



# Simulating the Impact of the Global Economic Crisis on Children in West and Central Africa

by

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# Objective, rationale and tools

## Objective:

- Predict *ex-ante* the **child welfare impacts** of the **global crisis** and various **policy responses** in **Burkina Faso, Cameroon and Ghana**

## Rationale:

- **Data** for understanding the impact of the crisis on children are **not timely available** → development of a **predictive model** simulating the impacts of the crisis on different dimensions of child well-being

## Tools of analysis:

- Integrated **macro-micro** simulation model

# Transmission channels of the global economic crisis to children

## Impacts (world economy)

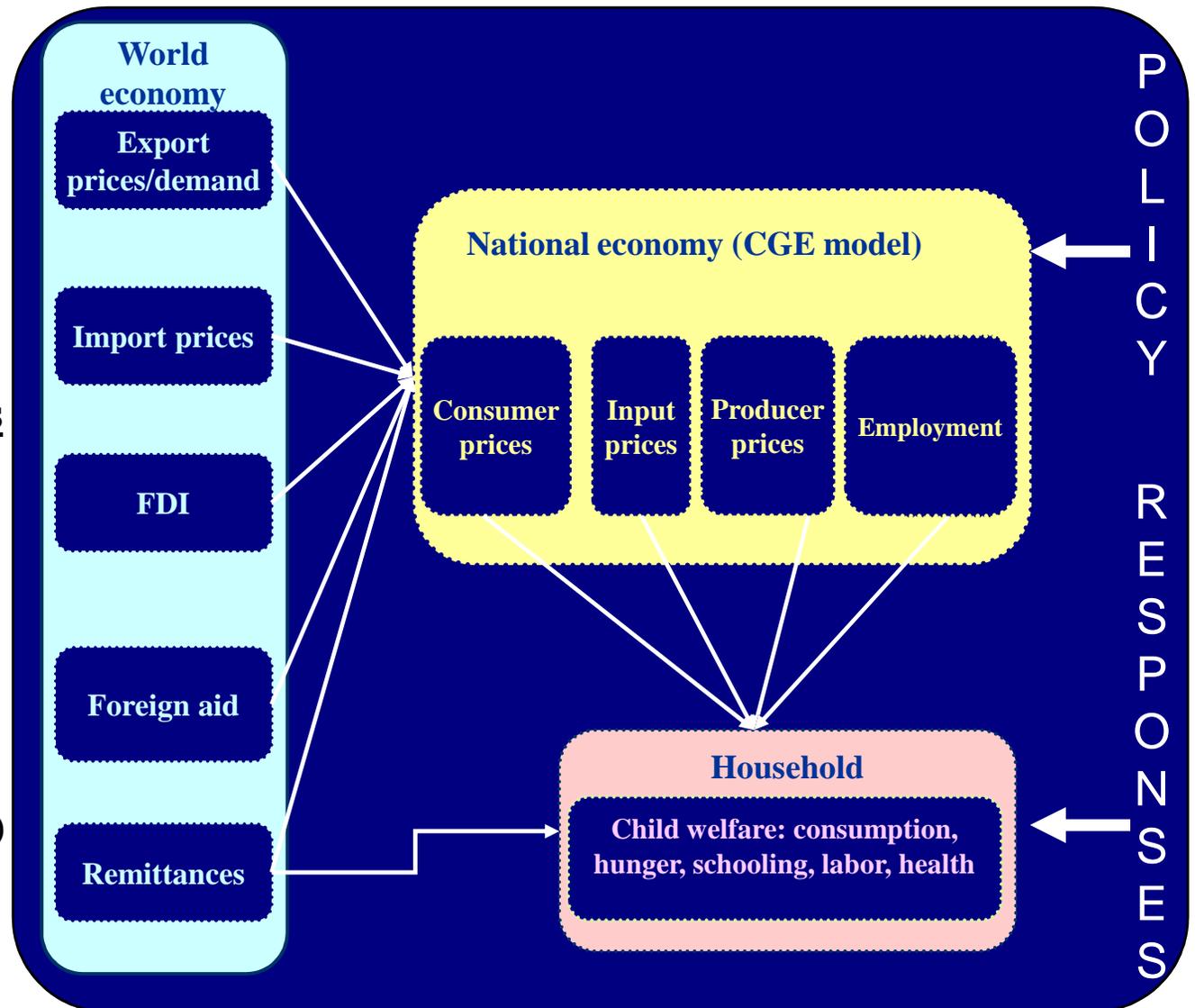
Export prices/demand  
 Import prices  
 FDI  
 Foreign aid  
 Remittances

