

Literature review WP 2

Switzerland

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Review report

1. THEORETICAL REFERENCES

In order to represent supply chains organisations, we need a strong theoretical framework. Otherwise, we could not avoid descriptions that would not be comparable and would omit very important and relevant points.

We have selected two main topics to understand the food chain organisational « design » and assess its efficiency. We propose a brief state of art review about these topics :

- 1- Horizontal and vertical contractual arrangements through the supply chain
- 2- Economic models and antitrust regulations

1.1. Horizontal and vertical contractual arrangements through the supply chain

This topic concerns the analysis of the relationships and bargaining powers through the supply chain. We feel that « horizontal » contractual traditions on a given market may enter in conflict or in co-operation with « vertical » management innovations in the PDO supply chain. It is necessary to identify and understand the logic of these competing contractual arrangements. The New Institutional Economic Theory gives us interesting concepts to explain the actors' organisational choices.

a) Uncertainty degrees, contracts classification and risks distribution

Uncertainty is a central concept of New Institutional Economics. Uncertainty on quality (Akerlof, 1970) leads to the notions of information asymmetry on quality, moral hazard and adverse selection. Uncertainty on future raises the issues of opportunism and rational anticipations (for a review, Orléan, 1994). Uncertainty on the price distribution raises the issue of access to price information (Stigler, 1961). Considering these different uncertainties, the actors' decision is taken with procedural rationality (Simon, 1976). The organisational design of a market is thoroughly linked to the level of the different uncertainties that the firms have to face. The contract is a major witness, as it finally sets the risks distribution between seller and buyer and is characterised by the incomplete contracting degree. Risks are especially high when the transaction execution is linked to specific assets (Williamson, 1985).

b) Bilateral contractual arrangements

Uncertainty creates transaction costs (Coase, 1937) that may be *ex ante* (before or during the trade negotiation) or *ex post* (after the trade negotiation). Buyers and sellers choose, according to the degree of asset specificity and the transaction frequency, the bilateral structure of governance (market, hybrid forms, hierarchy) which minimises these transaction costs (Williamson, 1985 ; 1996).

c) "Horizontal" meso-economic arrangements ; the tasks of market institutions

Collective « horizontal » organisational arrangements have been identified for industrial sectors (Porter, 1980). The Evolutionary Economic Theory has highlighted the necessity for firms to adapt to the moving market environment and to pass a selection process (Nelson & Winter, 1982 ; Hodgson, 1988 ; Moati, 1999). Some recent studies have insisted on the role of buyers and market specific institutions . The diversity of these organisational choices has been highlighted, especially within the agri-food sector (Ménard., 2000).

d) "Vertical" meso-economic arrangements

The issue of the building up of vertical arrangements within a food supply chain is central in our Dolphins project. These arrangements have to live with or to replace the pre-existing trade traditions on the concerned horizontal market systems. The PDO food chains are alternative models that aim to build up a collective promise to the consumer and a common marketing strategy. They compete with low integrated supply chains and/or with vertically integrated firms or chains.

1.2. Economic models and antitrust regulations

Concerning regulation, the present most crucial issue is for us the antitrust rules, when a PDO supply chain decides on collective vertical and horizontal agreements regarding intermediary prices and quantities, in order to engage a common marketing strategy on the consumer market. Many authors contest the economic theory models which are usually used by the antitrust authorities to assess horizontal and vertical co-ordinated systems ?Coase, 1972 ; Williamson, 1975 ; Joskow, 1991 ; Ménard, 2001?.

1.3. A short list of theoretical references

Akerlof G., 1970, «The market of «lemons» : quality uncertainty and the market mechanism», *Quarterly Journal of Economics*, vol 84, p. 488-500.

Arrow K., 1974, *The Limits of Organization*, New York: W. W. Norton & Company.

Bain J., 1968, *Industrial Organization*, 2nd edition, New York: John Wiley & sons.

Boltanski L., Thévenot L., 1987, *Les économies de la grandeur*, Paris: PUF.

