THE CONSEQUENCES OF FEMALE MIGRATION IN CHILD DEVELOPMENT IN RURAL EL SALVADOR

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MOTIVATION

-Impact of male and female migration in child development outcomes (education, labor).

- Female migration has equalized male migration (50 – 50 %). Similar patterns in Latin America and the Caribbean (LAC).

- Cost and benefits from migration differ by gender of the migrant and gender of family members left behind.

- Use of a unique rural panel for El Salvador, country with a 16% international migrant population (80% to the US).

PREVIOUS LITERATURE ON THE IMPACT OF FEMALE MIGRATION

- De la Briere *et al.* (2002). Female migrants in the US send home more remittances than male migrants.

- Pfeiffer and Taylor (2007). Positive relationships between female migration and households' crop and livestock production. Negative relationships with respect to male migration.

- Guzman *et al.* (2007) and Pfeiffer and Taylor (2007). Female migration reduces household expenditure on education and food.

- Ehrenreich and Hochschild (2003). Migrant women exercise limited control over household expenditures allocation.

MAIN RESULTS

- Female migration seems to reduce child labor, both in domestic and non-domestic activities, while male migration seems to stimulate it, in particular in terms of domestic labor.

- While male migration has null or slightly positive impact in terms of school enrollment rates, female migration apparently reduces the likelihood that a particular child stays at school.

- Some of these results differ according to the gender of the child.

- While the evidence does not support the claim that female migrants tend to remit more than males, results seem to corroborate the existence of child-adult male labor substitution, as well as female migrants' lack of monitoring ability of funds remitted.

