



Fertilizer subsidies & voting behavior: Political economy dimensions of input subsidy programs

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Introduction

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“But there is no doubt that this Farmer Input Support Programme, which is supposed to be an economic activity, has sadly been abused or mismanaged by politicians and those seeking patronage and turned into a political tool for their election campaigns... And in this election year things will be worse – it will be nothing but a campaign tool; fertiliser bought with taxpayers’ money will be exchanged for votes.”

–[Editorial](#), *The Post*, Zambia, March 13, 2011

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Introduction (cont'd)

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- Resurgent popularity of input subsidies in SSA
 - 7 countries, US\$2 billion in 2012 (Ricker-Gilbert et al., f.c.)
- Stated objectives:
 - Improve access to inputs
 - Increase ag productivity & production
 - Raise incomes, improve food security
- Other objectives:
 - “Do something” for the rural poor, social contract (Jayne et al., 2010)
 - (Re-)election. Win over swing voters? Reward base?

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Evidence of input subsidy program - voting behavior links

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- Anecdotal: attempted vote-buying, elite capture
- Quantitative:
 - **Ghana**: fertilizer vouchers targeted to opposition strongholds (Banful, 2011)
 - **Malawi, Zambia**: subsidized fertilizer and/or hybrid seed targeted to supporters (Mason & Ricker-Gilbert, f.c.)
 - **Tanzania**: HHs w/ elected officials more likely to get input voucher (Pan & Christiaensen, 2012)
- Qualitative: input subsidies contributed to Mutharika's 2009 landslide victory in **Malawi** but dissatisfaction with the opposition also important (Chinsinga, 2012; Mpesi & Muriaas, 2012)
- **Little (no?) quantitative empirical evidence to date:**
Do input subsidies win votes *ceteris paribus*?

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Objectives (Zambia as case study)

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1. Revisit effects of past elections on HH-level subsidized fertilizer targeting

- a. Swing voters, base, and/or opposition?
- b. Presidential vs. parliamentary election results?
- c. Consistency w/ empirical evidence/theory in poli. sci.?

2. Effects of fertilizer subsidies on presidential election outcomes (district* share of votes won by incumbent)

- a. Do fertilizer subsidies win votes?
- b. If yes, to what extent? If not, what does?

3. Policy implications

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Elections & major political parties

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■ Movement for Multi-Party Democracy (MMD)



- Ruling party 1991-2011
- Rural
- Central, Eastern, NW provinces

■ Patriotic Front (PF)

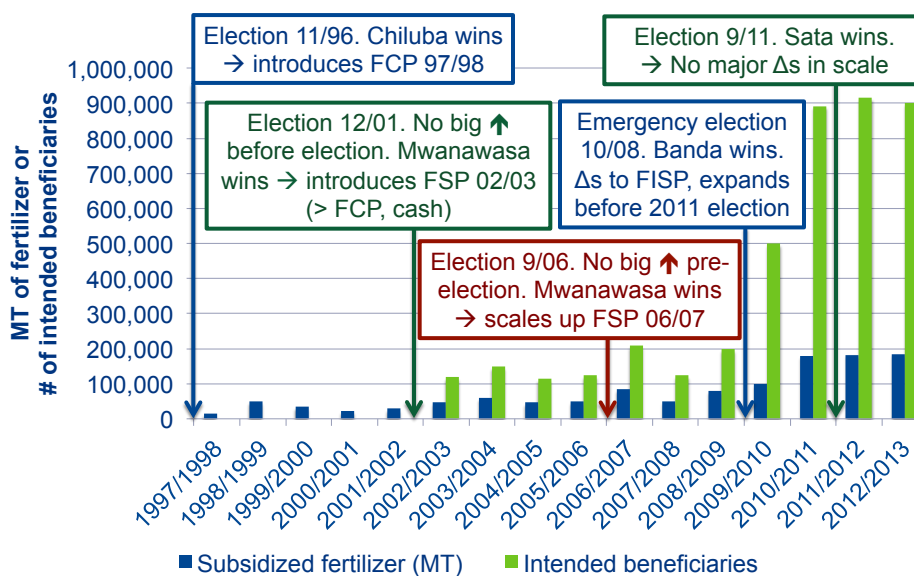
- Defeated MMD 2011; current ruling party
- Runner-up in 2006 & 2008
- Urban
- C/B, Lusaka, Luapula



