professional qualifications and have undergone the process of having those qualifications recognized in Australia. We find no evidence that women are financing their partners' human-capital investment by increasing their hours of work if their husbands are in school or taking English language classes. Completely at odds with the family investment model, male spouses work less when their principal-applicant wives are enrolled in English classes. Data on hours worked by visa status lends weak support to the notion that spouses are making decisions consistent with the family investment model. Spouses of Preferential and Concessional Family immi-

grants are more likely to be working than are spouses of Business Skills/ENS immigrants, though this effect loses significance when we estimate the model separately by gender.[16] Since Business Skills/ENS immigrants come to Australia with a job or intending to start a business, it is less likely that they are investing in human capital or need their spouses to support them even in the early stages of settlement. The fact that spouses in family-related visa categories are more likely to be working than skill-tested migrants highlights the role of the extended family in job search.

Conclusions

This article explores the early labor market experience of immigrant spouses. Consistent with research for immigrants in general, we find age, English language ability, and time in residence (and for women the presence of children) are important determinants of work behavior among immigrant spouses, whereas education is not. Differences in outcomes across regions of origin indicate that unmeasured labor market discrimination or cultural attitudes toward work may influence decision making.

The importance of family in immigrant adjustment is highlighted by the relationship between spouses' hours of work, on the one hand, and their family circumstances, on the other. The hours immigrant spouses work are closely related to their partners' income and hours of work. Female spouses also work fewer hours if their husbands' qualifications have been assessed in Australia. Furthermore, the visa category under which the principal applicant was admitted is related to the hours of work of immigrant spouses. Spouses of skilled migrants work fewer hours than spouses in family categories. The relative labor market success of Concessional Family immigrants indicates that what they lack in skills they may make up for in family connections. Evaluations of immigration policy and the economic status of immigrants that ignore these types of interactions between family members may be inaccurate in their representation of the financial health and economic contributions of immigrant families.

REFERENCES

Antecol, Heather. 2001. "Why Is There Inter-Ethnic Variation in the Gender Wage Gap? The Role of Cultural Factors." *Journal of Human Resources* 36(1): 119–43.

Australian Bureau of Statistics. (ABS). 1995. *Labour Force Status and Other Characteristics of Families Australia*. Product no. 6224.0.40.001. Canberra, Australia: Author.

[16] Omitting principal applicants' hours, income, and human-capital investments in the model reveals that without controls for their partners' behavior, both male and female Humanitarian spouses work significantly less than spouses in all other visa categories. Other results are substantially the same and are available upon request.

Baker, Michael, and Dwayne Benjamin. 1997. "The Role of the Family in Immigrants' Labor Market Activity: An Evaluation of Alternative Explanations." *American Economic Review* 87(4):705–27.

Beach, Charles, and Christopher Worswick. 1993. "Is There a Double-Negative Effect on the Earnings of Immigrant Women?" *Canadian Public Policy* 19(1):36–53.

Becker, Gary. 1965. "A Theory of the Allocation of Time." *Economic Journal* 75:493–517.

Chiswick, Barry. 1980. *An Analysis of the Economic Progress and Impact of Immigrants.* Department of Labor monograph, N.T.I.S. no. PB80-200454. Washington, DC: National Technical Information Service.

Chiswick, Barry, Yinon Cohen, and Tzippi Zach. 1997. "The Labor Market Status of Immigrants: Effects of the Unemployment Rate at Arrival and Duration of Residence." *Industrial and Labor Relations Review* 50(2):289–303.

Chiswick, Barry, and Paul Miller. 1992. *Post-Immigration Qualifications in Australia: Determinants and Consequences.* Report for the Bureau of Immigration and Population Research. Canberra: Australian Government Printing Office.

Chiswick, Barry, and Teresa A. Sullivan. 1995. "The New Immigrants," Pp. 211–70 in Reynolds Farley, ed., *State of the Union: America in the 1990s,* vol. 2. New York: Russell Sage Foundation.

Cobb-Clark, Deborah A. 2000. "Do Selection Criteria Make a Difference? Visa Category and the Labour Market Status of Immigrants to Australia." *Economic Record* 76(232):15–31.

Cobb-Clark, Deborah A., and Bruce Chapman. 1999. "The Changing Pattern of Immigrants' Labour Market Experiences." Discussion paper no. 396. Canberra, Australia: The Australian National University, Centre for Economic Policy Research.

Duleep, Harriet Orcutt, and Mark Regets. 1992. "Some Evidence of the Effects of Admissions Criteria on Immigrant Assimilation." Pp. 410–39 in Barry Chiswick, ed., *Immigration Language and Ethnic Issues: Canada and the United States*. Washington, DC: American Enterprise Institute.

———. 1996. "Admission Criteria and Immigrant Earnings Profiles." *International Migration Review* 30(2):571–90.

Duleep, Harriet Orcutt, and Seth Sanders. 1993. "The Decision to Work by Married Immigrant Women." *Industrial and Labor Relations Review* 46(4):67–80.