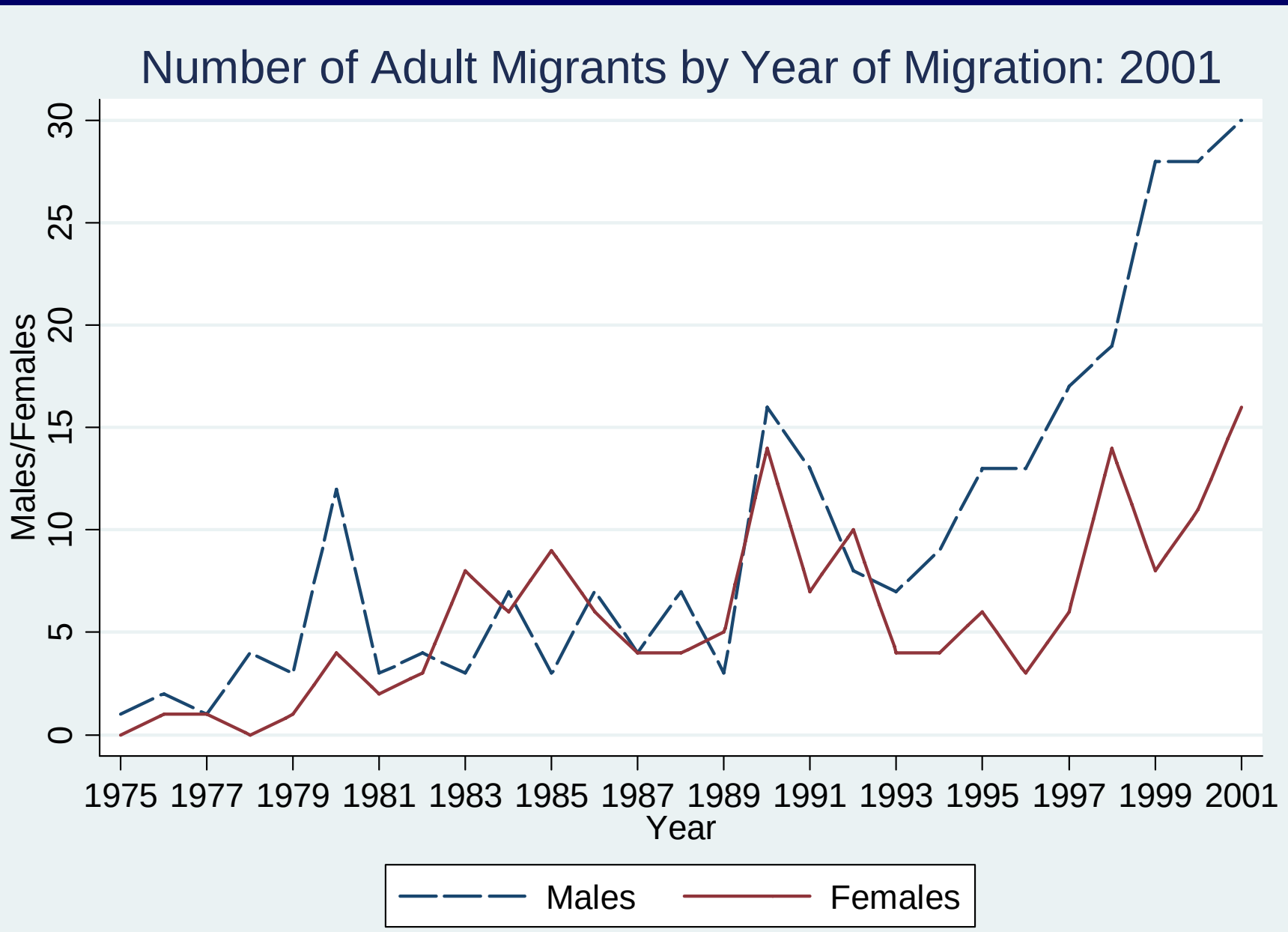
DATA

- BASIS (FUSADES and Ohio State University) unbalance rural panel: 936 surveyed households in 1995, 1997, 1999, 2001 (451 surveyed in all four years).

- Sharp increase in international migration trends in the last ten years, in particular for males.

- Male migration flows have doubled in 2001 compared to 1996.

- While female migration has also increased in this period, it is much more erratic compared to the steadily increase in male migration.


Number of Adult Migrants by Year of Migration: 2001
Males/Females
0
5
10
15
20
25
30
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
Year
Males
Females

DESCRIPTIVE STATISTICS (2001)

Migration Status	No HH Migration	Only Male Migrants	Only Female Migrants	Both Male and Female Migrants	All
Child Attend School (%)	0.737	0.799	0.782	0.803	0.755
Child Non-Domestic Work (%)	0.357	0.309	0.255	0.255	0.336
Child Domestic Work (%)	0.239	0.284	0.382	0.236	0.250
Observations	1059	204	55	157	1475
% Total Observations	71.8	13.8	3.7	10.6	100.0

METHODOLOGY

- Regressions for child school attendance, child domestic labor, and child non-domestic labor.

- Controls: individual characteristics (gender, age, birth order), household level covariates (presence of a 0-5 year old child, number of children, males, and females, average household education), and household fixed effects.

- The variable of interest is whether the child is exposed to a family member migration experience (distinguishing female from male migration).

- While the full sample group is comprised by children between 6 and 18 years old, results are also presented for different age subgroups.

CAVEATS

- A traditional problem is that unobserved household characteristics may be correlated with both the outcome of interest and the likelihood of migration.

- Similarly, since migrant families are certainly not randomly selected among a particular community, selection issues can also pose identification problems.

- Household fixed effects can allow controlling for the propensity that families have towards migration, as well as for any time-invariant characteristics.

- Still remains a challenge to account for time-varying unobserved characteristics, such as the exposure to negative income shocks. In the absence of reliable instruments, results should not be given an undisputed causal interpretation.

CHILD SCHOOLING

Dependent Variable	Child Attend School							
Age Group	6-18 Years Old				6-11 Years Old		12-18 Years Old	
Model	OLS		HH Fixed Effects		HH Fixed Effects		HH Fixed Effects	
Migrant HH	0.044***		0.027		-0.013		0.056*	
	(0.015)		(0.022)		(0.028)		(0.032)	
Female Migrant HH		-0.017		0.003		-0.086**		0.067
		(0.022)		(0.030)		(0.038)		(0.042)
Male Migrant HH		0.059***		0.017		0.005		0.029
		(0.017)		(0.024)		(0.030)		(0.035)
Observations	4373	4373	4373	4373	2070	2070	2303	2303
Mean Dependent Variable	0.718	0.718	0.718	0.718	0.835	0.835	0.614	0.614

CHILD NON-DOMESTIC LABOR

Dependent Variable	Child Non-Domestic Labor							
Age Group	6-18 Years Old				6-11 Years Old		12-18 Years Old	
Model	OLS		HH Fixed Effects		HH Fixed Effects		HH Fixed Effects	
Migrant HH	-0.040***		-0.044*		-0.035		-0.064*	
	(0.014)		(0.023)		(0.027)		(0.036)	
Female Migrant HH		-0.092***		-0.088***		-0.076**		-0.134***
		(0.021)		(0.030)		(0.037)		(0.048)
Male Migrant HH		0.003		-0.006		0.006		-0.023
		(0.016)		(0.025)		(0.029)		(0.039)
Observations	4373	4373	4373	4373	2070	2070	2303	2303
Mean Dependent Variable	0.329	0.329	0.329	0.329	0.131	0.131	0.507	0.507