## Channels to households

Consumer prices  
 Producer prices  
 Input prices  
 Employment  
 Remittances

## Child welfare

Consumption (monetary)  
 Hunger (caloric intake)  
 School participation  
 Child labor  
 Access to health services



# Methodology (1)

## 1. Macro impacts:

- CGE model capturing main channels of impact of the global crisis on the national economy, notably prices, wages and employment

## 2. Child welfare impacts:

- **Monetary poverty:** total household income/consumption changes based on variations in prices, wages, employment and remittances
- **Caloric poverty:** Cobb-Douglas adjustments in consumption structure + nutritional tables
- **School/child labor participation:** econometric estimation:  
 $f(\text{real income})$
- **Health access and choice of supplier:** econometric estimation:  
 $f(\text{real income})$

# Methodology (2)

## 3. Simulations

- **Business as usual** (without crisis): continuation of historic trends (6-8 years)
- **Crisis**
  - **2009**: different estimations (IMF, UNCTAD, etc.)
  - **2010**: Stagnation, except for recovery in import prices
  - **2011**: Recovery of historical tendencies
- **Policy response**
  - **Pro cyclic**: stabilization of public deficit through consumer tax hikes
  - **Stimulus plan** (financed through different sources):
    - Food subsidies
    - Child cash transfers: universal vs targeted (no adm. costs)
    - School canteen program

# Targeting (proxy means)

Cash transfers target **predicted** poor children = f(demographics, housing conditions, durable goods, region): easily observable and non-manipulable characteristics

