

The Chairs' Update

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Vertical Relations is one of the research areas supported by the Chair for Business Economics. The dimensions of analysis include:

- The possible competitive distortion due to the buying power of large retailers.
- Vertical integration and market foreclosure
- The incentives to innovate and the welfare effects of innovation in vertical structures.

The program is now completed. It has been very successful in providing major academic results that will appear in top Industrial Economics Journals. It has also attracted several Ph.D. and Post-Doctoral outstanding fellows.

The program was first coordinated by Marie-Laure Allain, and then by Jérôme Pouyet.

This "Chairs' Update" issue summarizes several important contributions of the program:

- Jérôme Pouyet analyses how the risk of input foreclosure evolves when several integrated firms are active on the market;
- Anna Creti focuses on a recent regulatory measure introduced in the French electricity market to limit the risk of foreclosure by ensuring a fair access to the input (nuclear plant electricity) for retailers competing with the historical operator.
- And, Marie-Laure Allain and Claire Chambolle point out that the independent firms might be the ones who prefer buying from independent suppliers rather than from the vertically integrated firm because they fear the disclosure of strategic and sensitive information.

New Insights on the Competitive Effects of Vertical Integration

Until the 1960s, the traditional vertical foreclosure theory was widely accepted by antitrust practitioners: vertical mergers were harmful to competition, for vertically integrated firms have incentives to raise their non-integrated downstream rivals' costs to soften competition. This view was challenged by the Chicago school authors in the 1970s on the ground that integrated firms cannot leverage market power from the upstream market (input market) to the downstream one (final product market).

The last twenty years have witnessed the development of formal analysis of the subject. A substantial part of the literature has built around a common framework, introduced by the seminal paper of Ordover, Saloner and Salop (1990). This rich framework explicitly accounts for (i) the endogenous incentives to merge, (ii) the possibility for an unintegrated competitor to counter a merger, (iii) competition on the input market. Within this setting, even though integrated firms have incentives to raise their non-integrated rivals' costs, this does not annihilate the competitive pressure on the input market; the literature has further enriched this setting to find conditions under which vertical integration may harm, or not, competition.

Jérôme Pouyet and his co-authors have further developed this common framework by considering more elaborate market structures. The starting point of their analysis is that various industries are characterized by the presence of several integrated firms competing on an input market to supply unintegrated downstream competitors. For instance, in the mobile telephony market, Mobile Virtual Network Operators do not have a spectrum license or a mobile network, and must purchase a wholesale mobile service from the Mobile Network Operators. These market structures may also emerge endogenously: following two consecutive vertical mergers, the digital maps market is now supplied by a duopoly of integrated firms.

Their main result shows that the competition between integrated firms on the upstream market to supply unintegrated downstream rivals may be less intense than expected. The intuition may be explained as follows: competition will develop on the upstream market if each integrated firm has an incentive to set its price under the price of its vertically integrated rival, say if vertically integrated firms "undercut" each other. An integrated firm faces the following trade-off when deciding whether to undercut. Undercutting yields additional upstream profits. However, it makes the integrated rival more aggressive on the downstream market, for a firm which supplies the upstream market tends to be a soft downstream competitor in order to protect its upstream revenues; this is the softening effect. When the latter effect is strong enough, the incentives to undercut vanish, and an integrated firm may not want to compete fiercely with its integrated rival on the upstream market. Several factors are shown to have an important impact on this tradeoff: product differentiation on the downstream market; cost differentials between integrated and unintegrated competitors, and the composition of the market structure. These factors affect, sometimes in a complex way, the trade-off between the softening effect and the upstream profits and, therefore, the competitive analysis of vertical mergers. Hence, vertical integration may harm welfare when the input market ends up being supplied by integrated firms only. The analysis also unveils that the assessment of the competitive effect of vertical integration must account for the characteristics of both the upstream and the downstream markets: single-market analyses of the vertically-related markets do not allow analyzing the integrated firms' incentives to supply or not the input market.

Jérôme Pouyet

Bourreau, M., J. Hombert, J. Pouyet and N. Schutz, "Upstream competition between vertically integrated firms," Ecole Polytechnique, cahier de recherche 2009-54.

Hombert, J., J. Pouyet and N. Schutz "Anticompetitive vertical mergers waves," Ecole Polytechnique, cahier de recherche 2009-55.

Ordover, J. A., G. Saloner, and S. C. Salop (1990): "Equilibrium Vertical Foreclosure," American Economic Review, 80, 127-142.

The French "Nouvelle Organisation du Marché de l'Electricité": Enhancing Competition through Regulation

The French "Nouvelle Organisation du Marché de l'Electricité", or NOME law, has been adopted by the Senate on October 3rd, 2010. This law makes available low cost electricity generation from nuclear plants owned by the incumbent operator, EDF, to downstream market retailers. The main objective of such a reform is to enhance competition for price-sensitive industrial customers, and in the perspective of a growing market, also for residential customers. The NOME law also prescribes a gradual removal of the end users regulated tariffs, reaching complete price liberalization in 2016. The law gives regulated access to 100 TWh produced yearly by the historical supplier's nuclear plants. The conditions for such access will be determined by the Energy Ministry and the Economics Ministry, advised by the French Energy Regulatory Authority. In addition, the project includes an ex-post financial penalty if there is evidence that the nuclear power received by competitors has not been used to supply French retail consumers.

