

Who Leaves, Who Moves In? The Impact of Positive and Negative Income Shocks on Migration in Senegal

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11 September 2009

Introduction

Is migration a coping mechanism or an investment? Does the response depend on who migrates? Where Migration is defined in the traditional way of individuals leaving their household but also viewed as individuals migrating to join new households.

This is important to

- ▶ inform the motivation to migrate
- ▶ inform the welfare impacts for recipients of public transfers if, similarly to transitory shocks, they attract new household members not targeted initially

Using a New Survey in Senegal

The paper examines the impact of positive and negative shocks to household income on departures from and arrivals in the household. I disaggregate the impact of shocks across urban status, age and sex. I complement the study of migration with a study of transfers to compare *exchanges* of money with *exchanges* of people.

The PSF sample is nationally representative of Senegal and targeted 1,800 households. The survey was conducted between November 2006 and March 2007 specifically to study changes in household structure.

One problem : under-estimation of departures. I will take this into account in the estimation.

Results

The impact of shocks is very heterogenous

- ▶ Positive shocks attract adult males in urban areas and adult females and young girls in rural areas
- ▶ Negative shocks only decrease entries of males : boys in urban areas and adults in rural areas
- ▶ Departures are not responsive to positive shocks. Prime-age adults and adults leave after negative shocks
- ▶ Only males see an increase in receipt of transfers after negative shocks

Positive and Negative Shocks Mentioned by the Households

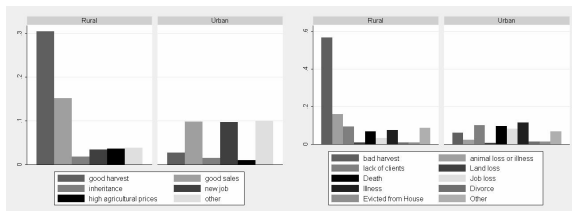


FIG.: Positive and Negative Income Shocks, per habitat type

“Over the past 5 years, did you experience *particularly* good (bad) years” ? If yes, why ?

Motivations to Migrate Mentioned by Individual

	Age 0 to 14		Age 15 to 24				Age 25 to 54	
	Male	Female	Male	Female	Rural	Urban	Male	Female
Move with a relation	24.64	25.77	0.00	1.70	1.27	1.00	1.08	1.20
Fostering	23.91	28.83	12.10	3.83	3.80	8.96	1.08	0.60
Education	8.70	9.20	29.84	10.64	6.96	25.37	2.70	3.01
Difficult situation in origin household	15.22	7.36	5.65	2.98	1.90	5.47	3.24	10.24
Marriage	0.00	0.61	0.00	17.02	16.46	6.97	1.62	19.88
Join Spouse's households	2.17	1.23	0.00	33.19	37.97	8.96	0.54	29.52
Divorce	0.72	0.00	0.81	1.28	1.27	1.00	0.54	6.02
Job search	2.17	0.00	16.13	6.38	4.43	13.93	21.62	3.01
Job found	0.72	0.61	8.06	4.68	3.16	7.96	22.16	0.60
Back in origin household	10.87	9.20	15.32	8.09	12.66	8.96	20.54	7.83
Creation of the household	1.45	1.84	1.61	0.85	0.63	1.49	7.57	3.01
N Obs	138	163	124	235	158	201	185	166

NOTES - 911 new household members who migrated over the 5 years before the survey, out of 14039 current members of households created before 2003. Separate figures for the urban and rural sector are displayed only for the 15-24 year-olds because they are close for children, except for education motives, and similar for the 25-54 year-olds.

TAB.: Motivations for Movements of New Household Members, %

Migration and Income Shocks

- ▶ In the face of negative shocks : Movements mentioned as often as transfers from the family
- ▶ Permanent movements after income shocks are mentioned equally often by urban and rural households
- ▶ Relatively more movements after positive shocks than after negative shocks

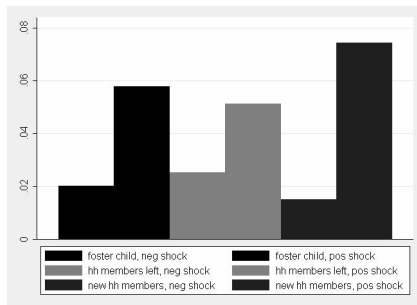


FIG.: Fostering, Departures and Entries After Negative and Positive Shocks

Estimation

Impact of shocks on entries in and departures from the household :

$$Move^{k,05/06*}_i = \beta^k_{i1} PositiveShock^{04/05}_h + \beta^k_{i2} NegativeShock^{04/05}_h + \beta^k_{i3} X_i + \beta^k_{i4} X_h + \epsilon_i$$

where k denotes either an arrival or a departure.