Coase R. H., 1937, « The nature of the firms », *Economica*, 4 nov. pp. 386-405.

Coase R. H., 1972, "Industrial Organization: A Proposal for Research", In V. R. Fuchs, ed., *Policy Issues and Research Opportunities in Industrial Organization*, New York: National Bureau of Economic Research, pp. 59-33.

Hodgson G. M., 1988, *Economics and institutions*, Cambridge: Polity Press.

Joskow P., 1991, "The Role of Transaction Cost Economics in Antitrust and Public Utility Regulatory Policies", *Journal of Law, Economics and Organization* 7, Special issue, pp. 53-83.

Ménard C., 2000, «Une nouvelle approche de l'agro-alimentaire : l'économie néo-institutionnelle », *Economie Rurale*, 255-256, jan-avr. 2000, p. 186- 196.

Ménard C., 2001, Règles concurrentielles et formes organisationnelles hybrides, Working paper, Centre ATOM, Université de Paris I (Panthéon-Sorbonne).

Moati P., 1999, «Méthodologie d'analyse de secteur : l'apport de l'approche évolutionniste » in Basle M. & al., *Approches évolutionnistes de la firme et de l'industrie*, Paris: L'harmattan.

Nelson R. R., Winter S. G., 1974, "Neoclassical vs. evolutionary theories of economic growth : critique and prospectus", *Economic Journal*, 84(4), p. 886-905.

Orléan A., dir., 1994, *Analyse économique des conventions*, Paris: PUF.

Simon H., 1976, «From substantive to procedural rationality», in LATSIS S. J. , *Method and appraisal in economics*, Cambridge: Cambridge University Press, p.129-148.

Stigler G. J., 1961, «The economics of information», *The Journal of Political Economy*, June 1961, p.213-225.

Williamson O., 1985, *The Economic Institutions of Capitalism : Firms, Markets Relational contracting*, London: Macmillan.

Williamson O., 1996, *The mechanisms of Governance*, London, Oxford University Press.

2. SELECTION OF RECENT PAPERS IN SWITZERLAND

2.1. Congress proceedings, journal articles, book sections, thesis 2001-1989

2001

Barjolle D.

Hybrid forms of governance: the case of artisanal food products

Proceedings of the 78 th EAAE seminar, Copenhagen, June 2001.

Bovet Ch. & Chappuis J-M.

Interprofession et concurrence

Economie et Sociologie Rurales 2/01.

Révion S.

Les effets des structures interprofessionnelles sur les systèmes de marché

Economie et Sociologie Rurales 2/01.

2000

Barjolle D., Chappuis J.-M., Dufour M.

Competitive Position of Some PDO Cheeses on Their Own Reference Market,

in *"The socio-economics of origin labelled products in agrifood supply chains: spatial, institutional and co-ordination aspects"*, INRA-Economica, Sylvander, Barjolle & Arfini eds.

Barjolle D., Chappuis J.-M.

Transaction Costs and Artisanal Food Products

Proceedings of the International Society for New Institutional Economics conference, 22-24 September 2000, Tübingen, Germany.

Mainstream economic theory has difficulty explaining the reasons why *artisanal* food products continue to exist in highly competitive markets. *Artisanal* products are labor-intensive rather than capital-intensive and therefore cannot benefit from economies of scale. Our research looks at a particular form of *artisanal* production: the production of the same foodstuff by several *artisanal* enterprises using the same designation. Analyzing the strategies of the *artisanal* enterprises, we observe that they improve their chances of success by combining two main elements:

(1) They choose a collective way to define a common marketing strategy and build up a serious competitive advantage based on a high specificity of the product. To achieve this objective, they adopt a common code of practice. They also set up a service of technical and commercial information for the enterprises, organize common promotion of the product, develop common R&D programs, etc. Inter-professional bodies are created in order to manage the various aspects of the collective management. They gather representatives of the enterprises and make strategic decisions for the supply chain.

