International Migration, Spousal Control, and Gender Discrimination in the Allocation of Household Resources *

Francisca M. Antman†
Department of Economics, *University of Colorado at Boulder*

June 4, 2010

Abstract

This paper considers how parental migration affects the allocation of resources within the household while a parent is away and after he has returned. To overcome problems associated with the endogeneity of migration, I use a difference-in-difference regression model as well as longitudinal data on household expenditures and decision-making over time. Overall, the evidence suggests that having a father migrate to the U.S. decreases the fraction of expenditures spent on boys relative to girls in both education and clothing while the father is away. After the father has returned to Mexico, however, the fraction of expenditures spent on boys rises, going beyond the initial allocation. At the same time, data on household decision-making reveal that the household head is more likely to report that he alone makes expenditure decisions for his children when he has had a recent migration spell. These results are consistent with a story in which paternal migration results in a shift in household decision-making power toward women who in turn shift resources to girls while fathers are absent; but upon a father's return, more resources are spent on boys.

JEL classification: O15, F22, D13, J16.
Keywords: education; migration, intrahousehold allocation, gender discrimination.

*Thanks to Terra McKinnish, Mary Lopez and participants at the Western Economics Association International meeting for their comments.

†Contact: francisca.antman@colorado.edu, Department of Economics, University of Colorado at Boulder, 256 UCB, Boulder, CO 80309.

1 Introduction

In many developing countries, parental migration and the family separation it entails are often viewed as necessary evils in order to improve outcomes for the next generation. But the effect of parental migration on children left behind is not so clear-cut, in part because the positive effect of remittances may be overwhelmed by the negative effects of parental absence from the home. While there is now a burgeoning literature evaluating the overall impact of parental migration on children's outcomes (Hanson and Woodruff, 2003; McKenzie and Rapoport, 2006; and Antman, 2010a; Antman, 2010b), less effort has been focused on exploring the mechanisms that underlie these effects. This paper attempts to close that gap by examining a potentially important channel through which parental migration may affect children: spousal control over the intrahousehold allocation of resources. In countries like Mexico, where it is most often the father that migrates, paternal migration necessarily involves a father's absence from the home and thereby allows for an increase in women's decision-making power. Does this change in household structure imply a shift in expenditures toward the mother's preferred allocation of resources? How does this affect the allocation of resources toward boys relative to girls?

To explore this question, this paper uses data from the Mexican Family Life Survey (MXFLS), a two-wave panel survey which began interviewing respondents in 2002 and again in 2005. Quite significantly, the MXFLS asks questions about permanent and temporary migration and follows Mexican migrants into the United States with a surprisingly high re-contact rate around 90 percent (Rubalcava and Teruel, 2007) . Importantly, the MXFLS also asks detailed questions about household spending, including educational and clothing

expenditures by gender of children. Household members are also asked to identify who is responsible for making decisions regarding these expenses.

Linking household bargaining power with the allocation of household resources lies at the heart of the literature on the economics of the family and is most closely associated with testing the unitary model of the household. Several studies have found that increasing woman's bargaining power results in an improvement for girls' health outcomes and not boys (Duflo 2003, Thomas 1994). Antman (2010a) presents evidence consistent with this story in which a father's migration to the U.S. increases educational attainment for his daughters, but not his sons. This paper builds on evidence from the latter paper by examining expenditures explicitly, thereby establishing a mechanism whereby paternal migration affects gender discrimination directly. At the same time, it provides an important link between the literature on intrahousehold allocations and the effects of migration and parental absence on children.

Estimation is not entirely straightforward, however, because identifying the effects of migration on intrahousehold allocations is plagued by endogeneity. Quite simply, parental migration is very likely to be correlated with the same things that determine intrahousehold allocations. To address this, I first adopt an identification strategy inspired by differences-in-differences, where I look at the set of fathers that have had recent U.S. migration experience and compare those who have already returned to Mexico with those that are still in the U.S. Consistent with the spousal control hypothesis, I find that households which still have a head in the U.S. devote a lower fraction of resources toward boys. However, some may be concerned that return migration to Mexico is endogenous as well, thus contaminating these estimates.

I argue that these sources of endogeneity are likely to be time-invariant, such as the case where a family that spends more on boys than girls is also more likely to send migrants abroad. To address these concerns, I look at changes in household expenditures over the panel survey to examine whether changes in intrahousehold expenditures can be attributed to international migration and a shifting of decision-making power from men toward women. Thus, the panel nature of the MXFLS allows me to difference out any time-invariant sources of endogeneity that may have resulted in a non-causal correlation between international parental migration and children's outcomes.

