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Market information and farmers' access to structured markets

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Introduction

- Smallholder access to markets is important for agricultural growth, poverty reduction, food security and nutrition(72% of farm households purchased maize - FISS (2015/16 growing season)

Why?

- Facilitates: access to agricultural inputs; production/consumption and agricultural incomes of farmers
- Market imperfections impede market (and price) information flow to farmers

Consequences:

- Price volatility and seasonality and production seasonality for staple crops

Introduction (con't)

- Structured markets i.e. commodity exchanges, contractual arrangements offer opportunity to stabilize staple prices

How?

1. Aggregating large volumes at stable prices –predictable prices to farmers
2. Predictable trade environment for better planning of production and marketing of staples

Theory of change:

Providing smallholders with market/price information on maize and soybean prices at the commodity exchange will: incentivize small farmers' sales through commodity exchanges/other structured markets at higher prices; .

Objectives of the study

To analyze the impact of providing price information to smallholder farmers on:

1. Level of awareness of commodity exchanges
2. Sales of maize and soybean
3. Sales prices of maize and soybean
4. Sales through commodity exchanges/structured markets
5. Level of commercialization

Methodology

The sample

- Purposive sampling of 4 districts (Mchinji, Kasungu, Dowa, Ntchisi) and 2 Farmers associations (FAs) per district
- Randomly selecting 100 farmers per district - 50 farmers = treatment group and 50 farmers= control group
- 78 traders provided with price information
- Baseline survey of 416 farmers and 78 traders in March 2019
- End-line survey of 399 farmers and 68 traders in September 2019

Methodology

Data:

- **Farm household survey data:** socioeconomic activities; maize and soybean marketing; access to structured markets; incomes; impacts of the project (2017/2018 and 2018/2019 agricultural seasons)
- **Trader surveys:** maize and soybean sales; sales through structured markets i.e. commodity exchanges; impacts of the project
- ACE Provided **price information** to farmers/traders through a toll-free line, bi-monthly meetings with farmers and traders

Methodology cont...

Comparability of the treatment and control groups

- -Balance tests of mean differences between treated and control farmers
- -No statistically significant differences between the two groups in terms of the control variables

Conclusion:

- The two groups are comparable

Methodology cont...

Analytical approach

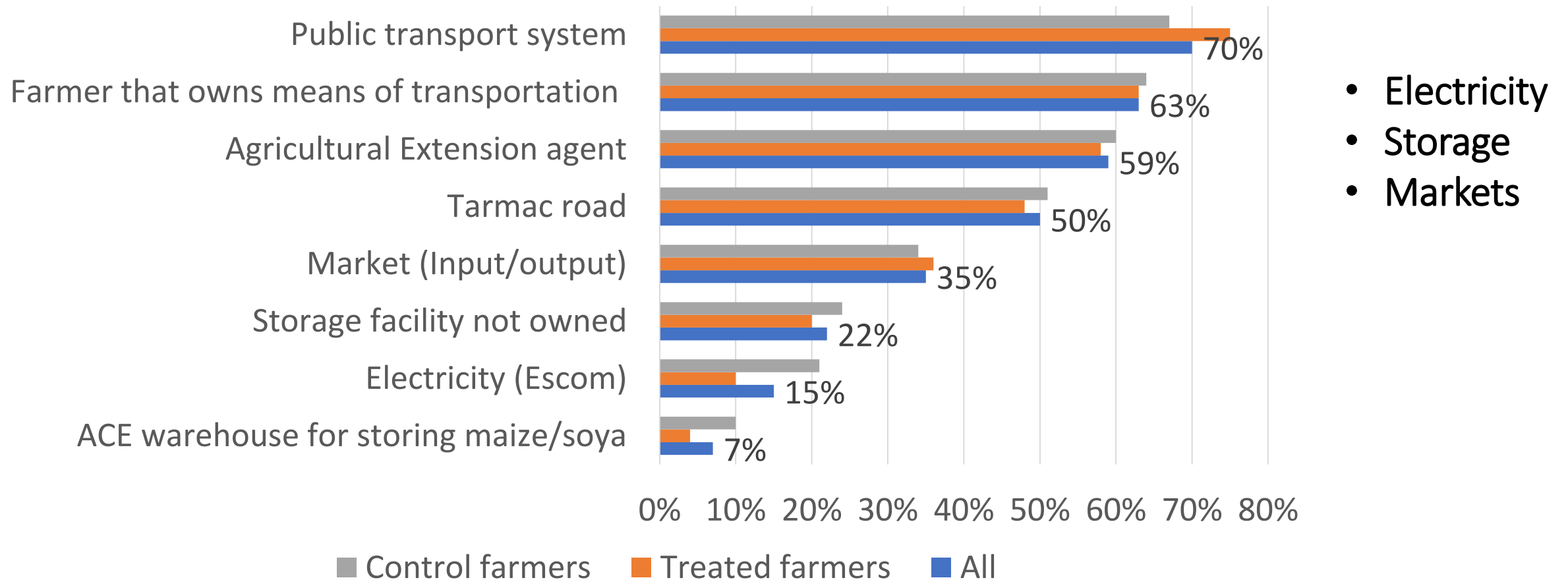
- **Descriptive statistics:** farmer/trader profiles; maize and soybean marketing environment
- **Panel data econometric specifications:**