**Exclusion errors**

**Inclusion errors**

**Cash transfer amount:**

**Burkina Faso**  
8'600 CFA francs  
per child

**Cameroon:**  
20'500 CFA francs  
per child

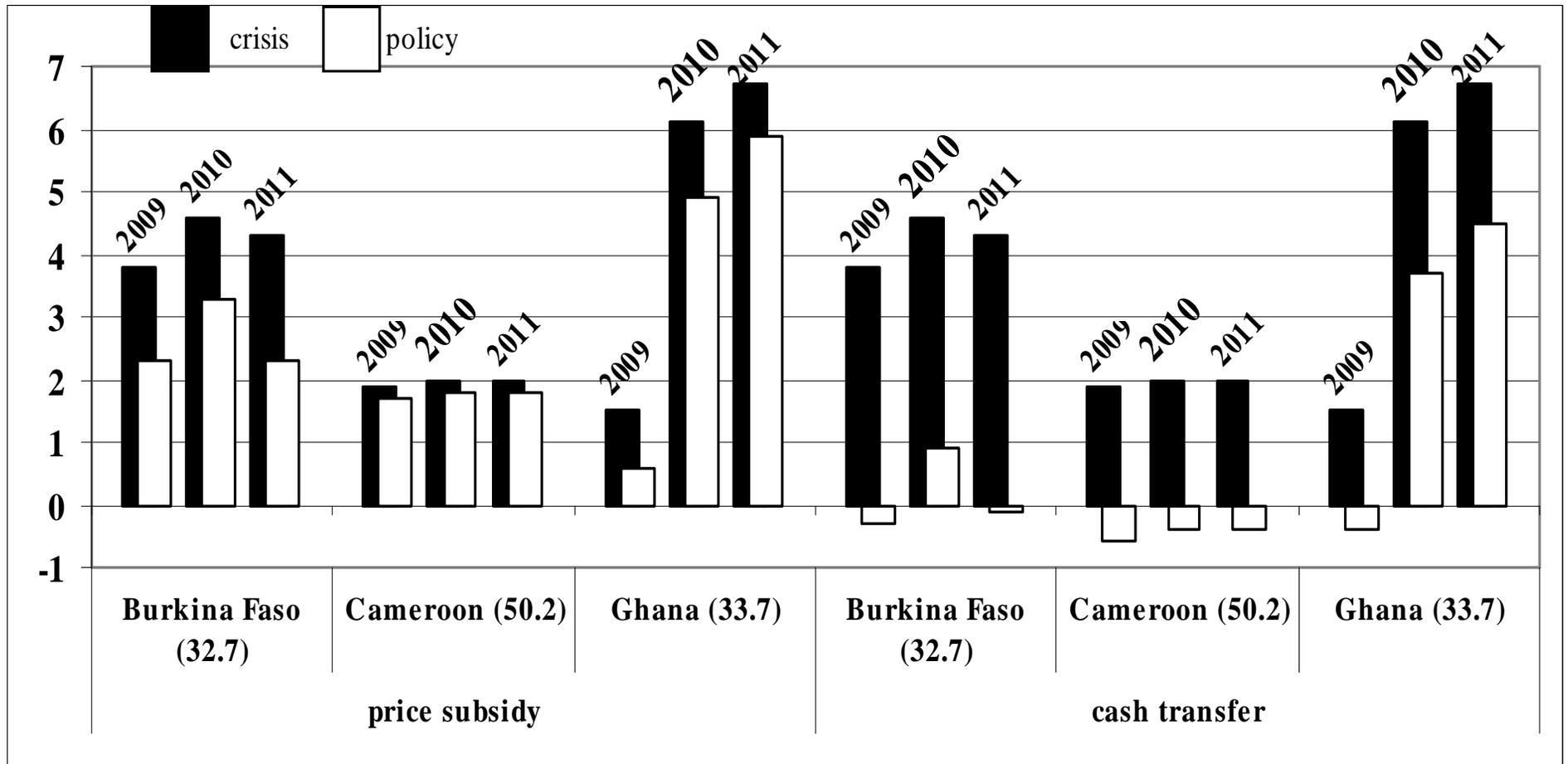
**Ghana:**  
19.8 cedis per child

		PREDICTED STATUS					
		National		Urban		Rural	
ACTUAL STATUS		non-poor	poor	non-poor	poor	non-poor	poor
<b>Burkina Faso</b>							
non-poor		58.4	41.6	75.3	24.7	54.5	45.5
poor		24.0	76.0	20.2	79.8	24.2	75.8
<b>Cameroon</b>							
non-poor		63.3	36.7	73.8	26.2	51.4	48.6
poor		10.7	89.3	21.4	78.6	9.7	90.3
<b>Ghana</b>							
non-poor		62.9	37.1	60.9	39.1	64.2	35.8
poor		19.6	80.4	19.6	80.4	19.6	80.4

# Simulated impacts of crisis on child monetary poverty by channel

	Burkina Faso			Cameroon			Ghana		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
base year (abs. rate)	32.66			50.20			33.73		
with crisis (% change to base year)	3.79	4.67	4.36	1.85	2.04	2.01	1.52	6.10	6.65
<i>contribution to child poverty changes after crisis by different channels (% change to the base year)</i>									
<b>Consumer prices:</b>	0.28	0.65	1.12	0.67	0.62	0.59	2.12	4.44	5.04
<b>Agriculture sector:</b>	2.85	3.23	2.33	0.37	0.39	0.44	-1.77	-1.64	-2.37
sales	1.77	2.02	1.55	0.16	0.19	0.23	-1.22	-1.06	-1.67
own-production	0.76	0.93	0.54	0.15	0.17	0.17	-0.85	-0.84	-1.12
cost of inputs	-0.09	-0.13	-0.13	0.00	0.00	-0.01	0.00	-0.06	-0.11
<b>Non-agriculture sector (s.empl.):</b>	0.00	0.00	0.01	0.53	0.56	0.64	1.11	2.99	3.63
<b>Wages:</b>	0.02	0.02	0.01	0.30	0.29	0.30	-0.08	0.08	0.07
formal	0.00	0.01	0.01	0.01	0.01	0.23	0.00	0.00	0.01
informal	0.02	0.01	0.00	0.29	0.28	0.28	-0.08	0.08	0.05
<b>Other income:</b>	0.54	0.74	0.77	0.02	0.09	0.03	0.20	0.21	0.19