As with all longitudinal identification strategies, some may be concerned that time-varying sources of endogeneity affect both migration and the allocation of resources within the household. For instance, families may hit a negative shock between survey waves that induce the father to migrate and also force children out of school. If boys are more likely to drop out first and enter the work force, as opposed to their sisters dropping out and working in the labor force or at home, this would result in a bias toward the finding that educational expenditures are shifted toward girls while fathers are away. Nevertheless, this type of explanation cannot account for the finding that clothing expenditures, which explicitly exclude school uniforms, are also shifted toward daughters while fathers are away. In any case, the question remains why boys would receive a lower fraction of resources while their fathers are away than when they are present.

To investigate the mechanism behind these results, I conclude by examining the household decision-making data included in the MXFLS. While the data preclude an examination of household decision-making during migration spells, I am able to examine how household decision-making changes with recent migration experience. I find that the household head

is more likely to report he makes decisions regarding children's expenses alone when he has had recent migration experience, marking an evident increase in his decision-making power. Together, this evidence is consistent with a story in which the head's decision-making power wanes while he is away, resulting in a shift in resources toward girls, but then resurges upon his return, inducing a relative increase in resources for boys over girls.

The paper proceeds as follows: Section 2 discusses the cross-sectional and longitudinal empirical strategies; Section 3 describes the MXFLS data used in the analysis and reviews summary statistics that preview the results; Section 4 presents the results on the relationship between international migration, household expenditures, and decision-making power; Section 5 concludes.

2 Empirical strategy

The ideal experiment to study the effects of parental migration on gender discrimination within the household would randomly select some fraction of Mexican household heads for migration to the U.S., while the remaining household heads remained at home.[1] In such an experiment, we could then simply take the difference between the fraction of resources spent on boys for those households with heads in the U.S. and those not in the U.S. as a measure of the effect of migration on the allocation of resources by gender. Of course, the problem in using this measure as our estimate in the real world is that Mexican migrants self-select, and migration could be correlated with unobserved factors affecting household expenditures.

[1] For a similar migration experiment, see Gibson, McKenzie, and Stillman (2008) who evaluate the effects of the New Zealand migration lottery program for families of Tongan migrants.

Nevertheless, this hypothetical experiment provides the motivation for a potential identification strategy. If we can look within the sample of families where household heads have had recent migration experience, we can in some sense control for the unobserved factors which may have induced migration and may well be correlated with household expenditures. The idea then, is to compare families where the head is still absent in the U.S. with those families in which the migrant head has already returned home. This type of differences-in-differences strategy can be implemented by means of a simple cross-sectional regression model where the fraction of expenditures spent on boys is a function of the migration experience and current migrant status of the head of household:

$$BoysExpRatio_{it} = \beta_1 USMigExper_{it} + \beta_2 USMigExper_{it} * CurrUSMig_{it} + X_{it}\gamma + \epsilon_{it} \ . \quad (1)$$

The dependent variable, $BoysExpRatio_{it}$, denotes the fraction of children's expenditures spent on boys, either in education or clothing. $USMigExper_{it}$ is an indicator variable for whether the household head has had any U.S. migration experience in the two years prior to the survey, regardless of whether he is currently in the U.S. or Mexico. $CurrUSMig_{it}$ is an indicator variable equal to one if the household head is currently in the U.S. and zero otherwise. As noted in the data section below, all household heads who are currently in the U.S. by definition have recent migration experience and are coded accordingly. The vector of covariates X_{it} , includes the number of children in the household falling into the following gender and age-specific categories: girls 0-5 years-old, girls 6-12 years-old, girls 13-17 years-old, and the analogous categories for boys. In addition, household size also enters linearly in the regression. This cross-sectional regression is implemented on a panel data set, and as

such, I have included the time subscript over the two waves of the survey ($t = 1, 2$). Since most households are observed in both waves, in the cross-sectional regression, I also include an indicator for whether the observation is in the second wave of the survey and cluster standard errors at the household level.

The idea of the identification strategy in the above regression is that households may differ due to the endogeneity of out-migration, but comparing households who have had recent migration experience reduces this problem. However, it may still be the case that return migration to Mexico is still endogenous and that households for whom migrants have returned to Mexico by the time of the survey are different in unobservable ways that may also explain their differences in expenditures by gender. To address this concern, I exploit the panel nature of the MXFLS and run the above regression in first-differences:

$$\Delta BoysExpRatio_i = \lambda_1 \Delta USMigExper_i + \lambda_2 \Delta CurrUSMig_i + \Delta X_i\theta + \eta_i \ , \qquad (2)$$

where $BoysExpRatio_{it}$ has been replaced with $\Delta BoysExpRatio_i = BoysExpRatio_{i2} - BoysExpRatio_{i1}$. Similarly, each entry in the equation above equals the value in the second wave minus the value in the first wave.[2] Taking the difference over waves of the survey allows for an examination of how household expenditures by gender change when the household

[2]Recall that by definition, $CurrUSMig_{it} = 1$ implies $USMigExper_{it} = 1$. Thus, I have replaced the interaction term $\Delta(USMigExper * CurrUSMig_{it})$ with $\Delta CurrUSMig_i$ since $\Delta CurrUSMig_i = 1$ implies the change in the interaction term equals 1. Furthermore, unlike $\Delta USMigrationExper_i$, $\Delta CurrentUSMigrant_i$ always equals either 1 or 0 since household heads can only be reported as current U.S. migrants in the second period. Thus the change in the interaction term always equal 1 or zero as well.

head has had any U.S. migration experience and when he is currently in the U.S. The idea here is that, by looking at changes in the household over time, we have in some sense controlled for time-invariant factors at the household level which affect both out- and return migration and which may be correlated with household expenditures by gender.

