

# Civil War, Forced Migration and Educational Attainment in Destination Areas: Evidence from Colombia

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## Motivation

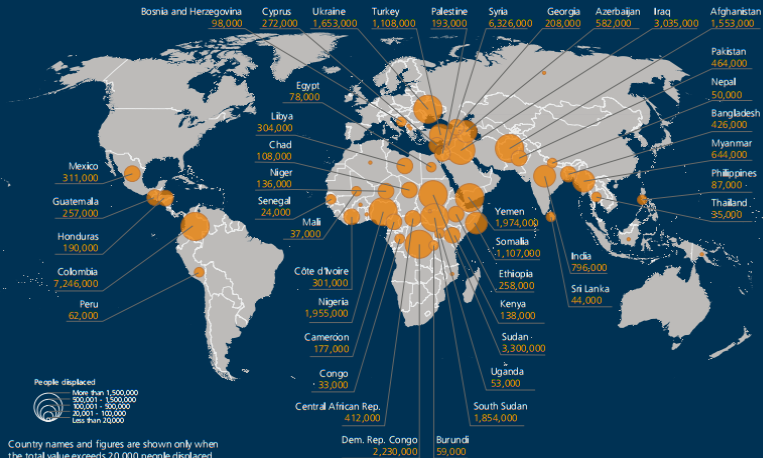
- ▶ This paper studies the effects of displacement on schooling decisions of non-migrant children, rather than the migrants themselves.
- ▶ The disproportionately large shares of younger children and young adults among the displaced populations, may have a crowding effect on schools at destinations.
- ▶ IDPs often experience educational disruption at their place of origin, and upon arrival may lag behind other school aged children.
- ▶ Displaced children are given priority access to public schools and the conditional cash transfer program "Familias en Acción" in destination areas.

## Motivation

- ▶ Massive migrations to cities prompted by civil war have raised the number of unskilled populations in host cities.
- ▶ Beyond the direct effects of gunfire, civil conflicts may also affect populations not directly in harm's way.
- ▶ As of the end of 2016, a record breaking 40.3 million people were forcibly displaced within their own country by violence (UNCHR).
- ▶ The countries with the two largest internally displaced populations are Colombia and Syria.
- ▶ UNCHR estimates a total of 7.2 million IDPs in Colombia alone.

## People internally displaced by conflict and violence as of 31 December 2016

(Total: 40.3 million)



## Literature Review

- ▶ Immigration and School Attainment of Natives:

Betts (1998) and (2000), Betts and Lofstorm (2000), Hoxby (2000), Betts and Fairlie (2003), and Hunt (2016)

- ▶ Conflict and School Attainment:

Barrera and Ibáñez (2004), Shemyakina (2006), Miguel and Roland (2006), Chen et al. (2007), Dueñas and Sánchez (2007), Akresh and de Walque (2008) and Akbulut-Yuksel (2008), Rodriguez and Sánchez (2009)

## IDP-induced Changes in Incentives for Educational Attainment

- ▶ There are three main channels that explain why the arrival of IDPs could potential impact educational attainment of non-migrant children:
  1. IDPs and non-migrant children compete for resources and the supply of education is inelastic (at least in the short run).
  2. IDPs could reduce the quality of education.
  3. Incentives for educational attainment are affected by the wage structure, which is in turn affected by new IDP workers.

## Forced Displacement in Colombia

- ▶ The case of Colombia offers a different type of instrument with which to study the effects of in-migrations on educational attainment of non-migrant children.
- ▶ Detailed data on the location and timing of civil violence and violence-related migration let us establish several important facts:
  1. Large migration flows in Colombia are tied directly to massacres of civilians in rural areas.
  2. Families fleeing rural violence generally relocate nearby, most often to their provincial capital.
  3. The timing of violence in rural areas is not related to conditions in nearby urban labor markets.