Treatment effects on: awareness of commodity exchanges; maize and soybean sales; sales prices; sales through commodity exchanges/structured markets; and commercialization rate

Results

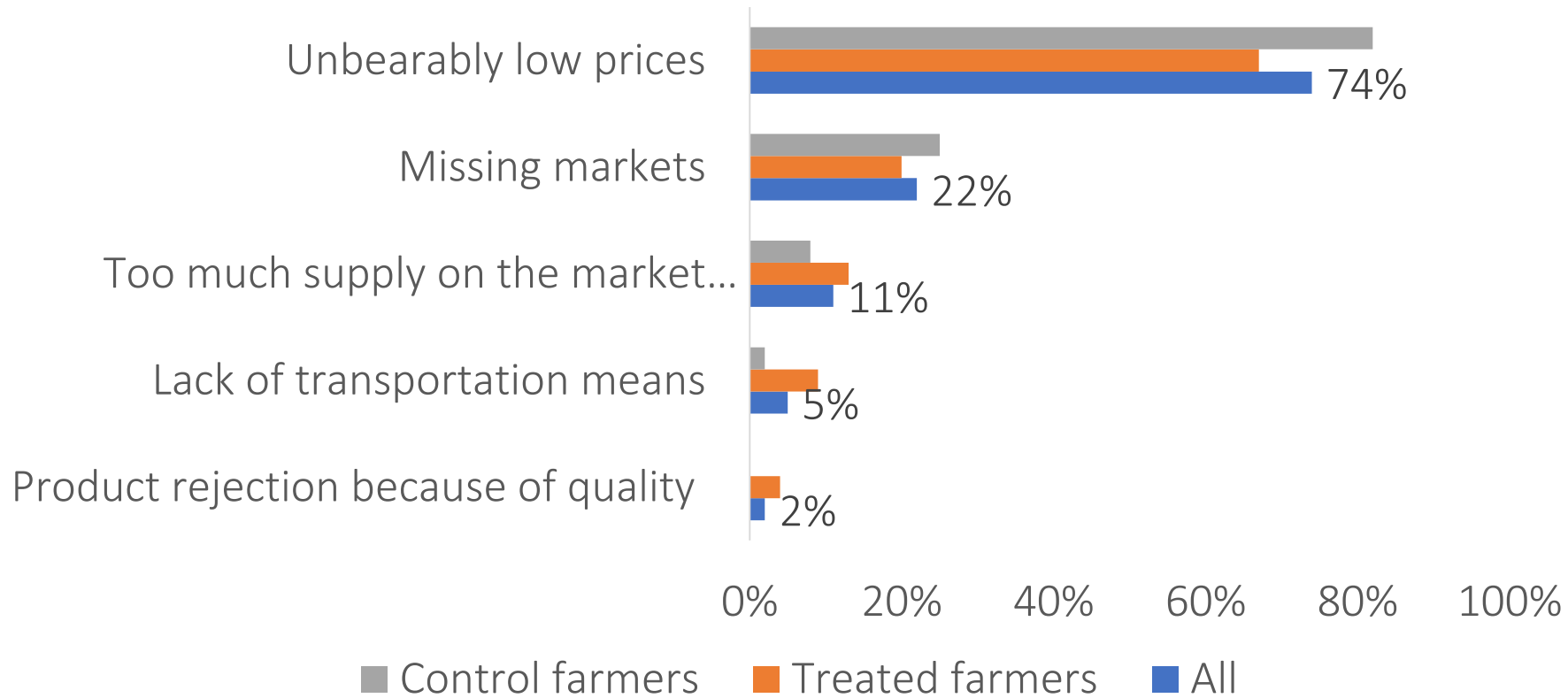
- Descriptive statistics from farm household survey

