

The Effects of Primary Male Migration on Women Empowerment

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Motivation

- The physical absence of a household member changes the family dynamics among members left-behind.
- In the absence of the primary male member, the primary female member faces an expansion in responsibilities and decision-making authority.
- **This paper will empirically analyze the effects of the primary male member's absence on the empowerment status of the left-behind primary female member.**

Defining Empowerment

- “The expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them“
 - Kabeer (2001)
- Resources
- Agency
- Achievements

Measuring Empowerment

- Bangladesh Integrated Household Survey (BIHS 2011-2012) consists of a sample of 6500 households in 325 primary sampling units (PSU)
- Women Empowerment in Agriculture Index (WEAI)
- Alkire et al (2013) and Sraboni et al (2014)

- Mobility: Kishor (1993), Hashemi et al (1996) and Jejeebhoy (2000)
- Self-esteem and psychological well-being, freedom from domestic violence: Kishor (1993) and Malhotra et al (2002)

Empowerment Indicators

Category 1: Ownership and control of resources

- Ownership of major assets, minor assets
- Ownership of minor assets
- Control over minor household expenditure
- Access to and decision about credit

Category 2: Bargaining, negotiating and decision-making ability

- Productive Empowerment
- Decision making authority regarding own wage or salary employment
- Control over important decisions that can change the course of your life
- Decisions regarding tasks to be performed in any particular day
- Decisions regarding use of birth control

Category 3: Exercising freedom and independence

- Comfortable speaking in public
- Satisfaction with time for leisure activities
- Satisfaction with distribution of work in household
- Satisfaction with maintaining contact with friends and relatives
- Satisfaction with mobility outside of the village
- Satisfaction with overall life
- Autonomy in mobility
- Subject to domestic violence

Literature Review

- Lokshin & Glinskaya (2005) found that male migration has negative effects on labor market participation by women in migrant-sending households in Nepal.
- Sinha, Jha and Negi (2012) found that out-migration of men did not have any significant impact on women's empowerment status in India.

Theory of migration

- The decision to migrate is non-random.
- Labor market wage differential model by Ranis and Fei (1961)
- Harris and Todaro (1969) and Todaro (1970)
- The New Economic Model of Labor Migration extends the individual wage differential model through the incorporation of family decision-making parameters.
- Socio-economic effect and Proximity effect (Kuhn, 2006)

Propensity Score Matching

- PSM enables us to examine the effects of a treatment on a particular outcome by inspecting those who have received the treatment after accounting for the effects of non-random selection (Ravallion, 2008).
- Average Treatment Effects on the Treated (ATT) shows us the difference in empowerment status between those women in migrant households and those in non-migrant households with the same probability of being in a migrant household.

Propensity Score Matching

PSM Model I

- In-laws: dummy variable for primary female's mother &/or father in-law being present in the household
- Homestead land: dummy variable for ownership of homestead property
- Productive land: dummy variable for ownership of any productive land
- District distance: distance of each district from Dhaka city
- Cellphone: dummy variable for household's ownership of at least one cellphone
- Drink: dummy variable for source of drinking water not being the same as source of water for other purposes

Propensity Score Matching

PSM Model II

- Average migration per district in 2010 (computed from HIES 2010)
- In-laws: dummy variable for primary female's mother &/or father in-law being present in the household
- Household size: number of household members
- Cellphone: dummy variable for household's ownership of at least one cellphone
- Drink: dummy variable for source of drinking water not being the same as source of water for other purposes
- Trader: dummy variable for the household head is a medium/large trader by occupation
- Farmer: dummy variable for household head is a farmer by occupation

Propensity Score Matching

PSM Model III

- Per capita home size: per capita size of owned homestead property (in decimals)
- Per capita productive land size: per capita size of owned productive land (in decimals)
- Age of household head
- Squared age of household head
- Electricity: dummy variable for household's access to electricity
- Cellphone: dummy variable for household's ownership of at least one cellphone
- Drink: dummy variable for source of drinking water not being the same as source of water for other purposes.

Descriptive Statistics

	Migrant Households		Non-Migrant Households		
	n = 558		n = 4323		
Empowerment Indicators	Mean	Standard Deviation	Mean	Standard Deviation	χ^2 test p-value
Ownership of Major Assets	0.771	0.421	0.495	0.500	0.000
Ownership of Minor Assets	0.790	0.407	0.724	0.447	0.001
Control over minor household expenditure	0.832	0.375	0.573	0.495	0.000
Productive Empowerment	0.410	0.492	0.413	0.492	0.910
Use of family planning to space/limit births	0.703	0.458	0.647	0.478	0.010
Maintaining contacts with friends and relatives	0.909	0.288	0.884	0.320	0.083
Satisfaction with overall life	0.939	0.240	0.918	0.275	0.079
Freedom of mobility	0.774	0.418	0.454	0.498	0.000
Subject to domestic violence, abuse and threats	0.165	0.371	0.293	0.455	0.000

