

Competition and relational contracts

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Abstract

In their paper on the dangers of emerging-market competition: Evidence from Rwanda’s coffee supply chain, Macchiavello and Morjaria (2020) argue that increased competition in agriculture markets sustained by informal contracts can diminish performance and value for all players in the supply chain. This paper revisits this question, but instead of looking at competition between processors, we take one step back up the value chain to consider competition among traders.

Motivation

A recent paper by Macchiavello and Morjaria (2020) attempts to empirically answer the question whether increased competition is beneficial in settings characterized by weak contract enforcement. In developing economies, weak contract enforcement leads to the emergence of second-best institutions (Rodrik, 2008). In commodity value chains, this often takes the form of relational contracts.

However, the value chain they focus on seems to be missing an important link. For many commodities, farmers will sell at the farm gate to a trader, who will then aggregate production and link further to processors. It is likely that especially farmers that sell only small quantities will rely on traders. As such, an exclusive focus on the farmer-processor link may mean findings are affected by selection bias.

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Variable construction

Relational agreements

Similar to Macchiavello and Morjaria (2020), we define relational contracts in terms of a set of practices that characterize transactions between farmers and traders. Credit appears to be an important component in relational contracts. In our data, farmers report obtaining credit from We further find that 50 percent of traders state that the provided to farmers they bought from.

Competition

In Macchiavello and Morjaria (2020), competition between mills is determined location. In particular, they define catchment areas with a radius of 5km around the mills and assert that two mills compete with each other if their catchment areas overlap. Such an approach is unlikely to be satisfactory for traders, who are mobile by nature. We therefore measure competition at the level of the farmer by simply asking how many maize traders or middlemen are buying maize in there village or neighborhood. Doing so, we find that there are on average 5 traders working in the area.

Does competition affect relational agreements?

Look up in literature:

Swinnen and Vandeplas 2010 (AgEcon -- my IAAE Plenary presentation from Beijing)Swinnen and Vandeplas (2010)

to do:

- descriptive statistics like table 1 in Macchiavello and Morjaria (2020)
- develop theoretical model
- alternative ways to link traders to farmers
- we need a convincing identification strategy - can we come up with a convincing instrument.

Table 1: Summary Statistics

	mean	median	standard deviation	obs
<i>traders</i>				
credit	0.496	0.000	0.501	341
agricultural inputs	0.053	0.000	0.224	341
training on storage and handling	0.126	0.000	0.332	341
storage and handling related inputs	0.358	0.000	0.480	341
storage and handling related inputs	0.323	0.000	0.468	341
Age	37.850	37.000	9.565	341
Gender	0.021	0.000	0.142	341
Education	0.965	1.000	0.185	341
Marital status	0.959	1.000	0.199	341
Percentage of maize trade	55.221	60.000	17.852	317
No. of other traders	11.688	8.000	13.345	144
Lowest buying price	338.211	300.000	105.348	341
Lowest selling price	545.507	500.000	203.597	69
Highest buying price	838.647	800.000	280.690	340
Highest selling price	1119.565	1100.000	406.131	69
Maize collected per day (kgs, after harvest)	2681.504	1000.000	5754.334	341
Maize collected per day (kgs, during planting/growing)	1175.849	500.000	1881.964	338
Storage capacity in kgs	31384.746	10000.000	76279.608	59
Certified scales	0.724	1.000	0.448	341
<i>farmers</i>				
credit	0.523	1.000	0.500	749
agricultural inputs	0.039	0.000	0.193	749
training on storage and handling	0.160	0.000	0.367	749
storage and handling related inputs	0.207	0.000	0.405	749
Age	44.499	43.000	13.543	1517
Gender	0.489	0.000	0.500	1527
Education	0.866	1.000	0.341	1527
Marital status	0.864	1.000	0.343	1527
Household size	7.948	7.000	3.730	1527
No. of rooms	3.160	3.000	1.453	1527
Land for crop production (Acres)	2.926	2.000	3.920	1508
Member dummy	0.151	0.000	0.358	1527
No. of plots for maize	1.498	1.000	0.772	1527
Maize sold (bags)	6.981	4.000	15.043	979
No. of transactions	1.406	1.000	0.833	982

Note:

Table 2: Percentage of traders in the different action radius categories.

	Percentage of traders
Entire country	1.17
Various districts	21.41
One district	9.68
Various sub-counties	19.94
One subcounty	19.35
Various parishes	8.5
One parish	10.56
Different villages	4.4
One village	4.69
Only a few households	0.29

- should we also add millers to the analysis? We have collected data on relational contracts at the level of the mill, but we did not ask farmers a lot of questions about services, only about credit. Same for agro-input dealers.

References

- Macchiavello, R. and A. Morjaria. 2020. “Competition and Relational Contracts in the Rwanda Coffee Chain*.” *The Quarterly Journal of Economics* 136 (2): 1089–1143.
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- Swinnen, J. F. and A. Vandeplas. 2010. “Market power and rents in global supply chains.” *Agricultural Economics* 41 (s1): 109–120.