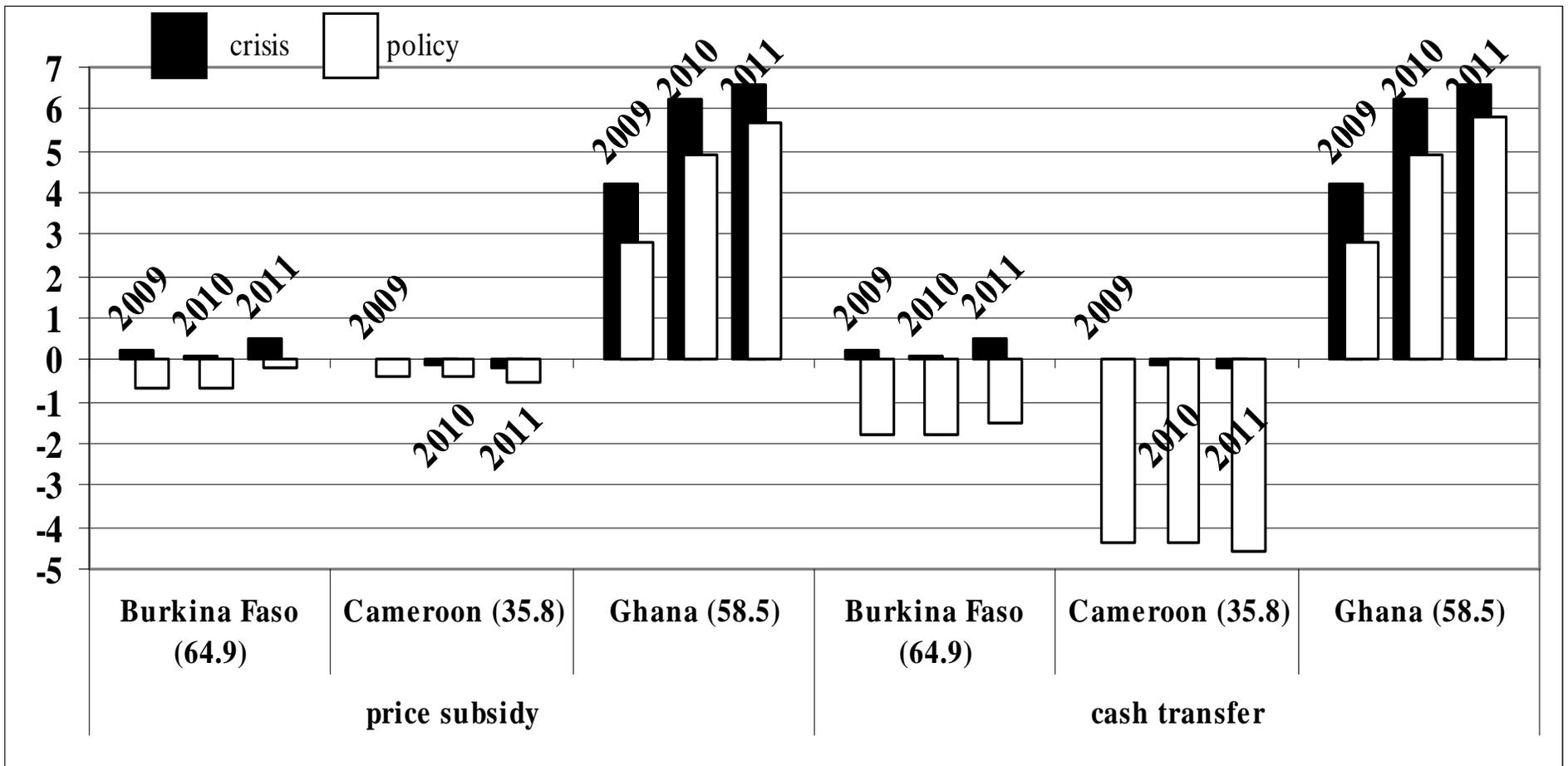
# Effects of policy responses on child monetary poverty