Greene, William H. 1997. *Econometric Analysis*, 3rd ed. Upper Saddle River, NJ: Prentice Hall.

Jasso, Guillermina, and Mark Rosenzweig. 1995. "Do Immigrants Screened for Skills Do Better than Family Reunification Immigrants?" *International Migration Review* 29(1):85–111.

Long, James E. 1980. "The Effect of Americanization on Earnings: Some Evidence for Women." *Journal of Political Economy* 88(3):620–29.

Lowell, B. Lindsay. 1996. "Skill and Family-Based Immigration: Principles and Labor Markets." In H. Duleep and P. Wunnava, eds., *Immigrants and Immigration Policy: Individual Skills, Family Ties, and Group Identities.* Greenwich, CT: JAI.

Lundberg, Shelly. 1988. "Labor Supply of Husbands and Wives: A Simultaneous Equations Approach." *Review of Economics and Statistics* 70(2):224–35.

MacPherson, David A., and James A. Stewart. 1989. "The Labor Force Participation and Earnings Profiles of Married Female Immigrants." *Quarterly Review of Economics and Business* 29(3):57–72.

McDonald, John F., and Robert A. Moffitt. 1980. "The Uses of Tobit Analysis." *Review of Economics and Statistics* 62(2):318–21.

Mincer, Jacob. 1978. "Family Migration Decisions." *Journal of Political Economy* 86(5):749–73.

Nakamura, Alice, and Masao Nakamura. 1992. "The Econometrics of Female Labor Supply and Children." *Econometric Reviews* 11(1):1–71.

Reimers, Cordelia W. 1985. "Cultural Differences in Labor Force Participation among Married Women." *American Economic Review* 75(2):251–55.

Schoeni, Robert F. 1998. "Labor Market Assimilation of Immigrant Women." *Industrial and Labor Relations Review* 51(3):483–504.

Williams, Lynne, Jill Murphy, and Clive Brooks. 1997. *Initial Labour Market Experience of Immigrants.* Canberra, Australia: Australian Government Printing Service.

Wooden, Mark. 1990. *Migrant Labour Market Status.* Report for Bureau of Immigration and Population Research. Canberra, Australia: Australian Government Printing Service.

Worswick, Christopher. 1996. "Immigrant Families in the Canadian Labour Market." *Canadian Public Policy* 22(4):378–96.

APPENDIX TABLE 1

Descriptive Statistics: LSIA Spouses by Gender

Variable	Mean: Women	*SD*	Mean: Men	*SD*
Spouses characteristics				
Age	37.04	10.26	40.26	9.99
Speaks English well	0.30	0.46	0.38	0.49
Speaks English badly	0.40	0.49	0.36	0.48
Postsecondary education	0.30	0.46	0.52	0.50
High school education	0.33	0.47	0.18	0.39
Less than 10 years' education	0.12	0.32	0.07	0.26
Not employed prior to migration	0.44	0.50	0.14	0.34
State of residence				
Victoria	0.24	0.42	0.32	0.46
Queensland	0.12	0.32	0.11	0.32
South Australia	0.06	0.24	0.05	0.21
Western Australia	0.15	0.35	0.10	0.31
Other	0.06	0.23	0.06	0.24
Region of origin				
Europe	0.36	0.48	0.40	0.49
Oceania/Antartica	0.02	0.13	0.01	0.08
MidEast/North Africa	0.09	0.28	0.09	0.28
Southeast Asia	0.12	0.33	0.15	0.36
Northeast Asia	0.14	0.35	0.10	0.31
South Asia	0.11	0.31	0.12	0.33
North America	0.02	0.15	0.02	0.13
South/Central America	0.05	0.22	0.06	0.23
Africa (except North)	0.08	0.27	0.05	0.22

APPENDIX TABLE 1—continued

Household characteristics				
Children aged 0–1	0.14	0.36	0.12	0.34
Children aged 2–5	0.39	0.60	0.37	0.61
Children aged 6–10	0.42	0.68	0.42	0.65
Children aged 11+	0.43	0.77	0.37	0.70
Other adults in household	0.44	0.91	0.50	0.95
Relatives in Australia	0.61	0.49	0.70	0.46
PA's human-capital investment				
Enrolled in English course	0.29	0.45	0.36	0.48
Qualifications assessed	0.20	0.40	0.17	0.38
Currently enrolled in school	0.13	0.34	0.11	0.31
Visa Status				
Preferential family	0.06	0.24	0.05	0.21
Concessional family	0.28	0.45	0.27	0.44
Independents	0.25	0.43	0.24	0.42
Humanitarian	0.19	0.39	0.33	0.47
Business Skills/ENS	0.22	0.42	0.12	0.33
PA's total hours of work	23.34	23.21	13.27	19.14
PA's weekly income	396.24	323.95	274.18	264.81
Spouse's total hours of work	6.62	13.93	28.69	14.40