Figure 1. Farmers' access to infrastructure



Results (con't)

Figure 2. Farmers' maize and soybean marketing challenges



- Low prices
- Missing markets

Source: Authors' calculations

Results (con't)

Table 2. Types of market information farmers lack

Type of information	All	Treated farmers	Control farmers	Baseline	End line	Diff
Market information access	60%	67%	54%			
<i>Lacking information on...</i>						
Market opportunities	76%	70%	82%	93%	46%	-47***
Market prices	66%	59%	73%	84%	34%	-50***
Quality standards	38%	38%	38%	57%	19%	-38***

- Market opportunities
- Prices

Source: Authors' calculations

Results (con't)

Table 3. Other farm household characteristics

Variable	All	Treated farmers	Control farmers
Access to credit	0.35	0.43	0.28
Group marketing	0.15	0.21	0.08
<i>Household shocks</i>			
Pests and diseases in field	0.39	0.4	0.39
Crop losses during storage losses	0.11	0.12	0.09
Theft of crop in the fields	0.04	0.04	0.03

- Limited access to credit

Source: Authors' calculations

Results (con't)

Regression results

- Impact on awareness: increased likelihood of awareness of commodity exchanges by 21.3 and 23.6 percentage points
- Impact on sales: associated with statistically significant **reduction** in maize sales by 265 kgs for maize but insignificant impact on soybean sales

Variables	Maize			Soybean		
	Awareness	Quantity sold	Sales price	Awareness	Quantity sold	Sales price
DiD	0.213*** (0.063)	-265.565* (140.593)	8.040 (5.965)	0.236*** (0.068)	-66.714 (53.056)	16.307** (7.829)
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Wald χ^2	106.91***	152.49***	26.15***	94.21***	210.08***	143.34***
Observations	812	812	447	716	716	674

Results (con't)

Regression results

- Impact on sales price: associated with an increase of 16.3 percent over the mean price received by control farmers (256.14/kg)
- Economic significance of the magnitude of the effect: potentially raised soybean sales income by 8%
- Farmers' use of commodity exchanges/structured markets and commercialization levels: statistical insignificant impacts

Conclusion

- Providing farmers with price information increased farmers' awareness of commodity exchanges, decreased maize sales and increased soybean sales price but was not associated with great use of commodity exchanges/structured markets by small farmers
- Analysis of impact of intervention of small traders still to be completed

Moving forward

- Potential discussion questions
 1. What are the reasons for no impact of the intervention on farmers' sales, commercialization levels, and use of structured market?
 2. How can smallholder access to structured markets be strengthened?

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