Finally, an investigation of how gender discrimination changes with migration of the head of household would not be complete without some evidence of a mechanism. Unfortunately, household decision-making data are only available if heads are at home to participate in that module of the survey. Consequently, we cannot examine the effects of current migration on household decision-making. Nevertheless, we can examine how household decision-making changes when household heads have had recent U.S. migration experience. I implement this using the following panel regression model in first-differences:

$$\Delta HeadMakesDecision_i = \alpha \Delta USMigExper_i + \Delta X_i \pi + \varepsilon_i \ , \tag{3}$$

where $\Delta HeadMakesDecision_i = HeadMakesDecision_{i2} - HeadMakesDecision_{i1}$ and $HeadMakesDecision_{it}$, $t = 1, 2$, indicates the household head reports that he alone makes decisions regarding his children's clothing or the education of his children. In this way, household decision-making is directly tied to the estimates of the effect of international migration on children's expenditures.

3 Data

3.1 Description

The data come from the Mexican Family Life Survey (MXFLS), a collaborative project managed by researchers in Mexico and the United States.[3] The MXFLS was designed to be a nationally representative panel data set of Mexicans that would follow households regardless of their decisions to reside in Mexico or the U.S. As a result, attrition is remarkably low in the sample, with around 90 percent of the baseline households surveyed in 2002 reinterviewed in the follow-up surveys, taking place mostly in 2005 (Rubalcava and Teruel, 2007).

For purposes of the current study, the MXFLS asks respondents detailed questions about income, expenditures, labor supply, schooling choices, and both short- and long-term migration histories. Unfortunately, temporary migration spells lasting less than one year are only documented for the two years immediately prior to the survey. For this reason, the measure of recent migration experience used in this paper is limited to any migration experience in the U.S. taking place within the last two years, regardless of duration.

In addition to migration histories, for all household members in Mexico at the time of the baseline survey, the follow-up survey indicates whether they are in the U.S. in the second wave. These migrants make up those observations defined as currently in the U.S. Since these migrants would have had to undertake migration in the interim period between waves, they are also defined as having had recent migration experience, but are distinguished by

[3] The MXFLS is publicly available at http://www.ennvih-mxfls.org/. Arenas, Conroy, and Nobles (2009) provide an overview of the migration data available, noting current projects and further research possibilities using the data.

the fact that they have not returned to Mexico.

The main outcome variables of interest relate to the fraction of children's educational and clothing expenditures spent on boys. With regard to educational expenses, the survey reports the amount of money spent during the current school period on (1) enrollment, fees, and exams, (2) school utensils and uniforms, and (3) transportation, separately for boys and girls in the household. I add (1)-(3) for boys and girls separately, and then add these sums together to construct total children's educational expenditures. I then take the ratio of boys' educational expenditures over total children's educational expenditures to construct the boys' educational expenditure ratio.[4] I follow a similar procedure to construct the boys' clothing expenditure ratio based on survey data regarding the amount of money spent on clothes and shoes, as well as the value of home production for these goods, for boys and girls over the past three months. Expenditures on school uniforms are explicitly excluded from the clothing measure and included as educational expenses.

An increase in these ratios implies an increase in the fraction of expenditures spent on boys and conversely, a decrease in the ratio implies an increase in the fraction spent on girls. The ratios will equal zero if nothing is spent on boys, which would be the case if there were no boys in the household on which to spend. To address this concern, in the regressions below I control for the age composition of children in the household as well as household size. Notably, these outcome variables will be undefined whenever the household reports no

[4] All expenditure and income data are deflated using the average annual Mexican CPI and are reported in 2002 Mexican pesos. The CPI data are available from the Banco de Mexico at http://dgcnesyp.inegi.org.mx/cgi-win/bdieintsi.exe/CPreIQY#.

expenditures on either girls or boys. I leave these as missing values, and as can be seen in the descriptive statistics, many families have missing values for either clothing or educational expenses.

