Impact of a Wealth Shock on Girls' Schooling and Labor in Benin, West Africa.

Mafaizath Fatoke Dato, Ph.D.

Otto-Friedrich University of Bamberg, Germany

Background

- Enrollment in primary schools has more than doubled in Sub-Saharan Africa between 1990 and 2012, but only 23 percent of girls in poor households complete their primary education (United Nations, 2014).
- What is the influence of household wealth on the gender gap in schooling?
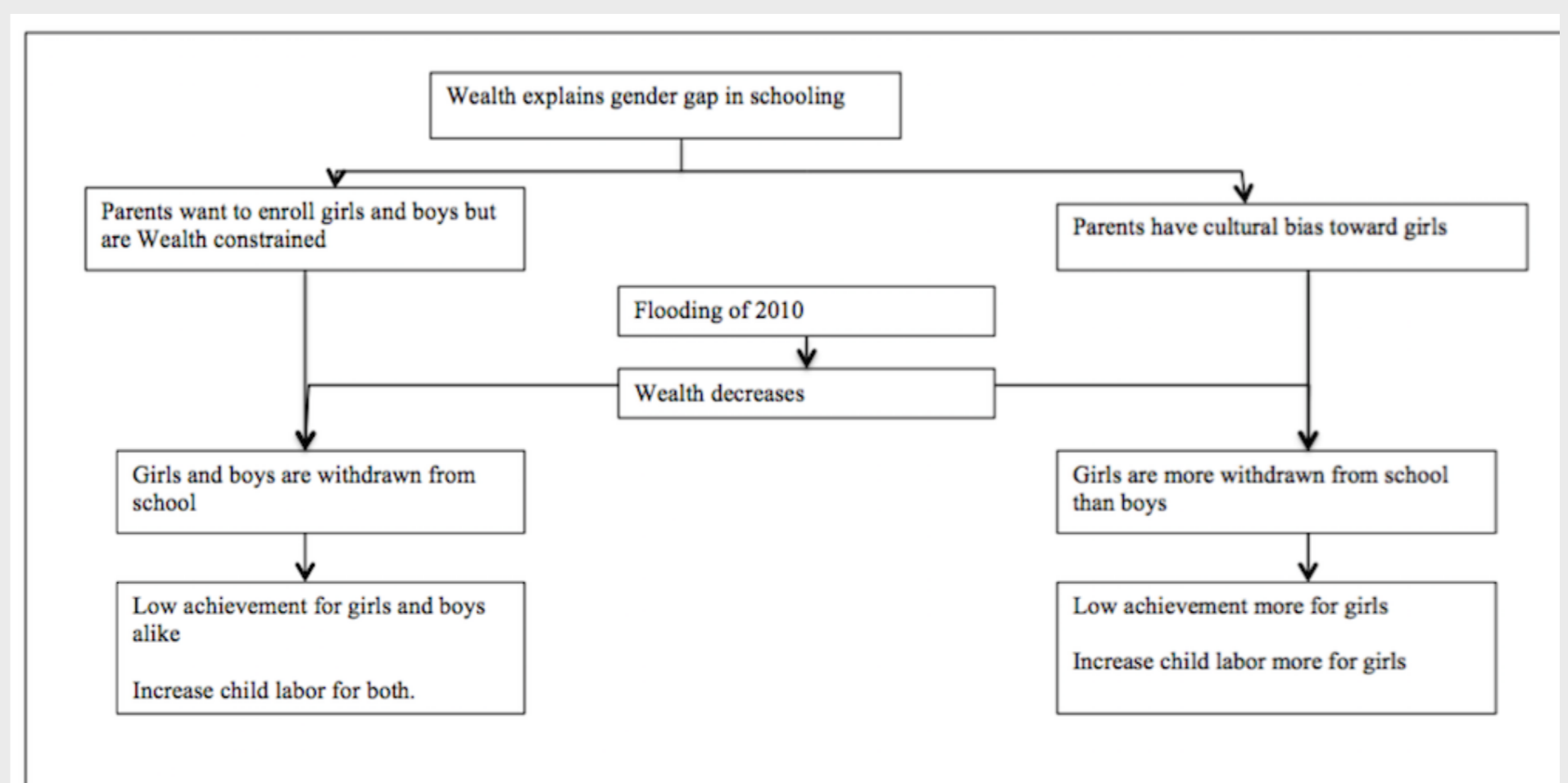
Country context

In 2010, a major flood in Benin that caused a costly aftermath throughout the country. Approximately 680,000 people were affected at different levels, and 46 people died (GFDRR, 2011).

Research questions

- What is the impact of the Flood of 2010 on children schooling, especially on girls in Benin?
- What is the impact of the Flood of 2010 on child labor, especially on girls in Benin?

Conceptual framework

Source: Author's based on Wolfe and Behrman (1984), Al-Samarrai and Peasgood (1998), Colclough et al. (2000), Glick and Sahn (2000), Birdsall and Orivel (1996), Deininger, K. (2003), de Janvry et al. (2006), Beegle et al. (2006), Lincove (2009), Huisman and Smits (2009), Grogan (2009), Cogneau and Jedwab (2010), Grimm (2011), Björkman-Nyqvist (2013), Kazianga (2012).