$$Move^{k,05/06}_i = 1 \text{ if } Move^{k,05/06*}_i \geq 0$$

$$Move^{k,05/06}_i = 0 \text{ if } Move^{k,05/06*}_i < 0$$

(probit model - robustness checks with region dummies and controls for all the shocks between 2002 and 2006)

Impact of Shocks on Arrivals

	All	Males	Females	Males	Females
	(1)	(2)	(3)	(4)	(5)
<i>PosShock</i> _{04/05}	0.171 (0.121)	0.052 (0.234)	0.663 (0.168)***	0.189 (0.223)	0.711 (0.174)***
<i>NegShock</i> _{04/05}	-.098 (0.105)	0.105 (0.185)	-.162 (0.17)	0.155 (0.19)	-.229 (0.162)
<i>PosShock</i> _{04/05} * <i>Urban</i>	-.113 (0.17)	0.137 (0.368)	-.930 (0.341)***	0.005 (0.385)	-.912 (0.362)**
<i>NegShock</i> _{04/05} * <i>Urban</i>	-.037 (0.146)	-.515 (0.276)*	0.133 (0.29)	-.573 (0.277)**	0.132 (0.292)
<i>PosShock</i> _{04/05} * <i>Age1524</i> ₀₃		-.243 (0.368)	-.892 (0.231)***	-.376 (0.389)	-.881 (0.235)***
<i>NegShock</i> _{04/05} * <i>Age1524</i> ₀₃		-.513 (0.316)	0.139 (0.24)	-.699 (0.335)**	0.14 (0.24)
<i>PosShock</i> _{04/05} * <i>Age1524</i> ₀₃ * <i>Urban</i>		-.475 (0.564)	1.149 (0.42)***	-.381 (0.581)	1.111 (0.448)**
<i>NegShock</i> _{04/05} * <i>Age1524</i> ₀₃ * <i>Urban</i>		0.908 (0.445)**	-.042 (0.402)	1.047 (0.461)**	-.028 (0.409)
<i>PosShock</i> _{04/05} * <i>Age2554</i> ₀₃		-.184 (0.262)	-.287 (0.226)	-.281 (0.281)	-.254 (0.244)
<i>NegShock</i> _{04/05} * <i>Age2554</i> ₀₃		-.215 (0.244)	0.043 (0.231)	-.349 (0.274)	0.039 (0.233)
<i>PosShock</i> _{04/05} * <i>Age2554</i> ₀₃ * <i>Urban</i>		0.632 (0.437)	0.603 (0.563)	0.796 (0.467)*	0.699 (0.587)
<i>NegShock</i> _{04/05} * <i>Age2554</i> ₀₃ * <i>Urban</i>		0.406 (0.454)	0.042 (0.403)	0.435 (0.48)	0.119 (0.404)

Impact of Shocks on Departures (1)

	All	Children Older than 25 of HH Head					
	(1)	(2)	(3)	(4)	Males (5)	Males (6)	Males (7)
<i>PosShock</i> _{04/05}	-0.030 (0.097)	0.255 (0.289)	0.005 (0.242)	0.277 (0.385)	0.475 (0.415)	-0.095 (0.369)	0.104 (0.44)
<i>NegShock</i> _{04/05}	0.083 (0.08)	0.511 (0.284)*	0.326 (0.236)	0.418 (0.368)	0.444 (0.437)	-0.114 (0.386)	-0.598 (0.407)
<i>PosShock</i> _{04/05} * <i>Urban</i>				-0.036 (0.49)	-0.199 (0.656)	-0.028 (0.576)	-0.122 (0.816)
<i>NegShock</i> _{04/05} * <i>Urban</i>				0.276 (0.439)	0.814 (0.545)	0.947 (0.458)**	1.254 (0.507)**
<i>Female</i>	-0.175 (0.06)***	-0.049 (0.195)	-0.240 (0.193)	-0.049 (0.194)			
Regions FE	NO	NO	NO	NO	NO	NO	YES
Controls for HH Size	YES	YES	NO	YES	NO	YES	YES
N. Obs.	10023	720	853	720	445	522	309
χ^2 -stat.	81.409	33.217	23.576	32.441	56.706	23.25	38.712
Pseudo-R ²	0.04	0.133	0.073	0.132	0.2	0.07	0.239

TAB.: Impact of shocks in 2004 or 2005 on Departures of Household Members in 2005 or 2006 - Adult Children of the Household Head

