LV CONVEGNO DI STUDI

METAMORFOSI VERDE
AGRICOLTURA, CIBO, ECOLOGIA

Complesso monumentale di San Pietro
Dipartimento di Scienze agrarie, alimentari e ambientali
PERUGIA 13-15 settembre 2018

Implications of Plant Variety Patentability on the Governance of Agri-Food Value Chains

Antonella Di Fonzo, Carlo Russo and Negin Fathinejad, University of Cassino and Lazio Meridionale

Abstract

Objective - The overall aim of this paper is to investigate how the regulation on plant variety patents (Reg. CE 2100/94) can affect the organization of agri-food value chains. The development of new varieties is considered a key factor for improving productivity and sustainability of agriculture. Innovation is also driver of consumer value, as customers appreciate new club varieties, such as pink lady or kanzi apples.

We explore implications of this trend for the food system. In fact, the vast majority of the literature assumes that life science/input supplier companies are the owner of patents. Yet, large traders have entered the market aggressively. We explore the new governance forms emerging from genetic-centered value chain, when the patent-owner is the leading firm and has the ability (and the will) to organize the transactions. In particular, we study the incentives that farmers have to join a supply chain where they are merely contracted growers.

Methodology - This paper uses both an empirical and a theoretical approach to achieve two main objectives. Firstly, we adapt existing theoretical frameworks of governance to the case of genetic-centered supply chains (Dolan and Humprey, 2000; Humphrey and Schmitz, 2001;Gereffy et al., 2005; Trienekens, 2011, Trienekens et al., 2017). The new framework will consider the possible combinations of value chain leadership and ownership of the patent explicitly, showing the impact of intellectual property rights on organization.
Secondly, we apply the framework to the case of Zespri sungold kiwifruit. Zespri, the largest kiwifruit traders in the world, bought from the Chinese government exclusive commercial rights over several non-GMO genetic strands of kiwifruit, including the popular club variety sungold. Now Zespri can integrate two key links of the value chain: input providing and marketing. In this unique value chain, farmers are under a sort of agistment contract. They receive the roots and then they return the fruit to Zespri, for a pre-determined price. Farmers have limited entrepreneurial freedom, and their competitive advantage is based only on cost efficiency. We interviewed opinion leaders and farmers to identify farmers' incentives to join Zespri's value chain.

Results - This paper provides a discussion of the main issues related to vegetables biotechnology innovation in agriculture and distribution of the benefits they bring along the food chain. The strong monetary incentive to innovation has important consequences along supply chain. In fact, innovators have the opportunity to capture a large share of the benefits from the enhanced productivity of the new input. In some cases, farmers might adopt new technologies without achieving a significant increase in their income. Ensuring that farmers can capture a fair share of the value of innovation is a long- known problem (Cochrane 1958; Levins and Cochrane 1996), but it has not been solved yet.

Keywords: Varietal clubs, Market orientation, Value chain governance, Fresh global food chains

References

- Cochrane, W. W. (1958). The agricultural treadmill. Farm Prices, Myth and Reality. University of Minnesota Press, Minneapolis, pp. 85-107.
- Dolan, C., & Humphrey, J. (2000). Governance and Trade in Fresh Vegetables: The Impact of UK Supermarkets on the African Horticulture Industry.' Journal of Development Studies, 37 (2), pp. 147-176.
- Gereffi, G., Humphrey, J., & Sturgeon T. (2005). The governance of global value chains, Review of International Political Economy, 12(1), 78-104.
- Humphrey, J., & Schmitz H., (2001). Governance in Global Value Chains. Institute of Development Studies, 32(3), pp. 19–29.
- Levins, R. A., & Cochrane, W. W. (1996). The treadmill revisited. Land Economics, 72(4), pp. 550- 553.
- Trienekens, J. (2011). Agricultural Value Chains in Developing Countries A Framework for Analysis. International Food and Agribusiness Management Review, 14(2), pp. 51-82.
- Trienekens, J., van Velzenb, M., Leesc, N., Saundersd, C., &Pascucci, S. (2017). Governance of market-oriented fresh food value chains: export chains from New Zealand. International Food and Agribusiness Management Review, 0(0), pp 1-20.