(2) The governance structures selected by the operators may minimize their transaction costs (Williamson 1975, 1985). We show, however, that collective decisions made within the inter-professional body through a multilateral negotiation process have a direct influence on the bilateral relations between the operators. Private collective institutions set up by the inter-professional body contribute to reducing transaction costs between the enterprises. Although we do not calculate the cost savings linked to the observed governance structure, we highlight the mechanisms, which lead to these cost reductions. The case-study of a traditional cheese produced in the Swiss Alps gives an example of the collective institutions set up to manage the supply chain from the milk producers to the cheese ripeners.

Interest for the Dolphins project:

- Vertical co-ordination of the PDO food supply chains,
- Organisation of the transactions at each level of the supply chain,
- Determinants of the choice of the transactions governance structure
- Influence of the meso-economic agreements on the bilateral transactions
- Difficulties encountered by the enterprises in the collective management of the product in relation to the antitrust policy
- Influence of the institutional environment on the selection of the governance structures. Consequences for both the supply chain (decreasing number of the enterprises) and the product (modification of the production process and loss of the differentiation characteristics).

Barjolle D., Chappuis J.-M.

Co-ordination des acteurs dans deux filières AOC: une approche par la théorie des coûts de transaction,

Economie Rurale, numéro spécial, été 2000.

Barjolle D., Sylvander B.

Some Factors of Success for Origin Labelled Products in Agri-Food Supply Chains in Europe: Market, Internal Resources and Institutions,

in *"The socio-economics of origin labelled products in agrifood supply chains: spatial, institutional and co-ordination aspects"*, INRA-Economica, Sylvander, Barjolle & Arfini eds.

Révion S.

La diversité des systèmes de marché : proposition d'une représentation du cadre des négociations commerciales pour les marchés de biens ; le cas des marchés agro-alimentaires

Thèse de Doctorat, Institut National agronomique Paris-Grignon, février 2000

The aim of this thesis is first to highlight the diversity of the market frame that organises trade negotiations for a given product ; second to build up tools to analyse its evolution, in order to improve strategic marketing strategy. The tools are tested on a set of agri-food products case studies.

We delimit a meso-economic system for negotiations between a buyer and a seller on goods markets, which we call *market system*. We build up a representation of this system according to the taxonomy rules. Using major results in the micro-economic theory, we select four main "characters" groups , which are linked to the uncertainty level regarding future (group O), price range (group P), quality (group Q), and to the rationality type (group R).

This approach allows the identification of a "structure" for the market system as an invariant. It highlights the link between bilateral bargaining between a buyer and a seller and common decisions within specific market institutions. The task allocation reduces total transaction costs of the specific good and influences the competition intensity.

A set of monitoring tools are being created, based on the research's results and are tested on four case studies. The latter indicates that these tools allow the comparison in space, time for a given product and of different market systems.

Interest for the Dolphins project :

- Definition of a « market system » as an horizontal collective arrangement at a meso-economic level.
- Methodological difficulties to fix market borders when the good is differentiated.
- invariant structure of the market system ; identification of two organs of the market system (bilateral primary negotiation table and multilateral secondary negotiation tables) which jointly operate the market.)
- Keyfactors to understand the diversity of the market system characters.
- The effects of a market system characters on uncertainties degrees, transaction costs and risks that are taken by the operators.
- 4 case-studies analysis.

1999

Chappuis J.-M., Sans P.

Actors' Coordination: Governance Structures and Institutions in Supply Chains of Protected Designation of Origin
 Proceedings of the 67th EAAE Seminar: *The Socio-economics of Origin Labelled Products in Agri-food Supply Chains: Spatial, Institutional and Coordination Aspects*, Le Mans, 28-30 October 1999, Paris: Economica.