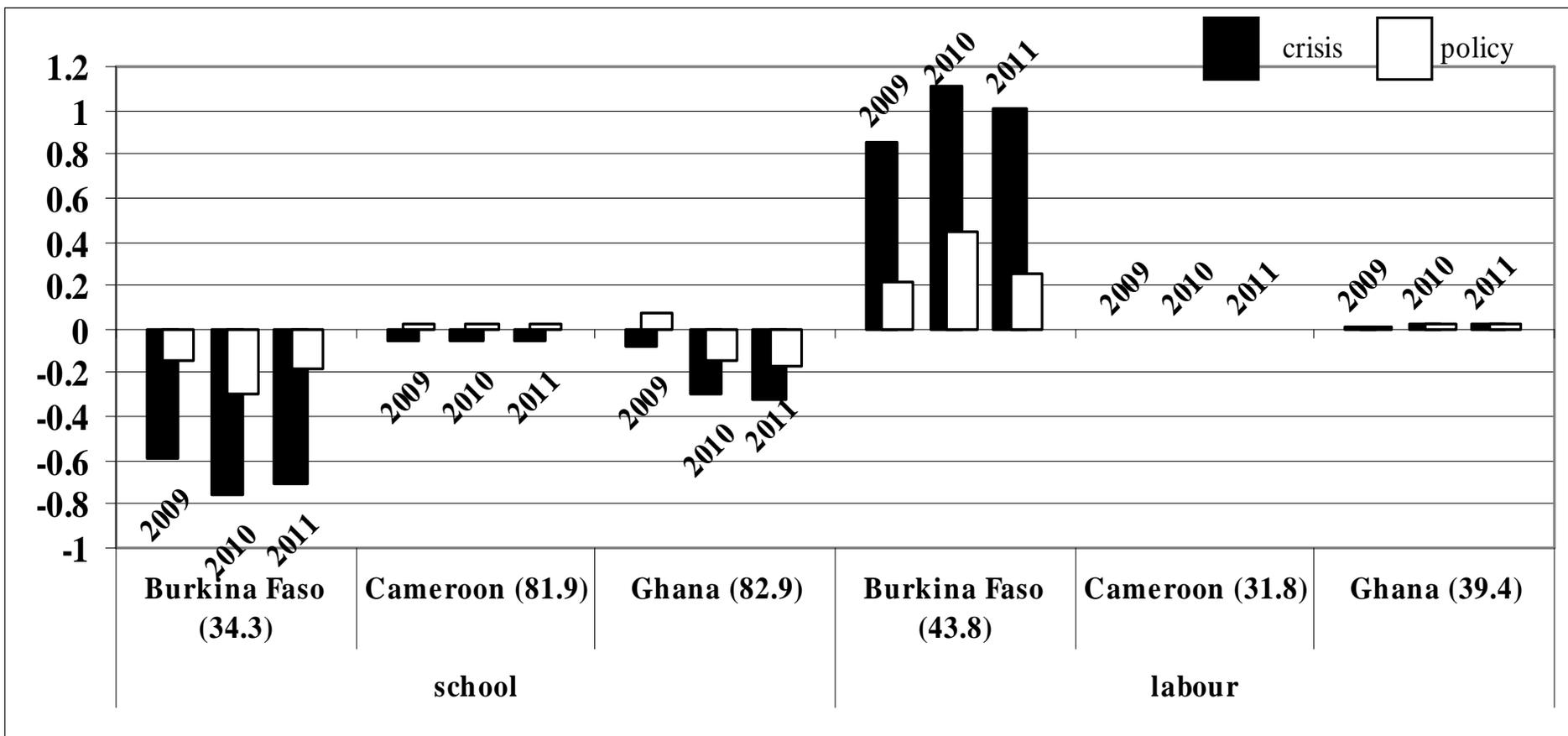
## Child monetary poverty: Targeted vs Universal Transfer

	0-14 years old			0-5 years old		
	crisis	TT 0-14	UT 0-5	crisis	TT 0-14	UT 0-5
<b>Burkina Faso</b>	<i>base-year poverty rate: 32.7%</i>			<i>base-year poverty rate: 29.8%</i>		
2009	36.5	32.4	32.9	33.8	29.6	29.2
2010	37.3	33.6	33.9	34.6	30.7	30.3
2011	37.0	32.6	33.0	34.3	29.7	29.3
<b>Cameroon</b>	<i>base-year poverty rate: 50.2%</i>			<i>base-year poverty rate: 47.4%</i>		
2009	52.1	49.6	50.1	49.4	46.9	46.5
2010	52.2	49.8	50.2	49.5	47.0	46.6
2011	52.2	49.8	50.0	49.5	47.1	46.5
<b>Ghana</b>	<i>base-year poverty rate: 33.7%</i>			<i>base-year poverty rate: 31.3%</i>		
2009	35.2	33.3	33.4	32.6	30.7	30.0
2010	39.8	37.4	37.4	37.4	34.9	33.9
2011	40.4	38.2	38.2	37.7	35.7	34.9