Descriptive Statistics

	Migrant Households		Non-Migrant Households		
	n = 558		n = 4323		
PSM Covariates	Mean	Standard Deviation	Mean	Standard Deviation	χ^2 test p-value
Dummy for primary female's mother/father in-law present	0.179	0.415	0.149	0.405	0.008
Dummy for drinking source being different from other sources	0.409	0.492	0.274	0.446	0.000
Dummy for access to electricity	0.595	0.491	0.468	0.499	0.000
Dummy for ownership of cellphone	0.796	0.404	0.731	0.443	0.001
Dummy variable for household head's occupation is trader	0.005	0.073	0.071	0.257	0.000
Dummy variable for household head's occupation is farmer	0.039	0.195	0.384	0.486	0.000
					t test p-value
Household size	3.503	1.216	4.434	1.615	0.000
Age of household head	33.045	8.585	45.108	13.816	0.000
Per capita size of homesteads owned (decimals)	1.899	3.037	2.020	3.490	0.433
Per capita size of productive plots/waterbodies owned (decimals)	6.946	17.507	10.416	26.970	0.003
Average migration by district	0.096	0.051	0.075	0.053	0.000
Distance from district to Dhaka	165.441	84.498	182.772	87.784	0.000
Per capita annual household expenditure quintiles	3.439	1.440	2.924	1.391	0.000

PSM Model I

Indicators	Nearest Neighbor Matching			Kernel Density Matching		
	treat. obs.= 558; cont. obs. = 2082			treat. obs.= 558; cont. obs. = 4317		
	ATT	t	st. err	ATT	t	st. err
Category 1: Ownership and control over resources						
Ownership of major assets	0.227**	9.177	0.025	0.277**	12.366	0.022
Ownership of minor assets	0.039	1.706	0.023	0.063**	3.744	0.017
Minor household expenditure	0.286**	12.318	0.023	0.263**	19.569	0.013
Category 2: Bargaining, negotiating and decision-making ability						
Productive Empowerment	0.044	1.668	0.027	0.006	0.284	0.019
Use of birth control	0.045	1.767	0.025	0.057**	3.345	0.017
Category 3: Exercising freedom and independence						
Maintaining contacts	0.024	1.488	0.016	0.026	1.956	0.013
Satisfaction with overall life	0.036**	2.598	0.014	0.023*	1.979	0.012
Autonomy in mobility	0.261**	10.616	0.025	0.317**	15.763	0.02
Subject to domestic violence	(-0.147)**	-6.585	0.022	(-0.131)**	-8.525	0.015

*statistically significant at 5%

**statistically significant at 1%

ATT: Average treatment effects on the treated

treat obs. and cont. obs refers to the number of treatment households matched with control households

PSM Model II

	Nearest Neighbor Matching			Kernel Density Matching		
	treat. obs.= 558; cont. obs. = 956			treat. obs.= 558; cont. obs. = 4129		
Indicators	ATT	t	st. err	ATT	t	st. err
Category 1: Ownership and control over resources						
Ownership of major assets	0.258**	8.465	0.03	0.271**	12.572	0.022
Ownership of minor assets	0.055	1.938	0.028	0.074**	3.685	0.02
Minor household expenditure	0.287**	9.8	0.029	0.274**	15.13	0.018
Category 2: Bargaining, negotiating and decision-making ability						
Productive Empowerment	0.115**	3.681	0.031	0.069	2.95	0.024
Use of birth control	0.105**	3.407	0.031	0.084**	3.025	0.028
Category 3: Exercising freedom and independence						
Maintaining contacts	0.025	1.211	0.021	0.041	2.772	0.015
Satisfaction with overall life	0.055**	3.147	0.017	0.035**	3.159	0.011
Autonomy in mobility	0.273**	8.98	0.03	0.302**	15.914	0.019
Subject to domestic violence	(-0.103)**	-3.79	0.027	(-0.108)**	-5.659	0.019

*statistically significant at 5%

**statistically significant at 1%

ATT: Average treatment effects on the treated

treat obs. and cont. obs refers to the number of treatment households matched with control households