Empirical analysis

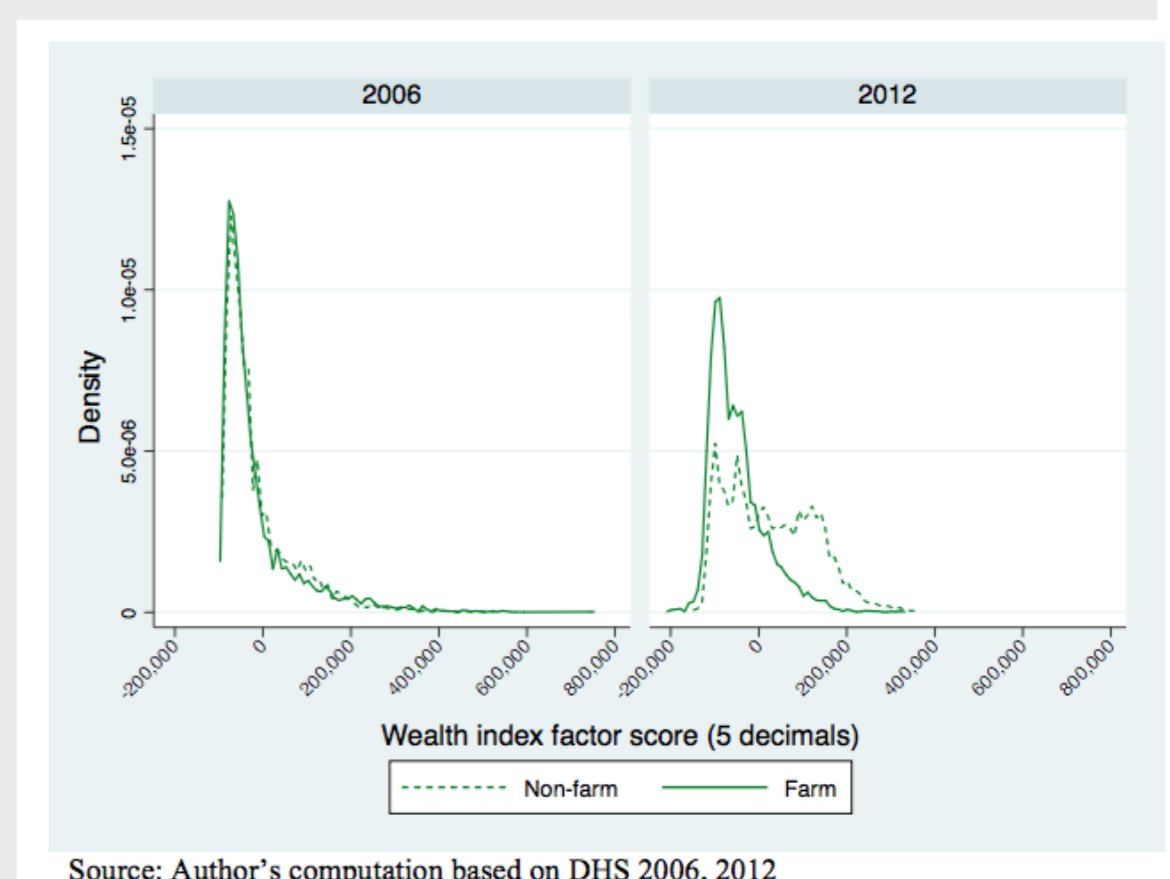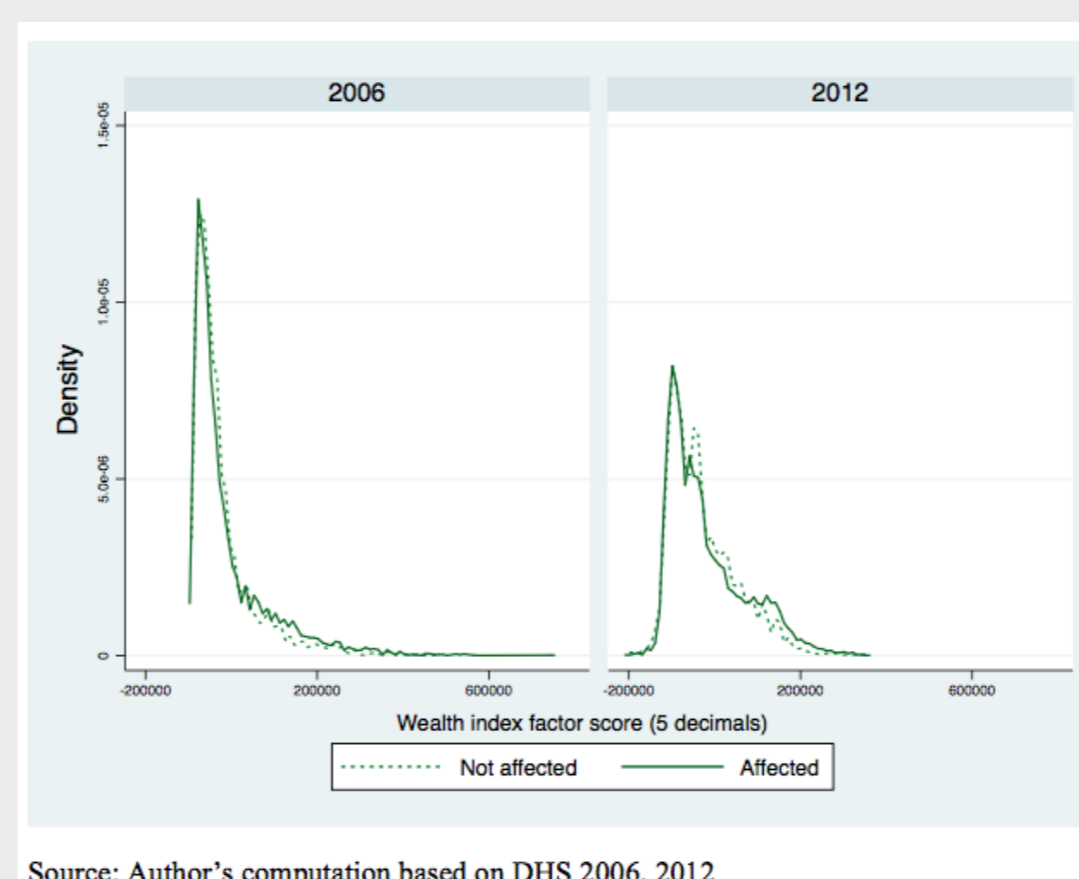### Identification strategies

