

Price Negotiation In Camel Milk Trade: Analysis of Milk Producers' Bargaining Power in Kenya

Simon Gicheha¹, Ernst-August Nuppenau²

^{1, 2} Institute for Agricultural Policy and Market Research, Justus Liebig University Giessen, Germany

Background and objective

- Kenya ranks second globally in camel milk production with an estimated per annum production of 0.95 million litres valued at US\$ 35 million
- However, the value chain performance have remained poor despite intervention by both government and NGOs over the last ten years
- Weak bargaining power that manifest in form of low prices characterize milk producers selling milk to traders operating individually or as a cooperative
- The study of the mechanisms that assist in understanding the microeconomics of price formation is important in shaping market outcomes as supported in arguments in microeconomics literature
- In view of this, the study seek to establish how camel milk prices are determined as well as the factors influencing the milk producers bargaining power variations
- This has an important policy implication given that the relative bargaining power of agents in a negotiation process is the major determinant of the margin share received by the parties

Analytical Framework

- Milk producers and traders vary in valuation of transacted milk volume due to variation in price information sources.
- The variation of one party is not known to the other. specifying the proxy for the bargaining power of the milk producer α_p

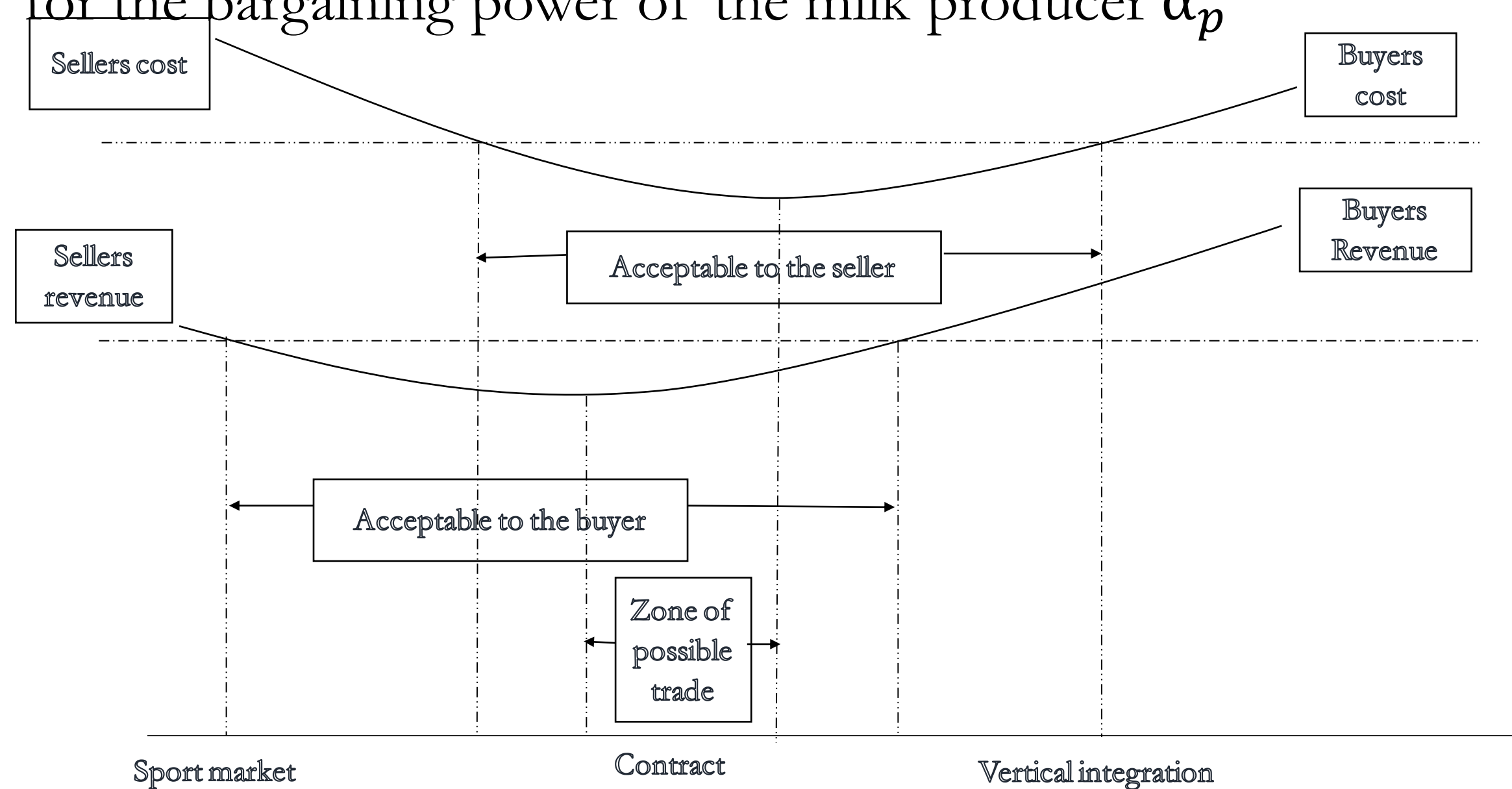


Figure: Demonstrating the overlapping valuation of milk and specifying the region of price negotiation (contract) and

