



Identification of strategies to improve goat marketing in the lowlands of Ethiopia: a hedonic price analysis

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Presentation outline



- Introduction and motivation
- Research objectives
- Study markets, data and methods
- Descriptive and empirical results
 - Goat production and marketing
 - Implicit price of attributes
 - Effect of market agents, location and marketing seasons on price
- Conclusions and policy implication

- In rural livestock markets of Ethiopia, animal attributes play a key role in determining observed prices (Kassie, Abdulai, and Wollny 2011; Ouma, Abdulai, and Drucker 2007; Terfa et al. 2013).
- The role of animal attributes on price formulation varies across species, breeds and markets (Ayele et al. 2006; Kassa, Haile, and Essa 2011; Teklewold et al. 2009).
- However, livestock market in Ethiopia is not only determined by consumers' utility for the animal's attributes.
- The behaviour of an individual buyer (consumer, producer or traders) may have a significant effect on prices (Ayele et al. 2006; Kassie, Abdulai, and Wollny 2011; Andargachew and Brokken 1993).
- Biological clocks, climatic patterns and lack of resources limit farmers' ability to fully exploit seasonal price variations and tap into special niche markets to their own advantage.

- Some of the marketing behavior of smallholder farmers/pastoralists:
 - They know the seasons during which enough feed is available and hence they are under no pressure to sell.
 - These seasons also coincide with times of relative cash abundance and hence goats command high prices.
 - On the other hand, they identified seasons where cash requirement and feed shortage are very high overlapping with the periods in which they are compelled to sell
 - These are periods when goat prices go down to their lowest levels.
 - Because supply of goats with poor body conditions increases due to producers' intentions to minimize drought induced livestock production risk.

- These marketing strategies result in variations of goat demand and supply and hence prices across seasons.
- Even if goat keepers know that goats with good body conditions generally command price premiums, supplying goats with good body conditions is often challenging under arid production conditions and more so in cases of drought.
- *This study aimed to investigate the relative importance of the attributes of the animal in setting the price within local markets.*
- *This study also analyze potential mechanisms by which smallholder goat producers could maximize their benefits.*