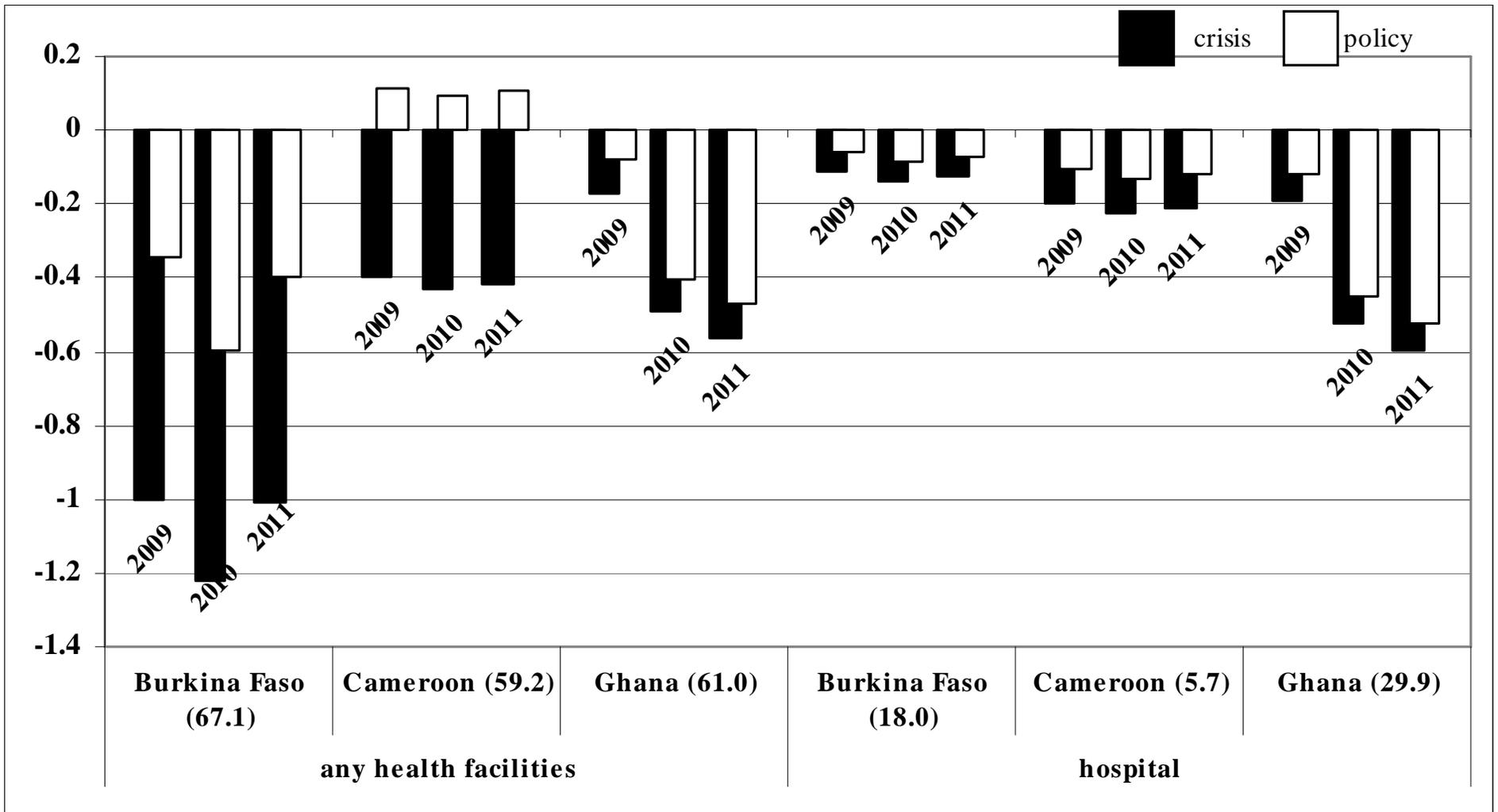
# Effects of policy responses on child hunger



# Effects of cash transfer on school participation and child labor (6-10 yrs)



# Effects of cash transfer on access to health services



# Concluding Remarks

## Crisis brings many shocks and impacts:

- Global economy: imports, exports, FDI, aid, remittances
- Nat. economy: wages, employment, self-empl income, consumer prices
- Households and children:
  - ✓ Strong increase on **monetary poverty** and **hunger** (up to 10 perc. points)
  - ✓ Mildly reduces **schooling** and recourse to (modern) **health services** (up to 1 percentage point), while increasing **child labor**

## Amongst the policies we proposed:

- Food subsidies marginally offset the impacts of the crisis
- (Well-) targeted cash transfers are more effective
- Universal or Targeted transfers?
- Other complementary programs (i.e. school feeding schemes)

## Future work:

- Effects on other dimensions (mortality, morbidity, nutritional status, etc.)

Recent UNICEF IRC published research on the impact of economic shocks on children:

Innocenti Working Paper 2009-02 – The impact of the increase of food prices on child poverty and policy responses in Mali

Innocenti Working Paper 2008-04 – Millet prices, public policy and child malnutrition: the case of Niger in 2005

Innocenti Social Monitor 2009 - Child Well Being at a Crossroads: Evolving Challenges in Central and Eastern Europe and the Commonwealth of Independent States

5 Forthcoming Working Papers based on the research on the impact of the crisis on children in WCA (Regional summary, Methodology, Burkina Faso, Cameroon, Ghana)

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