CHILD DOMESTIC LABOR

Dependent Variable	Child Domestic Labor							
Age Group	6-18 Years Old				6-11 Years Old		12-18 Years Old	
Model	OLS		HH Fixed Effects		HH Fixed Effects		HH Fixed Effects	
Migrant HH	0.027*		0.079***		0.068*		0.096***	
	(0.016)		(0.026)		(0.037)		(0.036)	
Female Migrant HH		0.018		-0.011		-0.109**		0.068
		(0.023)		(0.034)		(0.051)		(0.048)
Male Migrant HH		0.001		0.084***		0.096**		0.081**
		(0.018)		(0.028)		(0.040)		(0.048)
Observations	4373	4373	4373	4373	2070	2070	2303	2303
Mean Dependent Variable	0.391	0.319	0.319	0.319	0.293	0.293	0.343	0.343

DIFFERENCES BY CHILD GENDER

Age Group	6-18 Years Old		6-11 Years Old		12-18 Years Old	
Gender	Boys	Girls	Boys	Girls	Boys	Girls
Attend School						
Female Migrant HH	0.011	-0.011	-0.056	-0.080	0.091	0.035
	(0.046)	(0.040)	(0.060)	(0.053)	(0.065)	(0.057)
Male Migrant HH	0.058	-0.013	-0.009	0.007	0.099*	-0.008
	(0.037)	(0.033)	(0.045)	(0.043)	(0.056)	(0.045)
Non-Domestic Labor						
Female Migrant HH	-0.106**	-0.060	-0.112*	-0.041	-0.185**	-0.118*
	(0.047)	(0.040)	(0.064)	(0.046)	(0.073)	(0.068)
Male Migrant HH	-0.003	0.000	-0.013	0.025	-0.023	-0.020
	(0.038)	(0.033)	(0.048)	(0.038)	(0.063)	(0.054)
Domestic Labor						
Female Migrant HH	0.004	-0.048	-0.025	-0.154**	0,087	0.077
	(0.047)	(0.051)	(0.075)	(0.077)	(0.063)	(0.074)
Male Migrant HH	0.111***	0.053	0.123**	0.032	0.089*	0.091
	(0.038)	(0.042)	(0.056)	(0.063)	(0.054)	(0.059)

DETERMINANTS OF MIGRANT REMISSION

Dependent Variable	Remitt		Amount Remitted (USD per year)	
Model	OLS	HH Fixed Effects	OLS	HH Fixed Effects
Female	-0.003	0.023	-48.259	-39.949
	(0.029)	(0.033)	(63.037)	(60.988)
Age	0.000	0.002	-7.223**	4.340
	(0.002)	(0.002)	(3.306)	(3.770)
Years of Education	0.007*	0.016***	-0.075	5.947
	(0.004)	(0.005)	(8.262)	(10.078)
Head/Spouse of Head	0.434***	0.284**	1611.222***	884.484***
	(0.066)	(0.112)	(145.807)	(205.082)
Son/Daughter of Head	0.280***	0.159**	520.037***	153.680
	(0.037)	(0.073)	(81.662)	(133.672)
Brother/Sister of Head	0.007	0.004	147.600	-497.156***
	(0.045)	(0.090)	(100.233)	(166.051)
Migrate to US/Canada	0.295***	0.355***	227.744	50.754
	(0.072)	(0.129)	(158.510)	(237.802)
Presence of 0-5 year old child	0.028	0.011	-113.755	-67.541
	(0.041)	(0.147)	(90.621)	(270.676)
Number of 0-9 year old children	-0.010	0.038	40.773	-53.200
	(0.013)	(0.060)	(29.452)	(110.486)
Number of 20-59 year old males	-0.010	-0.123	81.474**	-197.896
	(0.018)	(0.074)	(40.774)	(136.213)
Number of 20-59 year old females	-0.010	-0.061	-33.216	-469.969***
	(0.019)	(0.084)	(42.364)	(153.772)
Average HH Education	0.001	0.042**	31.279***	72.110*
	(0.005)	(0.021)	(9.972)	(38.642)
Observations	1041	1041	1041	1041

POSSIBLE INTERPRETATIONS (I)

- Results cannot be interpreted by gender differences in the propensity to remit.

- Since males are more likely to be employed in labor activities than females, male migration would imply that families have to use child labor to replace foregone male labor force in rural areas with limited labor force availability.

- This child labor stimulating effect could be compensated with additional income in the form of male migrant remittances, which can prevent such use of child labor (income effect).

- This phenomenon could explain the null impact of male migration on non-domestic labor activities for children.

POSSIBLE INTERPRETATIONS (II)

- In contrast, female migration would only entail the labor reducing effect of remittances sent back home, without the need to sacrifice children's time, since many females were not employed in labor activities in the first place.

- With respect to children education, females who migrate, even though they may send remittances back home with educational purposes, may loose their ability to monitor household's human capital investments. In contrast, such effect does not seem to hold upon male migration.

- The null/negative impact of migration on child schooling may reflect lower returns to skill vs. returns to migration. Since most Salvadoran migrants end up in low skill jobs, they may be sending a signal to future generations that investing in schooling is not necessarily the best allocation of their time.