Of the usable sample, 8,253 household-period observations have non-missing values for educational expenditures, 5,971 household-period observations have non-missing observations for clothing expenditures, and 4,429 household-period observations have non-missing values for both educational and clothing expenditures. Since cutting the sample size to households with non-missing values for both educational and clothing expenditures results in such a substantial reduction in observations, I perform the analysis below on all three samples. While the coefficient estimates are not always statistically significant, the magnitude and sign of the estimates from all three samples are all similar, alleviating concerns regarding sample selection.

As for the household decision-making data, the MXFLS asks couples within the household to report who makes decisions regarding household expenses and time allocation for a variety of outcomes ranging from the food that is eaten in the home to the money that is given to parents and relatives. The main limitation is that these data are only collected if both parties are present at the time of the survey, so in the case where the household head is still in the U.S., these data are not collected. As a result, the analysis below is limited to linking recent migration experience of the household head with household decision-making power.

Respondents are asked to specify who in the household is responsible for making the decision regarding each outcome, and this can include the respondent himself, his spouse, children, mother, father, brother, sister, in-laws, and grandparents. For purposes of this study, I focus on the decisions regarding children's clothes and the education of children. I

focus on the household head's responses, which for the most part, identify either him, his spouse, their children, or all of them together as the decision-makers in these categories. Using these data, I generate a binary variable equal to one if the household head reports making the decision alone regarding his children's clothes and zero otherwise. I generate an analogous dummy variable indicating the household head alone makes decisions regarding his children's education. Both of these variables will serve as measures of the strength of the household head's decision-making power in the analysis below.

3.2 Summary statistics

Table 1 presents descriptive statistics for the three samples used in the analysis. It is noteworthy that both the value of educational and clothing expenditures and the expenditure ratios themselves vary little across samples, providing additional reassurance that the missing values do not generate some observable selection pattern. For the most part, the same is true for other demographic characteristics of the household and head of household. Rates of attrition are very close across the samples, with about 47 percent of household-period observations observed in the second wave. The rates of recent migration experience of the head are also similar across samples, with around two percent of the household-period observations reporting the head to have had some U.S. migration experience in the past two years. The fraction of heads currently in the U.S. is about 0.7 percent of the household-period observations. Recall that this variable is only equal to one for households where the head has migrated in the second wave; it is closer to 1.5 percent of the households observed in the second wave.

Tables 2 through 4 highlight the identification strategy used below by comparing mean values of variables of interest distinguished by the migration experience and current migration status of the head of household. Comparing those families with no recent migration experience (column 1) to those who have had recent migration experience, but are not currently in the U.S. (column 2), we see that there are some significant differences in some characteristics of the household head. For instance, in Tables 2 through 4, the fraction of males is significantly higher among those heads with recent migration experience while the average age of heads with migration experience is significantly lower in Tables 2 and 3. This is consistent with the view that migration is likely to be correlated with observable, and by extension, unobservable variables as well.

Looking within the group of households whose heads have had recent migration experience, however, we see that those who are not currently in the U.S. (column 2) are remarkably similar to those who are still U.S. migrants (column 3). This provides some reassurance that the cross-sectional identification strategy is working as intended and we are netting out the endogenous factors affecting the propensity to migrate. At the same time, the notable differences between the latter two groups lie in the outcome variables of interest–the fraction of expenditures devoted to boys. Looking at the sample of households with non-missing values for both clothing and educational expenditures (Table 4), we see that the fraction of educational expenditures spent on boys is significantly lower when the household head remains in the U.S. compared with the average fraction when the household head has returned home (0.43 versus 0.59). The fraction spent on boys' clothing is also significantly lower for families where the head is still in the U.S. relative to those where the head is not in the U.S. (0.36 versus 0.65). It is also interesting to note that the total amount spent on all

children's educational expenditures is lower for those with household heads in the U.S. (940 versus 2024 pesos), although the amount spent on children's clothing is the same for both groups (568 pesos).

Also note that throughout Tables 2 through 4, there is a consistent pattern of results for the expenditure ratios such that the average appears close to 0.5 for those families with no migration experience, rises with recent migration experience, and subsequently falls below the initial level if the household head remains in the U.S. in the second wave. Of course, these differences do not control for other demographic factors that may be changing over time, for instance household size and composition, that should surely affect household expenditures on children. For this reason it will be important to control for these variables in the analysis below. At the same time, return migration may itself be endogenous to household expenditures, and for this reason, it will also be useful to examine the panel results where the values of all variables are differenced over time at the level of the household.

