Competition and relational contracts

Bjorn Van Campenhout*†, Hyejin Lee†, and Anusha De†

May 11, 2021

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.

*Development Strategy and Governance Division, International Food Policy Research Institute, Belgium - corresponding author: b.vancampenhout@cgiar.org

†LICOS Center for Institutions and Economic Performance, KULeuven, Belgium

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
		traders		
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	12.513	13.000	4.653	341
No. of other traders	17.167	22.000	6.862	341
Lowest buying price	338.211	300.000	105.348	341
Lowest selling price	14.405	16.000	3.561	341
Highest buying price	839.117	800.000	280.412	341
Highest selling price	21.446	24.000	6.041	341
Maize collected per day (kgs, after harvest)	2681.504	1000.000	5754.334	341
Maize collected per day (kgs, during planting/growing)	1174.293	500.000	1873.715	341
Storage capacity in kgs	17.956	20.000	5.050	341
Given inputs to farmers	0.053	0.000	0.224	341
Given tarpaulins to farmers	0.161	0.000	0.368	341
Given PICS bags to farmers	0.062	0.000	0.241	341
Given gunny bags to farmers	0.252	0.000	0.435	341
Given technical assistance to farmers	0.126	0.000	0.332	341
Given credit to farmers	0.496	0.000	0.501	341
Certified scales	0.724	1.000	0.448	341
		farmers		
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	50.750	44.000	78.189	1527
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)	15.319	2.000	110.520	1527
Member dummy	0.151	0.000	0.358	1527
No. of plots for maize	1.498	1.000	0.772	1527
Maize sold (bags)	43.509	52.000	22.790	1527
No. of transactions	3.758	2.000	3.228	1527

Note:

- 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.

Rodrik, D. 2008. "Second-Best Institutions." *American Economic Review* 98 (2): 100–104.

Swinnen, J. F. and A. Vandeplas. 2010. "Market power and rents in global supply chains." *Agricultural Economics* 41 (s1): 109–120.