■ United Party for Nat'l Development (UPND)

- Lost by < 2 pct. pts. in 2001, close 3rd in 2006
- Tonga/Southern Province

Fertilizer subsidies & elections



Source: MAL (2012)

Effects of past election outcomes on HH-level subsidized fertilizer targeting

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Methods

- **Dependent variable: kg of subsidized fertilizer**
- **Explanatory variables:**
 - (a) =1 if MMD won constituency in last election
 - (b) | Pct. pt. spread, MMD vs. lead opposition |
 - (a) X (b)
 - Other HH, community, regional vars.
- 3-wave panel

Effects of past election outcomes on HH-level subsidized fertilizer targeting

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Results

- MMD gov't **targeted** areas w/ **strong MMD support**
 - HHs in const. it **won: 15.5-22.5 kg more sub. fert.**
 - **↑ 0.5 kg per p.p. ↑ in MMD margin of victory**
 - EX) 2006: 75th-25th pctl. → 33.8 kg difference
 - Similar - **presidential vs. parliamentary elections**

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Effects of past election outcomes on HH-level subsidized fertilizer targeting

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Models of redistributive politics

- **“Swing voter” model:** target areas w/ many undecided voters and/or where race is tight
→ try to sway voters (Lindbeck & Weibull, 1993; Dixit & Londregan, 1996, 1998)
- **“Core supporter”/turnout model:** target areas w/ strong support → get out the vote (Cox & McCubbins, 1986)
 - Zambia, Malawi fertilizer subsidies

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- **Ghana:** subsidy targeted opposition strongholds (Banful, 2011)

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Effects of fertilizer subsidies on district-level share of votes won by the incumbent

Do fertilizer subsidies win votes in Zambia?

No! But reducing poverty, inequality, & unemployment does.

Effects of fertilizer subsidies on district-level share of votes won by the incumbent

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Methods (Cerde & Vergara, 2008 – Chile general subsidies)

- **Dependent variable: proportion of district votes won by incumbent president (MMD)**
- **Explanatory variables:**
 - **Fertilizer subsidy**
 - Food Reserve Agency (FRA) maize purchases
 - # of registered voters & their characteristics
 - Demographic (% rural, % female, % in age groups)
 - Economic (labor force, unemploy., poverty, inequal.)
 - Prov., year, prov. X year (ethnicity, etc.)
- 2006 & 2011 presidential elections (2-year panel)

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Effects of fertilizer subsidies on district-level share of votes won by the incumbent

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Factors affecting incumbent's vote share

Major factors

- **Unemployment:** ↓ mean by 50% → 32.8 p.p. ↑
- **Poverty:** ↓ mean by 50% → 36.0 p.p. ↑
- **Inequality:** ↓ mean by 50% → 49.3 p.p. ↑
- Strong urban/rural, regional/ethnic, year effects

Very minor factor

- **FRA purchases:** ↑ mean by 50% → 0.8 p.p. ↑
(0.06 < p < 0.12)

No significant effect

- **Fertilizer subsidies:** p ≥ 0.7

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Conclusions

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1. MMD used fertilizer subsidy to **reward loyalty**
2. Fertilizer subsidies, FRA purchases had **no substantive effect on MMD's share of votes** in 2006 & 2011 elections
3. ↓ **poverty, inequal., & unemploy. wins votes**

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Policy implications

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1. Is **politically-motivated subsidy allocation a problem**? If so, **how to ↓ it**?
e.g., rules-based, transparent, & audited allocations?
2. Politicization may be ↓ achievement of stated objectives. Could **depolicitizing → 'more bang for the buck'** w.r.t. access to inputs, productivity, food security, incomes?

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Policy implications (cont'd)

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3. **↑ing effectiveness of subsidies as poverty- & inequality-reduction, employment-creation tools = good politics!** (e.g., target the poor, e-voucher to crowd-in private sector/create jobs)
4. Shifting some funds from FRA/fertilizer subsidies to **investments that ↓ poverty, inequality, and/or unemployment = good politics!** (e.g., roads, irrigation, electrification, ag R&D, improved extension, health, education, etc.)

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Thank you for your attention!

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IAPRI

<http://www.iapri.org.zm/index.php>

Food Security Research Project

<http://fsg.afre.msu.edu/zambia/index.htm>

MSU Dept. of Agricultural, Food, & Resource Economics

<http://www.aec.msu.edu/>

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