## Data

- ▶ Municipal data on violence and massacres collected by Universidad de los Andes
- ▶ Evaluation data from Familias en Acción collected between 2002-2006 for 122 municipalities
- ▶ Household survey collected between 2001-2006 for the 13 largest metropolitan areas



## Empirical Specification

I use the following reduced form specification

$$(1) SE_{ict} = \beta_t + \beta_{ct} + X_{ict}\delta + \gamma \ln S_{ct} + \epsilon_{ict}$$

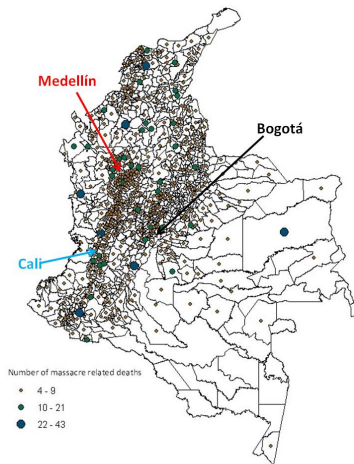
$$\text{Where: } S_{ct} = \frac{\sum_{j=1998}^t M_{cj}}{\text{SchoolCohort}_{7-17ct}}$$

To provide a further safeguard against misspecification, I use an IV approach, where the instrument for  $S_{ct}$  is the cumulative number of massacres occurring in the same state. Algebraically, it is given by:

(2)

$$I_{ct} = \sum_{\text{States}_s} \text{Massacres}$$

## Violence in Colombia - Massacres 1988-2008



## Descriptive Statistics of School Aged Children in Colombia

Household Characteristics	Mean	SD	Mean	SD
	Internal Refugees 7-12		Non-Migrants 7-12	
Male	0.51	0.50	0.50	0.50
Age	9.51	1.70	9.53	1.70
No. Siblings	3.26	2.29	2.82	1.56
Siblings under 5	1.44	1.66	1.14	1.48
Household Size	7.91	3.53	7.34	3.09
Female Head	0.30	0.46	0.24	0.43
	IDPs 13-17		Non-Migrants 13-17	
Male	0.49	0.50	0.52	0.50
Age	14.95	1.41	14.88	1.40
No. Siblings	3.45	2.24	2.89	1.59
Siblings under 5	1.32	1.87	1.02	1.40
Household Size	8.49	3.67	7.56	3.19
Female Head	0.29	0.45	0.27	0.44

## Descriptive Statistics of School Aged Children in Colombia - Continued

Education Outcomes	Mean	SD	Mean	SD
	IDPs 7-12		Non-Migrants 7-12	
Enrollment Rate 7-12	0.93	0.25	0.95	0.22
Drop-out Rate	0.09	0.29	0.05	0.23
Grade	3.32	1.75	3.54	2.94
Literacy	0.86	0.34	0.89	0.32
FA Beneficiary	0.39	0.49	0.40	0.49
Classroom Size	29.17	11.46	29.59	11.10
	IDPs 13-17		Non-Migrants 13-17	
Enrollment Rate 13-17	0.72	0.45	0.77	0.42
Drop-out Rate	0.13	0.34	0.12	0.32
Grade	7.33	2.26	7.35	2.22
Literacy	0.95	0.23	0.96	0.19
FA Beneficiary	0.37	0.48	0.38	0.49
Classroom Size	31.95	11.28	32.63	11.25

## FA Regressions for School Enrollment of Children 7-17

	Non-Migrants 7-17		IDPs 7-17	
	OLS	IV	OLS	IV
FA Beneficiary	0.243*** (0.007)	0.250*** (0.007)	0.273*** (0.028)	0.264*** (0.029)
Female	0.031*** (0.006)	0.030*** (0.006)	0.032 (0.025)	0.030 (0.027)
Age	-0.028*** (0.001)	-0.028*** (0.001)	-0.037*** (0.004)	-0.038*** (0.004)
Share of IDPs	-0.007*** (0.003)	-0.043*** (0.008)	-0.041*** (0.012)	-0.152*** (0.043)
No. Siblings	0.026*** (0.002)	0.026*** (0.002)	0.041*** (0.007)	0.048*** (0.008)
No. Household Members	-0.034*** (0.001)	-0.034*** (0.001)	-0.026*** (0.006)	-0.025*** (0.006)
No. Siblings Under 5	0.017*** (0.003)	0.018*** (0.003)	-0.002 (0.012)	-0.020 (0.014)
Constant	0.996*** (0.022)	0.835*** (0.042)	0.902*** (0.094)	0.363 (0.223)
N	13814	13814	879	879
F-Stat	145.137	143.819	13.448	12.362
R <sup>2</sup>	0.208	0.197	0.274	0.204

Source: FA Evaluation Survey 2002-2005. Note: Each individual coefficient is statistically significant at the \*10%, \*\*5%, or \*\*\*1% level.