- The impact evaluation can take advantage of three differences. The comparison between affected and non-affected areas; most affected and other areas; or farm and non-farm households.
- The strategy retained compares schooling outcomes of children born into farm households to those of children born into non-farm ones, before and after the flood.

Data and model

The data are from the Benin Demographic and Health Survey (DHS) of 2006 and 2012. The estimation uses a Propensity score matching and Double difference method with the following model:

$Outcome = \gamma_0 + \gamma_1 X + \gamma_2 X * year2012 + \gamma_3 year2012 + \gamma_4 treatment + \gamma_5 treatment * year2012 + w$

Flood and households wealth

Source: Author's computation based on DHS 2006, 2012

Source: Author's computation based on DHS 2006, 2012

Impact on enrollment and market work

Regression	Dependent variable	γ_5	Stand. Dev.	R^2	N
Model1: Girls in rural areas	Current enrollment	-0.059***	0.023	0.138	14,206
Model2: Girls in urban areas	Current enrollment	-0.078***	0.029	0.160	7,735
Model3: Boys in rural areas	Current enrollment	-0.019	0.023	0.176	15,506
Model4: Boys in urban areas	Current enrollment	-0.061**	0.029	0.182	7,838

$* * * p < 0.01, * * p < 0.05, *p < 0.1$
Control group: Children born into non-farm households

Regression	Dependent variable	γ_5	Stand. Dev.	R^2	N
Model1: Girls in rural areas	Market work	0.090***	0.039	0.138	5,226
Model2: Girls in urban areas	Market work	0.061	0.041	0.179	2,073
Model3: Boys in rural areas	Market work	0.106***	0.038	0.335	4,460
Model4: Boys in urban areas	Market work	-0.073	0.060	0.371	1,490

$* * * p < 0.01, * * p < 0.05, *p < 0.1$
Control group: Children born into non-farm households

Results

The estimation results indicate that enrollment has significantly decreased after the flood of 2010, but the drop in enrollment is more prominent for girls than boys in urban areas.
Market work has significantly increased in rural areas following the flood.

Robustness checks

Regression	Dependent variable	γ_5	Stand. Dev.	R^2	N
Model1: Girls in rural areas	Wealth	21.78	20.68	0.250	1,473
Model2: Girls in urban areas	Wealth	23.95	19.09	0.372	1,091
Model3: Boys in rural areas	Wealth	32.29	19.67	0.289	1,544
Model4: Boys in urban areas	Wealth	0.659	27.61	0.358	1,026

$* * * p < 0.01, * * p < 0.05, *p < 0.1$
Control group: Same groups in 2006

Results

The placebo experiment with non-affected and non-farm households indicate no significant impact on wealth, enrollment or child labor.

Conclusion

Policy implications

The present study indicates (1) that the households' wealth is a determinant of the gender gap in schooling. (2) Parents appear to be culturally biased toward girls in Benin. In critical situations, girls are more likely to be dropped from school than boys to cope with wealth shocks. (3) There is a diversification of child labor (market or domestic work) according to households needs. Thus, the main policy recommendation is the provision of cash transfer or scholarship for girls education in particular.

Forthcoming research

Impact of wealth shocks on children tests scores in West Africa
Impact of wealth shocks on early fertility choices in West Africa