

# Back to Basics: What Does Economic Theory Say about Cash Transfer Impacts?

(Non-comments on Davis et al.)

(Dedicated to Ashu)

# Solution: Production and Input Demands

$$p_{i,h} \frac{dQ_{i,h}}{dL_{i,h}} = w_h \quad \forall i$$

$$\rightarrow \boxed{L_{i,h}^*(\underline{P}_h, w_h, \underline{K}_h)}$$

$$\underline{P}_h = [p_{i,h}, i = 1, \dots, I]$$

$$\underline{K}_h = [\bar{K}_{i,h}, i = 1, \dots, I]$$

$$\rightarrow Q_{i,h}^* \rightarrow \Pi_{i,h}^* \rightarrow Y_h^*$$

where  $Y_h^*$  = "full income" (defined on tradables)

# Consumption Demands

$$\partial U_h / \partial C_{i,h} = \lambda_h p_{i,h} \quad \forall i \text{ (} p_{le,h} = w_h \text{)}$$

$$\lambda_h (Y_h^* - \sum_i p_{i,h} C_{i,h}) = 0 \quad \forall i \in \text{tradables}$$

$\lambda_h$  = Shadow Value of Income or Full Income (Lagrange Multiplier on Income or Full Income Constraint)

$$\mu_{i,h} MS_{i,h} = 0 \quad (\mu_{i,h} > 0, MS_{i,h} = 0 \quad \forall i \in \text{nontradables})$$

$$\rightarrow \boxed{C_{i,h}^* = C_{i,h}(\underline{P}_h, Y_h^*, Z_h)}$$

# Interactions with Markets

Marketed Surplus of Crops:

$$\rightarrow MS_{i,h}^* = Q_{i,h}^* - C_{i,h}^*$$

Family Labor Supply:

$$\rightarrow F_h^* = \bar{T}_h^* - C_{l,h}^*$$

Hired Labor Demand:

$$\rightarrow H_h^* = \sum_i L_{i,h}^* - F_h^*$$

0!

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# What Can Change These?

- Labor market failures → tradeoffs between leisure and production
- Food market failures → subsistence constraint (production effects)
- Credit market failures → liquidity constraints on investment, production
- Missing insurance market → conservative (production and consumption) behavior

# Foodgrain Market Participation, E. and S. Africa

Table 1  
Staple foodgrains market participation in eastern and southern Africa

Country	Crop	Year	% Sellers (g = gross, n = net)
Ethiopia	Maize and teff	1996	25 <sup>a</sup>
	Barley	1999–2000	10 <sup>g</sup>
	Maize		23 <sup>g</sup>
	Sorghum		11 <sup>g</sup>
	Teff		20 <sup>g</sup>
	Wheat		12 <sup>g</sup>
Kenya	Maize	1997	29 <sup>a</sup>
		1998	34 <sup>a</sup>
		1999	39 <sup>a</sup>
		2000	30 <sup>a</sup>
Madagascar	Rice	1990	32 <sup>g</sup>
		2001	25 <sup>a</sup>
Mozambique	Basic food	1996–1997	14 <sup>g</sup>
	Maize	2001–2002	30 <sup>g</sup>
	Maize	2005	16 <sup>g</sup>
	Rice	2002	43 <sup>a</sup>
Rwanda	Beans	1986–1997	22 <sup>a</sup>
	Sorghum		24 <sup>a</sup>
Somalia	Maize	1986–1987	39 <sup>a</sup>
Tanzania	Food	2003	33 <sup>a</sup>
Zambia	Maize	2000	26 <sup>a</sup>
Zimbabwe	Maize	1984–1985	45 <sup>a</sup>
	Grains	1996	27 <sup>g</sup>

# So why do so many smallholders in low-income rural areas opt out of markets?

- Absence of “The institutional and physical infrastructure necessary to ensure broad-based, low-cost access to competitive, well-functioning markets.”

# What Explains the (Shadow) Price Divergence? $(\hat{p} - p = f(\mathbf{P}, \mathbf{Z}) + u)$

Table 8. Decomposing the Difference Between Shadow and Market Prices of Traditional Maize. (Standard errors are bootstrapped.)

Variables	$(\hat{p} - p)$
<i>Socio-economic variables</i>	
Indigenous language dummy	26.57*
Farmer's gender (=1 if male)	35.73**
Farmer's age	-0.17
Farmer's education	-1.1
Wealth index	-2.83
Total area owned	-0.09
Maize area as % of total	17.53
Bracero dummy	-17.62
<i>Market access variables</i>	
Walking time to comm. center	0.34*
Off farm income in the village	35.91
Credit access in the village	-18.99
<i>Agro-ecological variables</i>	
Soil quality	-33.52**
Slope of the plot	-4.42
Irrigation dummy	-39.77***
Altitude dummy (>1400 masl.)	22.06
South-Southeast	50.33
Central	15.73
Western Central	51.89*
Northwest	71.81
Constant	-13.66
N	314

Significance levels : \* : 10% \*\* : 5% \*\*\* : 1%