

**PLAYING WITH NESTED DOLLS:
FORMAL COORDINATION AND COMPLEMENTARITY BETWEEN CONTRACTING
FORMS IN THE WINE GRAPE SUPPLY INDUSTRY**

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ABSTRACT

In the literature on agri-food organization, protecting product quality has been identified as a motivation for vertical coordination. Recent empirical studies on contracting in the wine grape supply industry show two main results (Goodhue et al., 2003; Fraser, 2004; Codron et al., 2005): (i) among the variety of vertical arrangements (spot, oral, written and "complex" contracts), a more formal coordination is associated to a higher quality; (ii) there is some complementarity effects between those different vertical arrangements.

Dealing with the efficiency of the formal coordination, Goodhue et al. (2003) show that growers in the Californian regions where quality is the highest are significantly more likely to have written contracts. Moreover, analyzing the written contract provisions they find that more "complex" arrangements, like authority decision allocation on the production process, are needed to implement high quality of grapes. In contrast when quality is not high and quality attributes are easily measured, then "market" incentives provisions like bonus or penalty payments are more frequent. Fraser (2004) found similar results in the case of the Australian wine grape industry. Codron et al. (2005), analyzing the Argentina wine grape industry, also support the previous result that the more formal the arrangement the higher the level of grape quality. Second, with regard to the complementarity issue, Goodhue et al. (2003) find that implicit and explicit dimensions of a contract may be entwined. For instance, the longer the relationship with the buyer, the more likely written contracts can be signed and specific production practices provisions may be included. Codron et al. (2005) also suggest that those different arrangements may not be viewed as rival mechanisms since only an original combination can achieve the highest quality.

My paper provides a theoretical rationale for those two main empirical results. Using an incomplete contract model, I study the contract relationship between a winery and a grower. First, I define the conditions under which a formal (written) contract can be an efficient contract arrangement. I show that if such a contract improves efficiency upon informal (oral) contracting, it cannot solve by itself the hold-up problem when the investment generates some externalities. However, a formal contract may become efficient in a dynamic setting where the relationship is repeated since the implicit contract can play the role of an additional incentive mechanism. That is, a combination of implicit and explicit contracts emerges as an hybrid form which improves upon both types of contracts. I call such hybrid form a *simple relational contract*. Second, I extend further the analytical framework to deal with the decision rights allocation (on the grower's assets) mechanism. I show that a new contracting form, that I call an *authority relational contract*, Pareto dominates the previous *simple relational contract* since it can implement the highest quality of grapes. Therefore, embedding like nested dolls the different mechanisms exhibits a complementary effect, which can increase efficiency and thus implements higher grape quality.