PSM Model III

	Nearest Neighbor Matching			Kernel Density Matching		
	treat. obs.= 558; cont. obs. = 888			treat. obs.= 558; cont. obs. = 4076		
Indicators	ATT	t	st. err	ATT	t	st. err
Category 1: Ownership and control over resources						
Ownership of major assets	0.3**	10.046	0.03	0.272**	16.506	0.016
Ownership of minor assets	0.091**	3.258	0.028	0.073**	4.559	0.016
Minor household expenditure	0.309**	10.803	0.029	0.269**	13.897	0.019
Category 2: Bargaining, negotiating and decision-making ability						
Productive Empowerment	0.029	0.922	0.031	0.02	0.973	0.021
Use of birth control	0.039	1.303	0.03	0.039	1.74	0.022
Category 3: Exercising freedom and independence						
Maintaining contacts	-0.001	-0.069	0.019	0.016	1.21	0.013
Satisfaction with overall life	0.017	0.997	0.017	0.015	1.298	0.011
Autonomy in mobility	0.323**	10.848	0.03	0.315**	15.979	0.02
Subject to domestic violence	(-0.161)**	-5.905	0.027	(-0.167)**	-9.257	0.018

*statistically significant at 5%

**statistically significant at 1%

ATT: Average treatment effects on the treated

treat obs. and cont. obs refers to the number of treatment households matched with control households

Instrumental Variable Regressions

- PSM cannot capture the effects of unobserved factors that may affect the decision of migration.
- Possible endogeneity bias may arise from correlation of migration with unobserved determinants of women's empowerment status.
- “IV techniques can overcome both this potential endogeneity problem and the selection bias...” – Acosta (2011)
- Instrument migration using average migration per district in 2010 (HIES, 2010)

- Four estimation methods: (i) Maximum likelihood estimation using probit; (ii) Instrumental variable (IV) linear probability model (LPM); (iii) IV probit; (iv) Special regressor based estimation (Lewbel, 2000)

Regression Covariates

- Binary indicator for migration (instrumented by average migration per district)
- Age of household head
- Age of household head squared
- Maximum education attainment in the household (years)
- Household size
- Per capita household expenditure quintiles
- Per capita measure of logarithm of owned homestead property size
- Per capita measure of logarithm of owned productive land / water body size
- Weight of primary female (kg)
- Height of primary female (cm)
- Number of primary female's parent-in-laws present
- Binary indicator for pregnant primary female
- Binary indicator for lactating primary female
- Binary indicator for household head being a medium/large trader
- Binary indicator for household head being a farmer
- Binary indicator for household's access to electricity
- Binary indicator for source of drinking water being different from source for other uses
- Binary indicator for household's source of cooking fuel not being dung/rice bran/ leaves
- Binary indicator for household's ownership of at least one cellphone

Predicted probabilities / Marginal effects of migration on empowerment indicators				
	[1]	[2]	[3]	[4]
	Probit	IV LPM	IV Probit	Special Regressor
Empowerment Indicators	(robust standard errors in parentheses)			(p-value in parentheses)
Ownership of major assets	0.7556*** (0.0702)	0.9739** (0.4568)	2.3857*** (0.8133)	0.1876** (0.031)
Ownership of minor assets	0.2344*** (0.0719)	0.9628* (0.5338)	2.3908*** (0.9040)	0.0477* (0.086)
Control over minor household expenditures	0.8067*** (0.0729)	0.7062* (0.4190)	1.8624** (0.9394)	0.1039** (0.044)
Productive Empowerment	0.2098*** (0.0651)	-0.5583 (0.5469)	-1.3715 (1.1630)	-0.0191 (0.249)
Use of birth control	0.1013 (0.0670)	0.2943 (0.3369)	0.8190 (0.8913)	0.0307 (0.348)
Maintaining contacts	0.1056 (0.0889)	0.5119* (0.2725)	2.3887*** (0.8499)	0.0137 (0.310)
Satisfaction with overall life	0.1167 (0.1029)	0.1257 (0.1957)		-0.0076 (0.716)
Autonomy in mobility	0.7509*** (0.0693)	0.8779 (0.6106)	2.1669* (1.1479)	0.1707** (0.045)
Subject to domestic violence	-0.4751*** (0.0747)	-2.0570*** (0.5649)	-3.6512*** (0.2382)	-0.1235*** (0.000)
* significant at 10% Kleibergen-Paap rk Wald F statistic = 16.869				
** significant at 5% Stock-Yogo weak ID test critical values: 10% maximal IV size = 16.38				
*** significant at 1%				
IV LPM & IV Probit standard errors are adjusted for clustering on a village level				

Results & Discussion

- Statistically significant, positive effects on predicted probabilities for
 1. Ownership of major assets
 2. Ownership of minor assets
 3. Control over minor household expenditures
 4. Autonomy in mobility
- Statistically significant, negative effects on predicted probabilities for
 1. Subject to domestic abuse, threats and violence

Conclusion

- Reduced male authority enables women to become more empowered and potentially become self-sufficient.
- Policy level measures should be taken to nurture this source of untapped potential and encourage women leadership.