## FA Regressions for School Enrollment of Children Ages 7-12

	Non-Migrants 7-12		IDPs 7-12	
	OLS	IV	OLS	IV
FA Beneficiary	0.147*** (0.008)	0.155*** (0.008)	0.127*** (0.032)	0.120*** (0.033)
Female	0.016** (0.007)	0.017** (0.007)	0.009 (0.029)	0.010 (0.030)
Age	0.008*** (0.002)	0.009*** (0.002)	-0.002 (0.009)	-0.003 (0.009)
Share of IDPs	-0.006** (0.003)	-0.049*** (0.010)	-0.050*** (0.014)	-0.121** (0.049)
No. Siblings	0.031*** (0.002)	0.031*** (0.002)	0.043*** (0.008)	0.049*** (0.009)
No. Household Members	-0.043*** (0.001)	-0.044*** (0.001)	-0.030*** (0.006)	-0.030*** (0.007)
No. Siblings Under 5	0.026*** (0.003)	0.028*** (0.003)	-0.004 (0.014)	-0.014 (0.016)
Constant	0.777*** (0.029)	0.582*** (0.053)	0.648*** (0.123)	0.302 (0.259)
N	8269	8269	534	534
F-stat	68.451	67.489	4.779	4.300
R <sup>2</sup>	0.172	0.150	0.184	0.142

Source: FA Evaluation Survey 2002-2005. Note: Each individual coefficient is statistically significant at the \*10%, \*\*5%, or \*\*\*1% level.

## FA Regressions for School Enrollment of Children 13-17

	Non-Migrants 13-17		IDPs 13-17	
	OLS	IV	OLS	IV
FA Beneficiary	0.343*** (0.012)	0.346*** (0.012)	0.476*** (0.048)	0.466*** (0.054)
Female	0.053*** (0.011)	0.052*** (0.011)	0.062 (0.045)	0.048 (0.050)
Age	-0.083*** (0.004)	-0.083*** (0.004)	-0.079*** (0.015)	-0.073*** (0.017)
Share of IDPs	-0.008** (0.004)	-0.022* (0.013)	-0.022 (0.021)	-0.199*** (0.077)
No. Siblings	0.014*** (0.003)	0.013*** (0.003)	0.036*** (0.012)	0.046*** (0.014)
No. Household Members	-0.019*** (0.002)	-0.019*** (0.002)	-0.024** (0.011)	-0.023* (0.012)
No. Siblings Under 5	0.004 (0.005)	0.004 (0.005)	0.009 (0.023)	-0.027 (0.029)
Constant	1.656*** (0.066)	1.591*** (0.089)	1.485*** (0.277)	0.543 (0.495)
N	5545	5545	345	345
F-Stat	80.694	80.494	9.300	7.878
R <sup>2</sup>	0.268	0.266	0.411	0.283

Source: FA Evaluation Survey 2002-2005. Note: Each individual coefficient is statistically significant at the \*10%, \*\*5%, or \*\*\*1% level.

## FA Evaluation Survey Regressions for Classroom Size

	Non-Migrants 13-17		IDPs 13-17	
	OLS	IV	OLS	IV
<b>All Children</b>				
Share of IDPs	-0.055 (0.085)	0.674** (0.279)	-0.512 (0.441)	1.594 (1.411)
N	9320	9320	582	582
F-Stat	58.469	78.710	5.338	4.495
$R^2$	0.136	0.077	0.187	.
<b>Older Children</b>				
Share of IDPs	-0.039 (0.105)	1.468*** (0.366)	-0.431 (0.507)	2.528 (1.744)
N	6135	6135	390	390
F-Stat	38.814	54.164	5.447	2.974
$R^2$	0.137	0.073	0.264	.
<b>Younger Children</b>				
Share of IDPs	-0.091 (0.143)	-0.468 (0.429)	-0.224 (0.867)	0.220 (2.549)
N	3185	3185	192	192
F-Stat	15.942	32.228	1.464	1.994
$R^2$	0.112	0.102	0.174	.