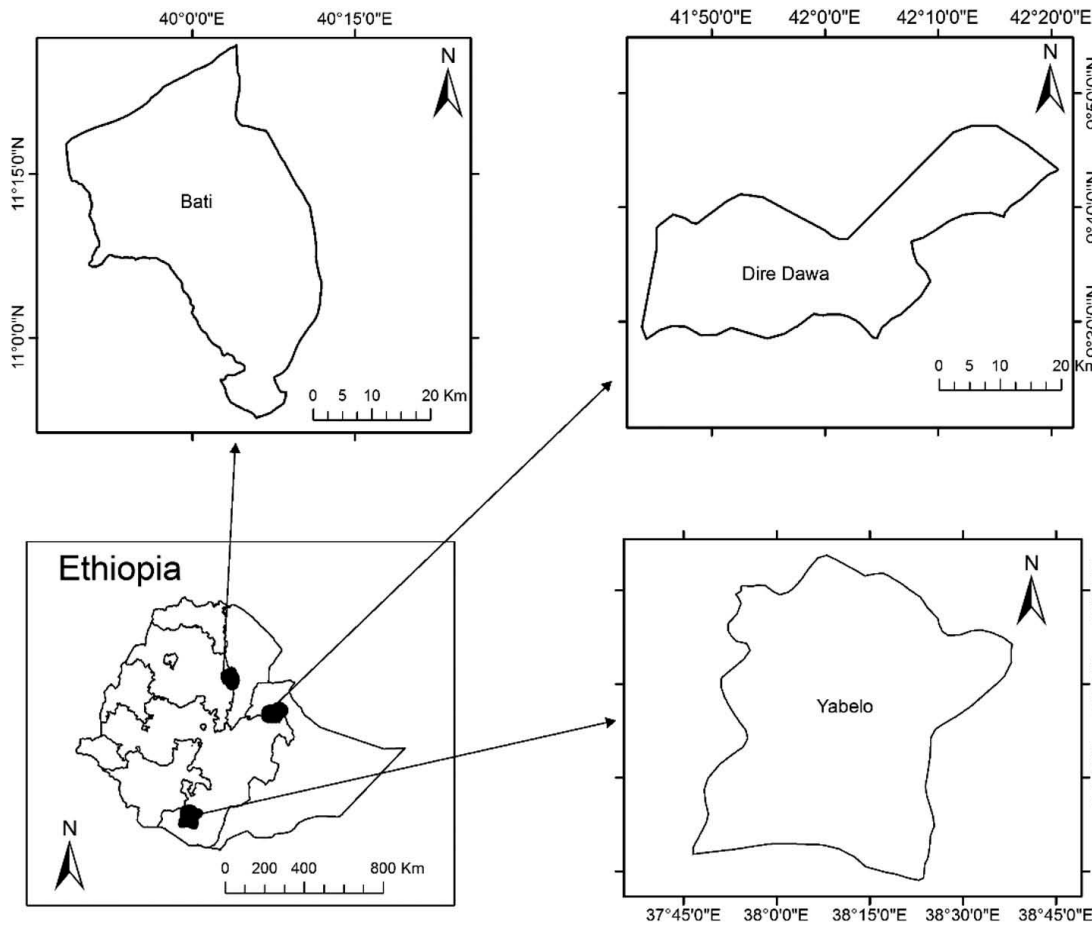


Figure 1. The location of the study

- The transaction-level data were captured in these major goat markets on 2103 transactions from 1551 buyers.
- The data were collected during fasting, festive and normal (two weeks after a major festivity) periods.
- Hedonic price model
- Specifically, due to the presence of spatial and seasonal price variability, we used structural heteroscedastic-in-mean (SHM) regression.

- The major factors for decision on goat transactions are extents of cash needs, price of goat and access to inputs for goat production.
- Farmers sell when they are in need of cash, goat prices are high and feed is scarce and buy goats when conditions are the opposite.
- Cash needs are among the most important factors that determine smallholder goat producers' marketing decisions.
- About 36% of households made transactions when they have high cash needs and 12% when surplus cash is available regardless of price.
- Cash needs vary across seasons, the classification of which follows rainfall distribution and length.
 - For example, in Bati district, cash needs become high during *Kiremt* (the main rainy season) and *Meher* (immediately after the crop harvest season).
 - Pastoralists in Shinille district design their marketing strategies in such a way that they sell goats to fetch better price and to satisfy high cash needs during rainy seasons, and Re-establishment of flocks through purchases in the aftermath of droughts .
 - Marketing strategies of pastoralists' in Yabello district is dictated not only by cash needs and availability but also by availability of feed.