In the first part of this article, we present the theoretical foundations of Transaction Cost Economics (TCE) (Williamson, 1985 and 1996). Co-ordination in the supply chain is certainly a major aspect for the success of the PDO product (Protected Designation of Origin) and for the competitiveness of the firms producing and marketing it. TCE helps us to have a systematic approach in the comparison of governance structures (how firms organise transactions) in different PDO supply chains. The attributes of the transactions (asset specificity, frequency and uncertainty) partly explain the encountered arrangements. We show that they are not sufficient to explain all the observed arrangements because TCE considers governance structures between two private operators (bilateral agreements). It is limited when we come to institutional arrangements set up on a collective basis at a meso-economic level (multilateral arrangements).

In the second part of this article, we highlight the diversity of PDO supply chains regarding the number of firms at the different levels. We give a list of issues which must be co-ordinated at a meso-economic level in PDO supply chains and we focus on the influence which a collective management of the supply chain can have on the arrangements of private operators. We thus highlight the strong diversity of responses to problems common to PDO supply chains. As a conclusion we call for further research in the field of collective management of food supply chains.

Interest for the Dolphins project:

- Vertical co-ordination of the PDO food supply chains,
- Organisation of the transactions at each level of the supply chain,
- Limits of Transaction Cost Economics in the analysis of PDO supply chains
- Influence of the meso-economic agreements on the bilateral transactions,
- Difficulties encountered by the enterprises in the collective management of the product in relation to the antitrust policy
- Influence of public supports on the structure of the supply chain and on the co-ordination of the enterprises

1998

Barjolle D., Lehmann B., Chappuis J.-M., Dufour M.

Protected Designation of Origin and Institutions » (France, Spain and Italy),

In : Arfini F. & Mora C., eds., *Typical and Traditional Products: Rural Effects and Agro-Industrial Problems*, Università di Parma, Italy.

Barjolle D., Chappuis J.-M., Dufour M.

The PDO-Cheese Synthesis

Progress Report, FAIR-CT 95-306, PDO-PGI : Markets, Supply Chains and Institutions.

1997

Barjolle D., Mesplou P.

Coordination au sein des filières AOC

Revue Suisse d'Agriculture, vol. 29, n°1, janv-fev 1997, p. 13-16.

3. REFERENCES OUTSIDE THE DOLPHINS COUNTRIES

Belgium:

Verhaegen Ingrid & Van Huylenbroeck G

Analyse de l'organisation de filières courtes sur la base de la théorie des coûts de transaction

in « *A la recherche de la qualité, analyses socio-économiques sur les nouvelles filières agro-alimentaires* », Les Editions de l'Université de Liège, 2001