4 Results

4.1 Cross-Sectional Results

Table 5 presents the cross-sectional regression results from estimating equation (1) with both the educational and clothing expenditure ratios as dependent variables. Panel A presents the results with boys' educational expenditure ratio as the dependent variable for both the sample with non-missing educational expenditure data (column 1) and the sample with non-missing values for both educational and clothing expenses (column 2). Panel B presents

the results with boys' clothing expenditure ratio as the dependent variable for the sample with non-missing clothing expenditure data (column 1) and the sample with non-missing values for both educational and clothing expenses (column 2). Although the coefficient estimates are not statistically significant for the cross-sectional educational expenditures in Panel A, the results are statistically significant for boys' clothing expenditures in Panel B. In both panels, the same pattern emerges: relative to the baseline group with no recent U.S. migration experience, having any recent U.S. migration experience for the head of household raises the fraction of expenditures going to boys. For those households in which the head is still in the U.S., however, the fraction of resources going to boys is even lower than in those households where the head has not recently migrated to the U.S. Thus, the cross-sectional regression results echo the results from the comparisons of means, indicating that controlling for household size and composition and the wave of the survey do not change the results considerably.

In the sample with non-missing values for both educational and clothing expenditures (Panel B, column 2), the values of the magnitudes are considerable, indicating an increase of 12 percentage points in clothing expenditures when the head has had recent migration experience, but a drop of about 8 percentage points (-.205+12) if the head is still in the U.S. Given that the average clothing expenditure ratio is about 0.51 for the reference households with no recent U.S. migration experience, these represent sizable changes.

4.2 Longitudinal Results

While the cross-sectional identification strategy attempts to control for the endogeneity of out-migration, one concern with that approach is that return migration may also be endogenous and thus correlated with the same unobserved factors that determine household expenditures. To address this critique, Table 6 presents the longitudinal results from equation (2), where all variables in the regression have been differenced over the two waves in the panel. Panel A presents the results with the boys' educational expenditure ratio as the dependent variable for both the sample with non-missing educational expenditure data (column 1) and the sample with non-missing values for both educational and clothing expenses (column 2). Panel B presents the results with the boys' clothing expenditure ratio as the dependent variable for the sample with non-missing clothing expenditure data (column 1) and the sample with non-missing values for both educational and clothing expenses (column 2). Again, the same pattern observed in the summary statistics and cross-sectional results emerges. Households experiencing recent head migration increase the fraction of resources devoted to boys relative to the period when they had no such migration experience. Households in which the head is still in the U.S. in the second wave of the survey, however, spend a smaller fraction of resources on boys relative to the initial period when the head was at home.

In this first-differenced specification, the coefficient estimates are similar, though somewhat larger, compared with the cross-sectional case. For the sample with non-missing values for both educational and clothing expenses (column 2), the fraction of educational expenses spent on boys rise almost 17 percentage points with any recent U.S. migration experience

for the head of household and falls about 8 percentage points (-0.25+0.17) if the head is still in the U.S. relative to when he was at home. For the clothing outcome, the fraction of resources spent on boys rises 26 percentage points when the head has had some recent U.S. migration episode, but falls about 14 percentage points (-0.40+0.26) if the head is still in the U.S. relative to when he was at home.

4.3 Decision-Making Results

The question remains as to what explains this shift in household resources toward girls when fathers are migrating and toward boys once fathers have returned home. One hypothesis is that father absence allows for an increase in women's decision-making power and subsequently, women shift resources toward their daughters. Once fathers return, however, they have increased bargaining power owing to the increase in resources from the money they have earned abroad. A related possibility is that fathers feel the need to compensate for the reduced share of resources spent on boys during their absence.

While data limitations prohibit an investigation into household decision-making while the father is absent, we can observe how changes in migration experience relate to changes in household decision-making for those fathers that return home. Table 7 presents the results from the first-differenced regression of household decion-making on household migration experience detailed in equation (3). Panel A shows the results for the variable indicating whether the household head reports making decisions alone regarding children's education and Panel B reports the analogous results regarding children's clothing. Unfortunately, far fewer households respond to the decision-making module, resulting in only 570 observations

for which there are no missing values in all variables of interest. Therefore, a natural question to ask is whether the results for this sample match the results seen for the much larger sample above. For this reason, column (1) reports the results from the first-differenced regression from equation (2) where the dependent variable is the boys' expenditure ratio for the relevant item, either education (Panel A) or clothing (Panel B).

Even in this smaller sample, both Panels A and B show results consistent with previous findings that increases in the head's migration experience are associated with increases in the fraction of resources spent on boys. At the same time, column (2) shows that increases in migration experience coincide with an increased likelihood that the head reports making decisions alone regarding his children. Although this result is only significant at the 10 percent level in the clothing regression, it shows that the head is 16 percentage points more likely to report that the he alone makes the decision regarding his children's clothing when he has had recent migration experience. Notably, the coefficient estimate is very similar when the outcome is decision-making on children's education, although the estimate is not statistically significant. Since only around 6 percent of household heads report making decisions on these outcomes alone, this amounts to a considerable rise in decision-making power for those heads with recent migration experience. Overall, these results are consistent with the view that migration experience strengthens the head's decision-making power at the same time that it increases the fraction of resources spent on boys.