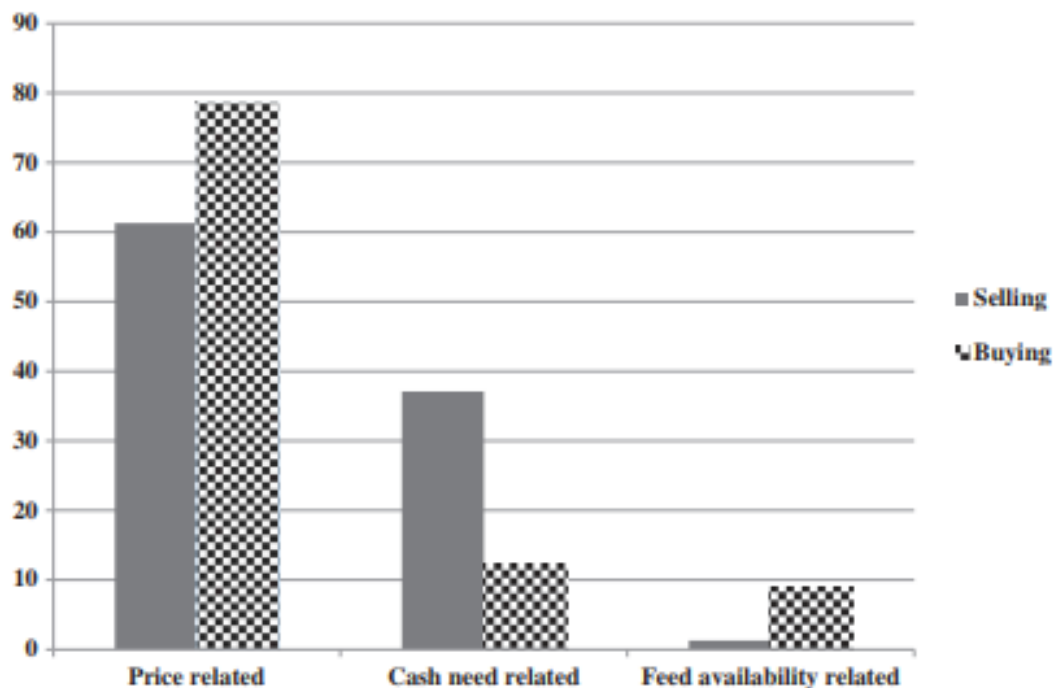


Figure 1. Key reasons for buying and selling goats.

- More than 60% of households sell goats when goat prices are high and buy goats when goat prices are low.
- Liquidity constraints are also important in farmer/pastoralist sales decisions where 35% of farmers sell when they are in need of cash.

- Buyers attached significant implicit price for some goat attributes in particular that associated with the quality and quantity of meat .
- Live weight has nonlinear effect, goats up to 58 kg command higher price and then price starts to decline as weight increases.
- Castrated male goats, on average weighting 37 kg, have a 15% price premium over intact males.
- Goats that are marketed with good condition command prices that were about 6.7% higher than those in poor condition.
- Goats that are marketed at the age of less than one year have no significant price discount over those marketed at the age of between 1 and 3 years.

- This is basically associated with the purchasing criteria for abattoirs' that target the export market, as such contributes to male goats that are less than one year and have weight of 13–30 kg leading yearlings to fetch price as high as those aged between 1 and 3.
- In contrast, goats that are marketed at age 1 have significant price discount over those marketed at ages of between 3 and 4 years and ages of above 4 years.
- The study also reveals the importance of the attributes beyond the amount and quality of meat on price formulation process.
- For example, intact males have a 9% price premium above females, although the average weight of both intact males and females is the same (22 kg).
- Goats with horn have price premium over goats that are not horned.

- The observed price of goats is a function of both the goat attributes and individual buyer attributes, implying the livestock market is not competitive.
- Buyers' objective plays an important role in price formation, those who buy for consumption and traders target to optimize their satisfaction and profit, respectively.
- The role of the modes of rainfall and seasons of the year play vital role in the process of designing marketing strategies.
 - Goat marketed around the Ethiopian New Year (celebrated nationally) command the highest price.
 - Ramadan is the second most expensive marketing season next to Ethiopian New Year (high meat demand both in the country and Middle East countries).
- Spatial price variability associated with the number of sellers and buyers in a specific market were reflected.
 - Bati market is where goats fetch the lowest price, named as buyers market
 - Dire Dawa market is where goat prices are highest, named as sellers market ⁹

- Smallholder farmers and pastoralists do speculate the temporal pattern of goat market prices and develop their marketing strategies to maximize their benefits.
- However, extreme weather conditions often reduce their ability to implement their optimal marketing strategies.
- Risk management has a huge bearing on their marketing strategies, thereby reducing producers' ability to take advantage of market opportunities for specific traits and during specific periods.
- Goat price formulations are influenced by a number of animal attributes, particularly those that are related to the amount and quality of meat.
- The heterogeneity in the types of buyers has also a significant effect on price formation reflecting the lack of competitiveness in the Ethiopian goat markets.
- Goat markets in the lowland areas of Ethiopia are exposed to price variability.

- A number of smallholder producer-appropriate technologies are available that can help goat producers overcome some of their major constraints.
- For instance, kidding periods can be planned using simple synchronization methods.
- Using community-based breeding strategies, farmers can produce goats that possess traits that are demanded by specific niche markets in specific periods (Haile et al. 2011).
- Development of different feed resources can also be used to overcome feed shortage problems and increase feeding efficiency.
- *The introduction of different goat production and forage technologies with networking and institutionalization of markets can improve the existing production conditions and marketing strategies of smallholder and pastoralist goat producers*

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Thank you!