Note: Each individual coefficient is statistically significant at the \*10%, \*\*5%, or \*\*\*1% level.



## ECH Regressions for School Enrollment of Children Ages 7-17

	Non-Migrants 7-12		IDPs 7-12	
	OLS	IV	OLS	IV
Age	-0.036*** (0.000)	-0.036*** (0.000)	-0.040*** (0.003)	-0.040*** (0.004)
Female	0.011*** (0.002)	0.011*** (0.002)	0.025 (0.022)	0.026 (0.022)
Female Head	-0.026*** (0.002)	-0.025*** (0.002)	-0.080*** (0.025)	-0.081*** (0.026)
Years of Education Head	0.001*** (0.000)	0.001*** (0.000)	0.011*** (0.003)	0.011*** (0.003)
Siblings	-0.002*** (0.001)	-0.002*** (0.001)	-0.025*** (0.009)	-0.025*** (0.009)
No. Household Members	-0.009*** (0.001)	-0.009*** (0.001)	-0.011* (0.006)	-0.011* (0.006)
Share of IDPs	-0.016*** (0.003)	-0.063*** (0.018)	-0.093*** (0.034)	-0.013 (0.203)
Constant	1.263*** (0.013)	1.071*** (0.075)	0.897*** (0.161)	1.214 (0.815)
N	87347.000	87347.000	1228.000	1228.000
F-Stat	577.938	575.316	10.684	10.340
R <sup>2</sup>	0.142	0.139	0.182	0.178

Note: Each individual coefficient is statistically significant at the \*10%, \*\*5%, or \*\*\*1% level.

## ECH Regression for School Enrollment of Children Ages 7-12

	Non-Migrants 7-12		IDPs 7-12	
	OLS	IV	OLS	IV
Age	-0.002*** (0.004)	-0.002*** (0.004)	0.005 (0.039)	0.003 (0.039)
Female	0.011*** (0.002)	0.011*** (0.002)	0.006 (0.024)	0.005 (0.024)
Female Head	-0.018*** (0.002)	-0.018*** (0.002)	-0.058** (0.029)	-0.057** (0.029)
Years of Education Head	0.000*** (0.000)	0.000*** (0.000)	0.007** (0.003)	0.007* (0.004)
No. Siblings	-0.009*** (0.001)	-0.009*** (0.001)	-0.027*** (0.009)	-0.027*** (0.009)
Household Size	-0.004*** (0.000)	-0.004*** (0.000)	-0.005 (0.006)	-0.005 (0.006)
Share of IDPs	-0.009*** (0.002)	-0.003 (0.015)	-0.022 (0.037)	-0.109 (0.203)
Constant	0.947*** (0.011)	0.972*** (0.062)	0.816*** (0.178)	0.479 (0.789)
N	48535.000	48535.000	709.000	709.000
F-Stat	43.343	42.727	3.254	3.226
R <sup>2</sup>	0.022	0.022	0.106	0.099

Note: Each individual coefficient is statistically significant at the \*10%, \*\*5%, or \*\*\*1% level.