5 Conclusion

This paper has presented evidence on the relationship between international migration, intrahousehold resource allocation, and household decision-making. The summary statistics, cross-sectional, and longitudinal regressions all point to a pattern of shifting resources toward girls while the household head migrates to the U.S., but shifting resources back to boys once he has returned. These trends are consistent with a story in which international migration increases the decision-making power of women while the household head is away, and women subsequently shift resources to girls. Once fathers return, however, they appear to compensate for their absence by increasing resources even more for their sons. Analysis of the data on decision-making power corroborate this hypothesis, showing the head is more likely to report making decisions alone regarding his children's expenses when he has recently returned from a migration trip.

These results point to an important connection between international migration and gender discrimination within the household through the medium of spousal control over resources. Consequently, it establishes an important link between the literature on the effects of parental migration on children and the literature on intrahousehold allocations. The main limitation is that these data prohibit an examination of household decision-making power while the head is away, thus limiting speculation as to the level of migrant control over remittances during migration spells.[5] Given the extraordinary levels of migration between Mexico and the U.S., further research should investigate this question and evaluate

[5] See Ashraf, et al. (2009) for an experiment showing the effects of varying the extent of migrant control over savings on remittances to El Salvador.

the relative importance of spousal control as a mechanism in determining human capital and gender inequality for the next generation.

References

Antman, Francisca M. 2010a. "Gender, Educational Attainment, and the Impact of Parental Migration on Children Left Behind." Department of Economics, University of Colorado at Boulder Working Paper No. 08-02.

Antman, Francisca M. 2010b. "The Intergenerational Effects of Paternal Migration on Schooling and Work: What Can We Learn from Children's Time Allocations?" Department of Economics, University of Colorado at Boulder Working Paper No. 08-03.

Arenas, Erika, Hector Conroy, and Jenna Nobles. 2009. "Recent Trends in Internal and International Mexican Migration: Evidence from the Mexican Family Life Survey." California Center for Population Research On-Line Working Paper, CCPR-2008-034.

Ashraf, Nava, Diego Aycinena, Claudia Martinez and Dean Yang. 2009. "Remittances and the Problem of Control: A Field Experiment Among Migrants from El Salvador." Unpublished manuscript.

Duflo, Esther. 2003. "Grandmothers and Granddaughters: Old-Age Pensions and Intrahousehold Allocation in South Africa." *The World Bank Economic Review* 17(1): 1-25.

Gibson, John, David McKenzie, and Steven Stillman. 2009. "The Impacts of International Migration on Remaining Household Members: Omnibus Results from a Migration Lottery Program." IZA Discussion Paper No. 4375.

Hanson, Gordon H. and Christopher Woodruff. 2003. "Emigration and Educational Attainment in Mexico." Mimeo. University of California, San Diego.

Hildebrandt, Nicole and David J. McKenzie. 2005. "The Effects of Migration on Child Health in Mexico." World Bank Policy Research Working Paper No. 3573.

Lundberg, Shelly and Robert A. Pollak. 2007. "The American Family and Family Economics." *The Journal of Economic Perspectives,* 21(2): 3-26.

McKenzie, David and Hillel Rapoport. 2006. "Can Migration Reduce Educational Attainments? Evidence from Mexico." World Bank Policy Research Working Paper No. 3952.

Rubalcava, Luis and Graciela Teruel. 2007. "The Mexican Family Life Survey First Wave." Working paper. http://www.ennvih-mxfls.org/

Rubalcava, Luis and Graciela Teruel. 2007. "User's Guide: Mexican Family Life Survey 2005." Working paper. http://www.ennvih-mxfls.org/

Thomas, Duncan. 1990. "Intra-Household Resource Allocation: An Inferential Approach." *The Journal of Human Resources*, 25(4): 635-664.

Thomas, Duncan. 1994. "Like Father, Like Son; Like Mother, Like Daughter: Parental Resources and Child Height." *The Journal of Human Resources*, 29(4): 950-988.

Wooldridge, Jeffrey M. 2002. *Econometric Analysis of Cross Section and Panel Data.* Cambridge, MA: The MIT Press.

Yang, Dean. 2008. "International Migration, Remittances and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks." *The Economic Journal*, 118(528): 591-630.

Table 1: Descriptive Statistics

	Sample A[1]		Sample B[1]		Sample C[1]	
	Mean	SD	Mean	SD	Mean	SD
Kids' Educational Expenditures	2334	3841			2229	3642
Boys' Educational Exp./Kids' Educational Exp.	0.521	0.408			0.524	0.395
Kids' Clothing Expenditures (Includes Value of Home Production)			502	510	521	509
Boys' Clothing Exp./Kids' Clothing Exp.			0.516	0.413	0.515	0.402
Household Size	5.113	1.884	4.981	1.893	5.189	1.849
Household Income (2002 pesos)[2]	41518	45774	42677	46549	43418	47308
Head's years of education	6.851	4.290	7.186	4.218	7.237	4.246
Head's age	44.006	12.207	41.282	12.810	41.868	11.853
Head's individual income (2002 pesos)[2]	36996	35207	38212	35557	38770	36775
Head male	0.823		0.831		0.836	
Head married	0.846		0.860		0.868	
Second Wave of Survey	0.478		0.470		0.457	
Head: Any recent migration experience	0.019		0.021		0.020	
Head: Currently in US	0.007		0.007		0.006	
Any household member: Any recent migration experience	0.052		0.051		0.048	
Any household member: Currently in US	0.030		0.028		0.028	
Number of Observations	8253		5971		4429	