Discussion report

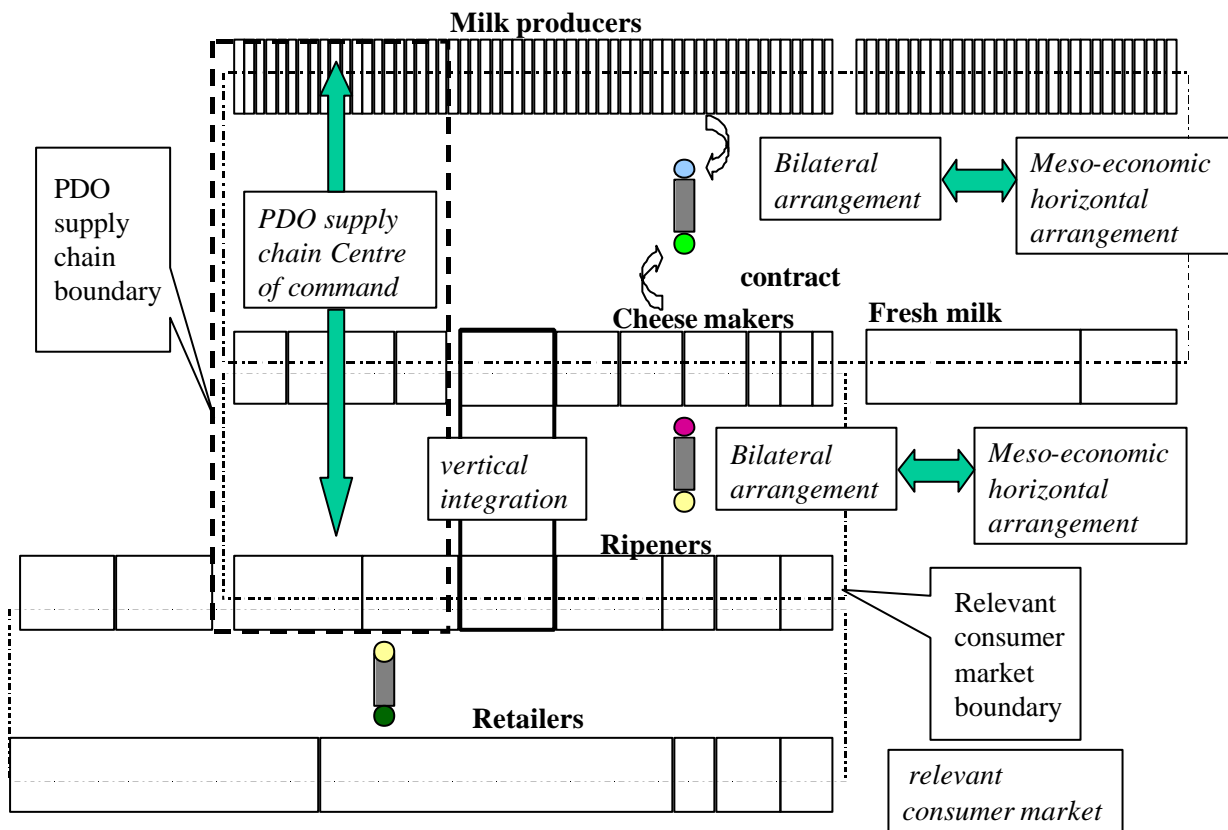
1. NEED FOR NEW RESEARCH

The objective of the Dolphins WP 2 group should be to compare methods for analysing PDO food chains. We need to share theoretical references and supply chains representation tools. We have to avoid descriptions that would not be comparable and could not lead to common recommendations to operators and policy makers.

We feel that we should use both Economic theory results (presented in the review report), Sociology results and marketing knowledge and know-how. This multidisciplinary approach is profitable from a methodological point of view and incites to keep taking into account the firms' commercial concerns.

We need to build a common template, in order to characterise our case studies. Our programme could be first to represent on a map these boundaries and the systems that they delimit (figure 1). We could then have a look at « horizontal » systems and « vertical » ones, that are intersecting at each level of the PDO supply chain. Second, we could try to analyse the link between collective organisation choices and PDO supply chain efficiency.

Figure 1 : Delimitation of the markets and supply chains (an example from the milk sector)



To achieve this task, we propose to discuss the following methodological points :

1.1. Boundaries of markets and food chains

- Relevant consumer market boundaries, main competing firms and supply chains

Two kinds of methods may be used. Market boundaries may be identified in relation to an industrial sector and more in detail with strategic groups (Porter, 1980). However, when the good is differentiated, marketing studies have shown that sellers are not often very clever at identifying their actual competitors (Porac & al., 1994). It is more efficient to determine the «evoked set» of potential products and sellers by consumers/buyers surveys (Urban & al., 1984). It is then possible to estimate the market segment size.

In order to identify the relevant market, the antitrust authorities consider two different points :

- (i) the set of competing or substitute products ;
- (ii) the geographic area where competition is effective (OCDE, 1999).

Our institute works mainly on differentiated food products and we are used to cross-checking sellers and buyers' appreciation of their market boundaries (Réviron, 2000). We would like to have a discussion on this methodological approach.

- Intermediary markets through the supply chain

The problem of boundaries fixing is similar at each level of the supply chain. We have to decide who is in the market and who is not, considering a relevant geographic area (local, national, international). This means to identify the firms who have effective trade relationships, then identify the actual competing sellers and estimate the market size. Firms and producers surveys are often the only way to get this information.

