

Expanding Agroindustry in the Developing World: Quality, Contracts, and Rejection

Karen Thome

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Procurement systems in the developing world

- Increases in demand for high-quality food products and the spread of supermarkets to the developing world has led to changes in supply chains
- Large retailers and exporters cannot meet the growing demand through traditional wholesalers

A contracting solution?

- Contracts are traditionally used for crops such as cotton and sugar cane
- Contracts are being used more and more for other types of crops, such as produce commodities
 - Buyers use contracts to ensure cost, quality, quantity, and timing of supply
 - Farmers contract because it helps them eliminate price risk and addresses other market failures

Slide 4

RS1

I am not sure what this statement means.

Rich Sexton, 11/26/2007

A lack of institutions: contract enforcement is a concern

- Producers may default if they can receive a higher price in a different market
 - Prevent with input provision or via repeated interaction
- Buyers may default because of capacity constraints or demand shocks
 - Often use “poor quality” as a rationale to reject unwanted product (Reardon and Berdegue, 2002)
 - Buyers are alleged to change the quality standards when it suits their needs (Echanove, 2001).

Will the rise in production of high-value crops and use of contracts in developing countries benefit smallholders?

- Can smallholders secure “fair” terms of trade in contracting with large agribusiness firms?
- How does the use of contracts affect non-contracted farmers?
- How do contracts affect smallholders when quality matters?
 - Does lack of enforcement mechanisms and institutions in some countries work to the detriment of smallholders?
 - How does the presence of a contract market affect the performance of the spot market?

Theoretical models of contracts

- Prior studies have shown that contracts can be used to depress the spot market price (for example, Love and Burton, 1999)
- Hueth and Ligon (1999) show how imperfect quality measurement can lead to a moral hazard problem, where producers are not perfectly insured against price risk
- None consider rejection as a choice variable

Theoretical models of contracts

- It is important to model how rejection rates could potentially affect farmer well-being
- I have modeled a situation where imperfectly observed quality and rejection rate are not consistent RS2
- The rejection rate is based not only on quality, but also on the market conditions faced by the buyer RS3

Slide 8

RS3

Make the point verbally, if not on slide, that if spot price defines participation constraint, then buyers can manipulate contract price if they can drive down spot price, e.g., by raising rejection rate and causing rejected product to be sold in the spot market.

Rich Sexton, 11/26/2007

RS2

This isn't clear to me either. Perhaps your discussion will make it clear.

Rich Sexton, 11/26/2007

Empirical analysis of contracts and quality

- Prior empirical work on contracts and modern supply chains has not explicitly considered quality requirements
- One branch of the literature estimates the effect of contracts on farmers' well-being
- Another considers the effect of selling to a particular supply chain on farmers' profits and efficiency

Empirical analysis of contracts and quality

- Quality is important, but there are usually no public standards in developing countries, thus quality may be difficult to measure
- Rejection rates are easier to measure objectively

Empirical analysis of contracts and quality

- Rejection rates should be a function of quality, which can be proxied by measurable variables such as input usage
- If buyers reject produce for other reasons, the rejection rate will also be based on demand factors faced by the buyers (see Suzuki)

Supermarkets and contracts in Mexico

- Mexico is large and diverse in terms of production activities
- Supermarkets have expanded rapidly, with more room for growth
- There is evidence that supply chains are adapting as well

Data and focus

- Pick a crop where there will be some variation in types of growers and destination of produce
- Survey of growers
 - Production information and rejection data
- Survey of buyers
 - Easy to identify through red book

Conclusions

- Increases in the production of high-value specialty crops in developing countries has the potential to increase smallholder incomes
- But legitimate concerns can be raised as to whether
 - the existence of contract markets adversely affects spot markets, where smallholders are forced to sell if they are unable to secure contracts
 - large buyers strategically use rejection rates to (a) adjust their sales to current market conditions, and (b) manipulate prices in the spot market, thereby loosening producers' participation constraints.