Notes:

[1]Samples: (A) Excludes missing values on educational expenditures, (B) Excludes missing values on clothing expenditures, (C) Excludes missing values on both clothing and educational expenditures

[2]Migrants' Income would not be counted in Household Income and Head's Income if currently in US

Monetary amounts are conditional on being below the 99th percentile

Number of Observations reflects observations with non-missing values for all variables included in regression

Table 2: Cross-sectional Means by Head's US Migration Experience and Head's Current Location
Sample A: Non-missing Educational Expenditures Data

	(1) No Recent Exper. Not Currently in US	(2) Recent Exper. Not Currently in US	(3) Recent Exper. Currently in US	(4) Diff. (1)&(2)	(5) Diff. (2)&(3)
	Mean	Mean	Mean		
Boys' Education Exp./Kids' Education Exp.	0.52	0.58	0.49	-0.060	0.090
	0.41	0.41	0.38	[0.041]	[0.065]
Kids' Total Educational Expenditures	2345	1772	1774	573.543	-1.953
	3856	3227	2250	[323.958]*	[438.021]
Household Size	5.12	4.85	4.40	0.268	0.449
	1.89	1.85	1.58	[0.184]	[0.278]
Head's years of education	6.85	6.92	6.29	-0.066	0.629
	4.30	4.19	3.38	[0.422]	[0.619]
Head male	0.82	0.89	0.93	-0.070	-0.038
	0.38	0.31	0.26	[0.031]**	[0.046]
Head's age	44.09	39.94	39.40	4.148	0.541
	12.23	11.36	8.17	[1.133]***	[1.574]
Head married	0.85	0.84	0.89	0.003	-0.052
	0.36	0.37	0.31	[0.943]	[0.055]
Number of Observations	8090	102	57		

Standard deviation below mean. Standard error of difference in brackets.

Notes:

Migrant not included in household size calculation in column (3)

Monetary amounts are conditional on being below the 99th percentile

Table 3: Cross-sectional Means by Head's US Migration Experience and Head's Current Location
Sample B: Non-missing Clothing Expenditures Data

	(1) No Recent Exper. Not Currently in US	(2) Recent Exper. Not Currently in US	(3) Recent Exper. Currently in US	(4) Diff. (1)&(2)	(5) Diff. (2)&(3)
	Mean	Mean	Mean		
Boys' Clothing Exp./Kids' Clothing Exp.	0.52	0.61	0.36	-0.099	0.252
	0.41	0.40	0.37	[0.045]**	[0.072]***
Kids' Total Clothing Expenditures	501	522	497	-21.249	25.908
	511	489	521	[54.097]	[96.611]
Household Size	4.99	4.88	4.33	0.107	0.554
	1.90	1.83	1.57	[0.202]	[0.312]*
Head's years of education	7.20	7.17	5.90	0.027	1.264
	4.23	4.18	3.03	[0.462]	[0.656]
Head male	0.83	0.89	0.91	-0.061	-0.015
	0.38	0.31	0.29	[0.035]*	[0.056]
Head's age	41.34	38.76	37.83	2.583	0.926
	12.83	12.52	8.76	[1.384]*	[1.927]
Head married	0.86	0.87	0.93	-0.008	-0.063
	0.35	0.34	0.26	[0.038]	[0.054]
Number of Observations	5845	83	43		

Standard deviation below mean. Standard error of difference in brackets.

Notes:

Migrant not included in household size calculation in column (3)

Monetary amounts are conditional on being below the 99th percentile

Table 4: Cross-sectional Means by Head's US Migration Experience and Head's Current Location
Sample C: Non-missing Educational & Clothing Expenditures Data