- During negotiation, an initial price is quoted by each of the parties based on their variation
- Trade happens when the traders maximum affordable price exceed the farmers minimum acceptable selling price
- The final agreed price lies between the farmers and trader's reservation price

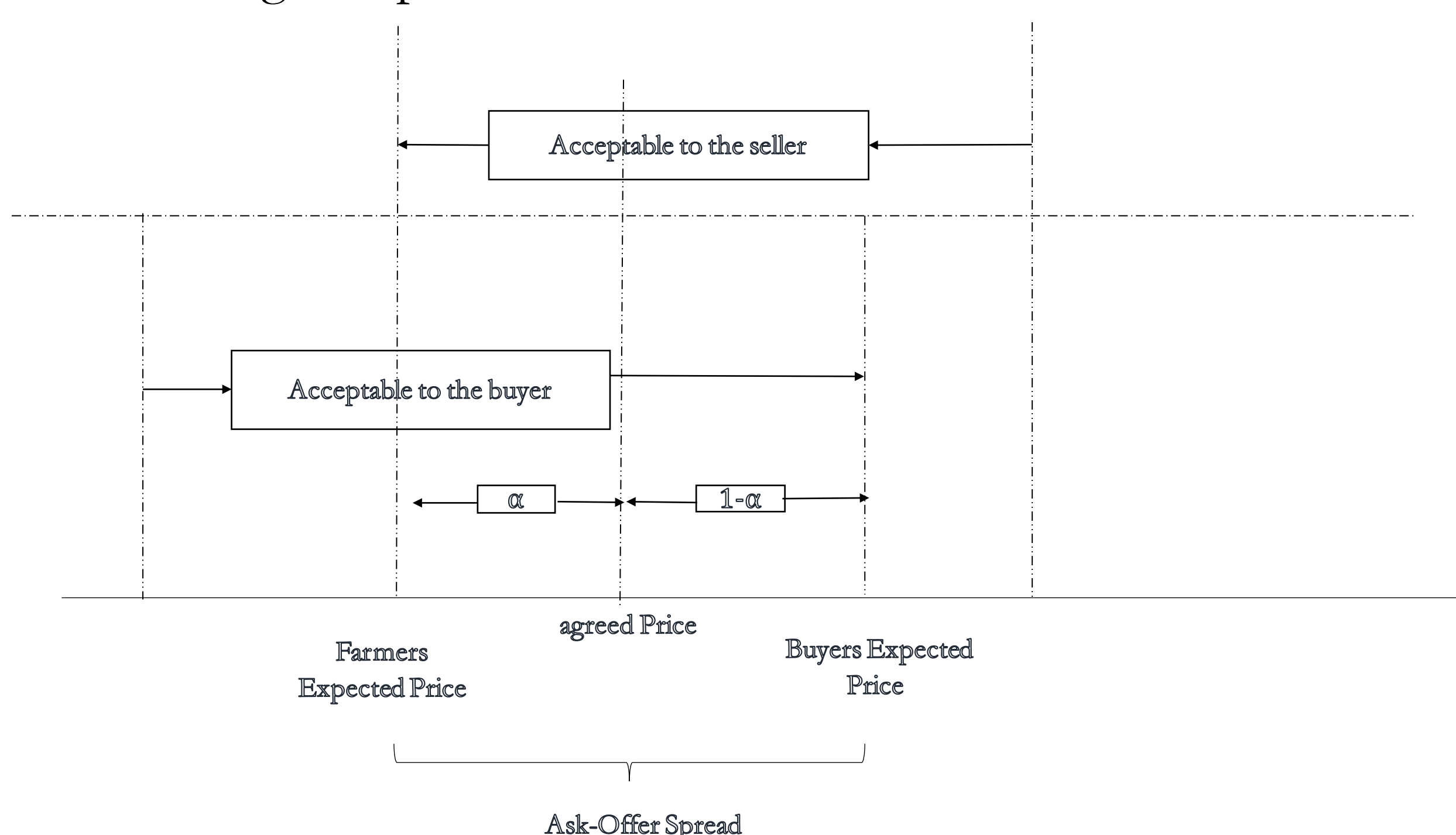


Figure: specifying the proxy for the bargaining power of the milk producer α_p

Conclusion and recommendation

- Improving access to information & facilitating information transmission is crucial in minimizing information asymmetry and ultimately enhance the bargaining power
- Variable costs such as transport can greatly benefit from improvement in road conditions in the expansive rangelands and ultimately the bargaining power of milk producers

Study area and data collection

- Study area** - Isiolo County Kenya. Purposively selected due to the intensity of the enterprise.