Impact of Shocks on Transfers Sent

	(1)	(2)	(3)	Males (4)	Females (5)	Males (6)	Females (7)
<i>PosShock</i> _{04/05}	0.587 (0.744)	0.357 (0.971)	1.762 (0.842)**	-0.966 (2.513)	7.247 (2.599)***	-0.717 (2.434)	6.993 (2.497)**
<i>NegShock</i> _{04/05}	-0.611 (0.612)	-0.515 (0.818)	0.414 (0.713)	2.573 (1.949)	0.048 (2.632)	1.530 (1.898)	-0.849 (2.568)
<i>PosShock</i> _{04/05} * <i>Urban</i>		0.304 (1.446)		0.916 (3.741)	-6.070 (4.187)	2.220 (3.574)	-2.761 (3.866)
<i>NegShock</i> _{04/05} * <i>Urban</i>		-0.787 (1.196)		-7.019 (3.097)**	-1.140 (3.651)	-5.554 (3.021)*	-0.418 (3.467)
<i>PosShock</i> _{04/05} * <i>Female</i>			-2.441 (1.130)**				
<i>NegShock</i> _{04/05} * <i>Female</i>			-2.281 (0.897)**				
<i>PosShock</i> _{04/05} * <i>Age2554</i> ₀₃				2.956 (3.053)	-10.858 (2.989)***	2.350 (2.978)	-10.987 (2.850)**
<i>NegShock</i> _{04/05} * <i>Age2554</i> ₀₃				-1.970 (2.326)	-2.794 (2.801)	-1.314 (2.274)	-2.556 (2.727)
<i>PosShock</i> _{04/05} * <i>Age2554</i> ₀₃ * <i>Urban</i>				-1.599 (4.230)	8.309 (4.680)*	-2.112 (4.094)	5.489 (4.309)
<i>NegShock</i> _{04/05} * <i>Age2554</i> ₀₃ * <i>Urban</i>				5.695 (3.595)	2.566 (3.834)	4.678 (3.490)	3.060 (3.618)

TAB.: Transfers Sent - Individual Level

Impact of Shocks on Transfers Received

	(1)	(2)	(3)	(4)	Males (5)	Females (6)
<i>PosShock</i> _{04/05}	-0.357 (0.948)	-0.544 (1.210)	-0.962 (1.188)	-2.196 (1.578)	-0.460 (2.752)	3.906 (2.884)
<i>NegShock</i> _{04/05}	0.33 (0.759)	0.11 (0.987)	1.515 (0.975)	1.258 (1.272)	-1.009 (2.159)	-4.780 (2.708)*
<i>PosShock</i> _{04/05} * <i>Urban</i>		-0.362 (1.790)		3.562 (2.301)	2.744 (4.066)	-1.578 (4.900)
<i>NegShock</i> _{04/05} * <i>Urban</i>		-0.345 (1.503)		1.634 (2.004)	2.609 (3.282)	3.851 (3.820)
<i>PosShock</i> _{04/05} * <i>Female</i>			0.499 (1.714)	2.504 (2.223)		
<i>NegShock</i> _{04/05} * <i>Female</i>			-2.829 (1.203)**	-1.323 (1.690)		
<i>PosShock</i> _{04/05} * <i>Female</i> * <i>Urban</i>				-4.170 (3.132)		
<i>NegShock</i> _{04/05} * <i>Female</i> * <i>Urban</i>				-3.113 (2.545)		
<i>PosShock</i> _{04/05} * <i>Age</i> ₂₅₅₄ ₀₃					-2.759 (3.241)	-3.427 (2.940)
<i>NegShock</i> _{04/05} * <i>Age</i> ₂₅₅₄ ₀₃					2.396 (2.563)	5.065 (2.910)*
<i>PosShock</i> _{04/05} * <i>Age</i> ₂₅₅₄ ₀₃ * <i>Urban</i>					0.524 (4.815)	-2.114 (5.232)
<i>NegShock</i> _{04/05} * <i>Age</i> ₂₅₅₄ ₀₃ * <i>Urban</i>					-2.429 (4.038)	-5.646 (4.222)

Conclusion

Tremendous heterogeneity with important consequences for public transfers (assuming that public transfers may have similar impacts, in terms of movements, to private transfers)

- ▶ The allocation of resources is likely to differ depending on who moves in the household. Public transfers may have heterogeneous effects if *old* household members initially targeted are affected differently by the arrival, due to the transfer, of adult males (in urban areas) and of adult females and young girls (in rural areas)