	(1) No Recent Exper. Not Currently in US	(2) Recent Exper. Not Currently in US	(3) Recent Exper. Currently in US	(4) Diff. (1)&(2)	(5) Diff. (2)&(3)
	Mean	Mean	Mean		
Boys' Education Exp./Kids' Education Exp.	0.52	0.59	0.43	-0.070	0.164
	0.40	0.41	0.37	[0.054]	[0.088]*
Kids' Total Educational Expenditures	2240	2024	940	216.385	1083.407
	3651	3725	784	[488.159]	[507.106]**
Boys' Clothing Exp./Kids' Clothing Exp.	0.51	0.65	0.36	-0.140	0.290
	0.40	0.35	0.34	[0.046]***	[0.079]***
Kids' Total Clothing Expenditures	519.76	568.38	568.35	-48.617	0.022
	508.08	522.70	604.77	[68.490]	[134.822]
Household Size	5.20	5.03	4.43	0.162	0.605
	1.85	1.89	1.62	[0.248]	[0.393]
Head's years of education	7.25	6.75	6.19	0.505	0.561
	4.25	4.13	3.22	[0.541]	[0.820]
Head male	0.83	0.90	0.96	-0.064	-0.066
	0.37	0.30	0.19	[0.115]	[0.053]
Head's age	41.93	39.34	38.22	2.586	1.117
	11.87	11.44	8.74	[1.501]*	[2.247]
Head married	0.87	0.90	0.96	-0.031	-0.066
	0.34	0.30	0.19	[0.040]	[0.053]
Number of Observations	4342	59	28		

Standard deviation below mean. Standard error of difference in brackets.
Notes:
Migrant not included in household size calculation in column (3)
Monetary amounts are conditional on being below the 99th percentile

Table 5: Head's Migration and Gender Discrimination Cross-Sectional Regressions

Panel A: Dependent Var: Boys' Educational Expenditure as Fraction of Kid's Educational Expenditures

	(1)	(2)
Head: Any Recent Migration Experience	0.048	0.058
	[0.035]	[0.041]
Head: Currently in US	-0.059	-0.079
	[0.051]	[0.069]
Controls for Boy-Girl Composition by Age Group	YES	YES
Household Size	YES	YES
Sample[1]	A	C
Observations	8253	4429

Panel B: Dependent Var: Boys' Clothing Expenditures as Fraction of Kids' Clothing Expenditures[a]

	(1)	(2)
Head: Any Recent Migration Experience	0.082	0.12
	[0.032]**	[0.033]***
Head: Currently in US	-0.168	-0.205
	[0.056]***	[0.065]***
Controls for Boy-Girl Composition by Age Group	YES	YES
Household Size	YES	YES
Sample[1]	B	C
Observations	5971	4429

Robust standard errors, clustered at household level in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

[a]Includes value of home production, if any, in numerator and denominator

[1]Samples: (A) Excludes missing values on educational expenditures, (B) Excludes missing values on clothing expenditures, (C) Excludes missing values on both clothing and educational expenditures

Table 6: Head's Migration and Gender Discrimination, Household-Level Panel Regressions

Panel A: Dependent Var: Boys' Educational Expenditure as Fraction of Kid's Educational Expenditures

	(1)	(3)
Head: Any Recent Migration Experience	0.13	0.168
	[0.045]***	[0.075]**
Head: Currently in US	-0.157	-0.253
	[0.079]**	[0.127]**
Controls for Boy-Girl Composition by Age Group	YES	YES
Household Size	YES	YES
Regression in Household First-Differences	YES	YES
Sample[1]	A	C
Observations	2814	1001

Panel B: Dependent Var: Boys' Clothing Expenditures as Fraction of Kids' Clothing Expenditures[a]

	(1)	(3)
Head: Any Recent Migration Experience	0.052	0.264
	[0.066]	[0.096]***
Head: Currently in US	-0.177	-0.403
	[0.096]*	[0.121]***
Controls for Boy-Girl Composition by Age Group	YES	YES
Household Size	YES	YES
Regression in Household First-Differences	YES	YES
Sample[1]	B	C
Observations	1477	1001

Robust standard errors, clustered at household level in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

[a]Includes value of home production, if any, in numerator and denominator

[1]Samples: (A) Excludes missing values on educational expenditures, (B) Excludes missing values on clothing expenditures, (C) Excludes missing values on both clothing and educational expenditures

Table 7: Household Decision-Making (Reported by Head) and Recent Migration

Panel A: Household Head Alone Makes Decision Regarding Children's Education

	(1)	(2)
	Boys' Edu. Exp. Ratio	Head Makes Decision
Head: Any Recent Migration Experience	0.058	0.155
	[0.060]	[0.096]
Controls for Boy-Girl Composition by Age Group	YES	YES
Household Size	YES	YES
Regression in Household First-Differences	YES	YES
Sample[1]	D	D
Observations	570	570

Panel B: Household Head Alone Makes Decision Regarding Children's Clothes

	(1)	(2)
	Boys' Clothing Exp. Ratio	Head Makes Decision
Head: Any Recent Migration Experience	0.214	0.161
	[0.112]*	[0.095]*
Controls for Boy-Girl Composition by Age Group	YES	YES
Household Size	YES	YES
Regression in Household First-Differences	YES	YES
Sample[1]	D	D
Observations	570	570

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

[1]Sample D: Non-missing observations on children's clothing, education, and household decisions on those expenditures