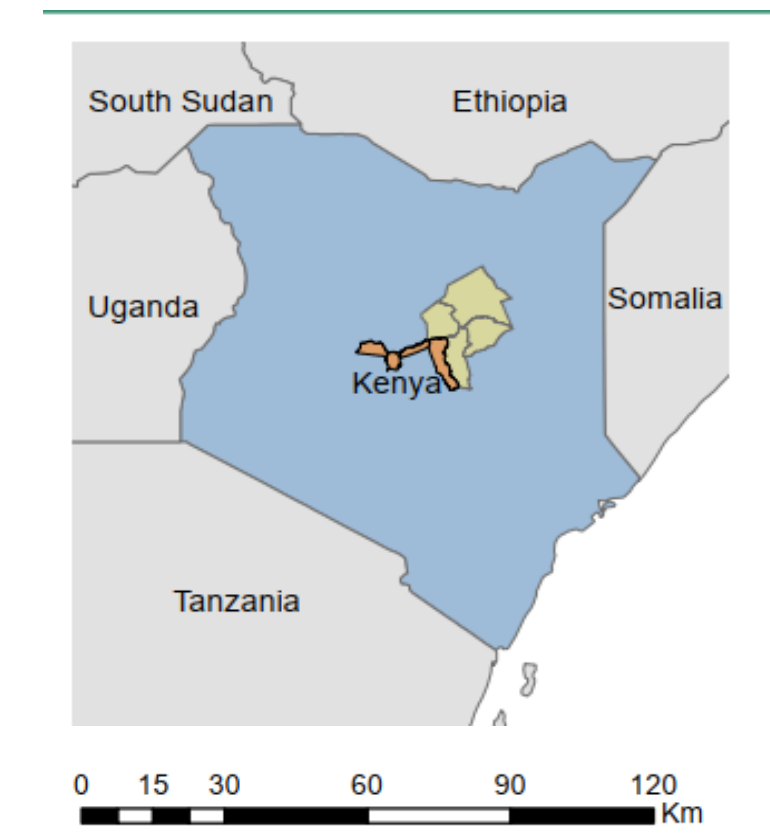


Figure 1: Map of the study area

- 80% of camel milk transacted in Nairobi comes from this county.

- Research Methods: Qualitative and Quantitative methods

- Data collected: milk sale volume, daily price information, prices and price negotiation between farmers and traders

- Research tools - information collected through questionnaire, FGDs and expert interviews on August 2019- Feb 2020.

Results and Discussions

- A large share of the bargaining power in the camel milk trade still rests with the traders (62%)

Variables	Mean (Ks)	S.D
Milk producer's access to price information in the end market	35.7%	
Milk producers initially expected price	64.312	7.990
trader cooperative initially expected price	48.268	2.422
Actual observed price at the time of the survey	54.688	8.434
Ask-offer spread	16.164	5.192
Milk producer's commitment to their initially asked price	9.725 (38%)	4.335

Table: Factors influencing milk producer's commitment to the price they originally quote in a transaction as well as the ask-offer spread

Variable	Farmer commitment	Ask-Offer Spread
Age of the farmer	0.015 (0.011)	0.041*** (0.015)
Education level of the farmer	0.068 (0.051)	0.143* (0.074)
Age of the Trader	-0.173*** (0.014)	-0.020 (0.020)
Education level of the trader	-0.061** (0.026)	0.005 (0.038)
Quantity of milk transacted	0.055*** (0.021)	-0.010 (0.030)
Distance to the meeting point with the trader	-0.021* (0.020)	-0.04* (0.028)
Member of group	0.294*** (0.403)	0.143*** (0.584)
Ownership of Aluminum milking can	-0.477* (0.519)	0.386*** (0.752)
Ownership of home-made coolers	-0.1919*** (0.539)	0.692** (0.781)
Knowledge of price information in the end market	0.368*** (0.747)	0.510 (1.083)
_cons	0.0859*** (0.0763)	0.0228*** (0.0106)
R-squared	0.554	0.346

Standard errors are in parenthesis

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

- Increased knowledge of price information in the end market raises the bargaining power of milk producers
- The milk producer's commitment to the price they originally quote in a transaction as well as the ask-offer spread decreased with increased distance to the meeting point with the trader respectively

Reference

Perry, M. (1986). An example of price formation in bilateral situations: A bargaining model with incomplete information. *Econometrica: Journal of the Econometric Society*, 313-321.