It is sometimes possible to estimate employment at each level of the supply chain, if statistical data collection is enough detailed.

- PDO supply chain boundaries

PDO supply chains are characterised by a collective management and may be considered as vertical systems with specific co-operation and information tools (Zylberstjan, 1999). We need to decide on this system boundaries, by identifying firms and estimating their market share at each level of the vertical system. It is necessary to determine who is actually having trade relationships with whom, in order to isolate eventual vertical sub-systems inside the PDO supply chain.

- Barriers to entry on each market of the supply chain

The barriers to entry concept has been developed by Industrial Economics (following Bain, 1968). Barriers may be natural barriers, regulation barriers or may be the result of the market organisation.

We would like to compare our check lists and classification.

1.2. Horizontal and vertical contractual arrangements through the supply chain

- Uncertainty degrees, contracts classification and risks distribution

We would like to discuss methods to determine uncertainties degrees and to identify the risks that are assumed by the different actors.

- Bilateral contractual arrangements

It is quite easy to identify on a given market transaction costs that may be *ex ante* (before or during the trade negotiation) or *ex post* (after the trade negotiation). We have observed that buyers and sellers, even if they have no consciousness of it and are looking for other aims, choose the bilateral structure of governance which minimises these transaction costs, because it is the most stable arrangement on the long run.

We share the Williamson approach but feel that it needs to be completed by a more detailed classification of the hybrid forms (whose diversity is obvious on actual markets). It is necessary too to better take into account the meso-economic market organisation, that is thoroughly linked to the bilateral organisation (Brousseau, 1993 ; Ménard, 2000).

- "Horizontal" meso-economic arrangements ; the tasks of market institutions

Our Institute has built up tools for representing and understanding the «market system» that organises, at a meso-economic level, the trade negotiation between a buyer and a seller for a given product (Réviron, 2000). We have shown that a market system is often driven jointly by many bilateral primary negotiation tables and one multilateral negotiation table (whose negotiation moods are thoroughly different, according to the Boltanski and Thevenot classification [1987]. We would like to know if other studies and methods have been proposed on this topic.

- "Vertical" meso-economic arrangements

The competition between traditional horizontal contractual arrangements and the PDO vertical arrangements raises many issues : effects of the PDO product specification on contracts ; organisation of the co-operation, co-ordination, negotiations and conflict resolution by a multiprofessionnal entity ; efficiency as compared to other competing chains on the relevant consumer market ; effects of the institutional environment and regulation on the chain organisation; effects of public support.

Our Institute has produced different studies on the vertical co-ordination of PDO supply chains (Chappuis & Sans, 1999 ; Barjolle & Chappuis, 2000). We have focused mainly on the governance structures of the transactions with the tools of Transaction Cost Economics. We have highlighted that the selected governance structures do not depend only on the classical determinants of the transactions (asset specificity, frequency, uncertainty) but also on the collective agreements that are negotiated at the meso-economic level and on the bargaining power of the enterprises.

We feel too that the Sociology results related to collective decision making may be very interesting for understanding the specificity of OLP organisational design. Experimental Economics may help us to better understand how competition and collaboration interact. It can give us some precious information on the design of efficient collective structures.

Marketing and Strategy tools should be mobilised to assess the PDO supply chain commercial efficiency (for example, McKinsey matrix, SWOT matrix).

2. POLICIES RELATED ISSUES

Antitrust regulations

Concerning regulation, the present most crucial issue is for us the antitrust rules, when a PDO supply chain decides on collective vertical and horizontal agreements regarding intermediary prices and quantities, in order to engage a common marketing strategy on the consumer market. We have to demonstrate that these alternative organisational models give benefits to the consumer and reinforce competition, as they maintain artisanal small-size producers and processors which are producing quality products. If these enterprises are not allowed to make together the same strategic decisions as a vertically integrated firm, they will not be able to compete on the consumer market. However, we have to specify limits to a tolerant approach, to avoid distortions and opportunism.