## ECH Regressions for School Enrollment Older Children Ages 13-17

	Non-Migrants 7-12		IDPs 7-12	
	OLS	IV	OLS	IV
Age	-0.104*** (0.001)	-0.104*** (0.001)	-0.103*** (0.014)	-0.103*** (0.014)
Female	0.014*** (0.004)	0.014*** (0.004)	0.038 (0.039)	0.038 (0.039)
Female Head	-0.035*** (0.004)	-0.034*** (0.004)	-0.099** (0.044)	-0.099** (0.045)
Years Education Head	0.002*** (0.000)	0.002*** (0.000)	0.019*** (0.006)	0.019*** (0.006)
Siblings	-0.001 (0.002)	-0.001 (0.002)	-0.031* (0.017)	-0.031* (0.019)
Household Size	-0.014*** (0.001)	-0.013*** (0.001)	-0.010 (0.012)	-0.010 (0.015)
Share of IDPs	-0.024*** (0.005)	-0.111*** (0.034)	-0.150** (0.061)	-0.150 (0.318)
Constant	2.284*** (0.032)	1.928*** (0.139)	1.508*** (0.342)	1.508 (1.280)
N	38812.000	38812.000	519.000	519.000
F-Stat	283.607	281.332	5.703	5.473
R <sup>2</sup>	0.155	0.149	0.224	0.224

Note: Each individual coefficient is statistically significant at the \*10%, \*\*5%, or \*\*\*1% level.

## Results FA Evaluation Data

- ▶ My results suggest that the arrival of larger cohorts of displaced children are particularly perverse for other displaced children that arrived earlier to these municipalities, with a significant but rather small crowding effect on non-migrant children.
- ▶ A 10 percent increase in the share of migrants in a given area reduces school enrollment by 1.5 percent for displaced children and by 0.42 percent for non-migrant children.
- ▶ Non-migrants appear to be less sensitive to the arrival of displaced children than displaced children themselves.
- ▶ The crowding effect will be larger for the younger non-migrant children relative to older non-migrant children, while it will be smaller for younger IDPs relative to older IDPs.

## Results ECH Data for the 13 Largest Metropolitan Areas

- ▶ Information on school aged children and IDPS in school age is more reliable for large metropolitan areas, and thus the shares used are calculated using only school aged children.
- ▶ The results show that a 10 percent increase in the share of displaced children will reduce non-migrant enrollment by about 0.56 percent and IDPs school enrollment by about 0.82 percent.
- ▶ The magnitude of the effects is similar to that found in the FA evaluation survey, and is consistently larger for displaced children.
- ▶ However, the main difference is that in the 13 largest cities, the crowding effect will be larger for older children, with a 1.1 decline in enrollment rates for a 10 percent increase in the share of forced migrants.

## Conclusions and Policy Implications

- ▶ The arrival of school aged children into cities and large towns has contributed towards the decline in educational attainment of both IDPs and non-migrant students at these destinations.
- ▶ While government programs appear to be targeting at risk populations, the efforts fall short in the light of the dynamics of civil war and the rapid increase of displaced populations arriving in more densely populated areas.
- ▶ The evidence that IDP children reduce the education attainment of poor children in host communities suggests that policy makers should prioritize the needs of all vulnerable children.
- ▶ Schools are key elements for the successful integration of internally displaced populations into their communities.

## Conclusions and Policy Implications

- ▶ Assisting internally displaced populations and populations displaced by violence requires vigorous action by all levels of government.
- ▶ Laws and policies to protect the rights of the internally displaced should be encouraged. However, these efforts must be accompanied by effective policies and resources aimed at mitigating the negative effects in host communities.
- ▶ Increased resources should be allocated to municipalities accommodating for a large number of displaced families to provide for the needs of those displaced by violence and those directly affected by the increased competition for resources.

## Conclusions and Policy Implications

- ▶ Greater attention should be given on how to expand the supply of schools.
- ▶ Programs should be set in place to remediate educational deficiencies of IDP children, allowing them for a smoother integration into host schools.
- ▶ Social safety nets in host communities for forced migrants should be integrated to programs targeting the poor, as it allows for a better understanding of the needs and vulnerabilities of all these populations.



## Conclusions and Policy Implications

- ▶ Finally, this paper has broader implications for policy makers in war torn countries or refugee host communities.
- ▶ The recent conflicts of Syria, Iraq, Libya and Yemen have had a devastating destabilizing effect in neighboring countries and beyond. Policy makers in these countries should understand the detrimental ways in which poor communities are affected by these migrations in an effort both to alleviate the needs of refugees but also the vulnerable national populations.

**Thank you**

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