As first suggested by the Champsaur Commission in April 2009, the previously described redistribution is accompanied by a gradual liberalization of the retail price for electricity. EDF competitors are not able to offer retail prices lower or equal to the regulated tariffs proposed by the historical supplier, which constitutes a strong barrier to entry. In fact, EDF competitors mostly rely on electricity production technologies whose variable costs are higher than those of the incumbent, who benefits from nuclear plants. The law also plans to create a capacity obligation scheme to ensure the diffusion of efficient investments in base-load and peak generation. Finally, the law includes a reform in the local electricity tax in order to comply with the directive 2003/96/CE. All in all, the reform would amend the European Commission observations regarding the maintenance of regulated tariffs as state aid to local firms.

Research conducted by A. Creti, J. Pouyet et M.E. Sanin (2010) models the effect of the law on the one hand, in the retail market and, on the other hand, in the wholesale exchange platform. The retail market modelization considers a scenario where regulated tariffs for consumers are no longer in place and compares the market outcomes with and without NOME's law. To this end, different possibilities regarding the way the redistribution is settled are considered. In particular, the analysis looks at two cases: a redistribution rule that assigns a constant amount of nuclear capacity to each competitor, or increases with the market share



of the competitor, being this last rule the one suggested by the law. The former case corresponds to the idea that the redistributed capacity depends on the generators portfolio of consumers in the years preceding the NOME law implementation. The second case addresses the issue that NOME law foresees an ex-post verification to ensure that the reassigned production is aligned to the real demand addressed to retailers. Then, the firm receiving the redistribution may take into account the impact of its market strategy on the redistribution outcome. A. Creti and her co-authors find that when the redistributed capacity share is constant, only redistributing a large amount of low cost production capacity would allow all firms to produce at the most efficient technology thus decreasing retail price and obtaining a welfare enhancing outcome. When the redistributed capacity rather depends on market share, there is an increase in the marginal efficiency of the firm benefitting from the access to electricity produced from nuclear plants. Then, whatever the level of the redistributed production, there is a pro-competitive effect. To the light of this analysis, it is possible to suggest an optimal redistribution of the low cost electricity generation calculated to achieve the desired outcome in terms of price decrease. Regarding the effects of the NOME law in the French wholesale market, the analysis has been devoted to quantify the incentives that competitors have to use NOME capacity at the upstream level of the electricity chain value. A. Creti and M.E. Sanin (2010) show that entrants could be tempted to strategically resell the redistributed generation, as they can make profits in the upstream market. In fact, the redistributed generation price will be substantially lower than the average price in the wholesale (or upstream) electricity market, which reflects the variable costs of supplying electricity in peak hours. The analysis allows defining the optimal penalty that the regulator could carry out to discourage the use of redistributed capacity in the wholesale market, instead of the retail market, as prescribed by the NOME law, and which appears simpler than the one currently proposed.

Anna Creti

¹See the Commission's report at: http://www.edf.com/fichiers/fckeditor/Commun/Finance/Publications/Annee/2009/090424-RapportChampsaur_vf.pdf

Creti, A. and M.E. Sanin (2010) "Nouvelle Organisation du marché de l'Electricité", Implications for the French Wholesale Market, Ecole Polytechnique.

Creti, A., J. Pouyet and M.E. Sanin (2010), (2010) "Nouvelle Organisation du marché de l'Electricité", Implications for the French Retail Market, Ecole Polytechnique.



Vertical Integration and the Risk of Information Leakage

Firms must often exchange sensitive information with their suppliers, for instance for the purpose of their marketing strategy, or to improve technical interoperability among components entering into the manufacturing of a product. This gives rise to concerns that strategic information may be disclosed to rivals, thus creating a risk of imitation. Asker and Ljungqvist (2010) show for instance that such concerns contribute to explain why firms appear reluctant to use the same investment bank as their direct competitors.

Vertical mergers may further increase these concerns, since an integrated supplier may become even more tempted to pass on such customer information to its downstream subsidiary. Conversely, by making the integrated supplier less reliable for customers that compete with the downstream subsidiary, vertical integration can give rise to input foreclosure. This issue has indeed been discussed in a number of merger cases, such as for instance TomTom's acquisition of Tele Atlas. TomTom manufactures portable navigation devices (or "PNDs"), whereas Tele Atlas is one of the two main providers of digital map databases for navigation in Europe and North America. When the acquisition project was announced, competitors "expressed concerns that certain categories of information considered confidential which they currently pass to Tele Atlas, for instance during technical consultations, could, after the merger, be shared with TomTom. [...] This would strengthen the power of NAVTEQ, the only alternative map supplier, with regard to these PND operators and could lead to increased prices and less innovation".

To analyze this issue, Allain, Chambolle and Rey (2010) develop a framework in which downstream competitors engage in an R&D race and need moreover to provide their supplier with advanced information in order to implement any innovation. To present the main insight in a simple way, the authors first assume that an integrated supplier is more likely than an independent supplier to exploit any information obtained from its customers, and

imitate their innovation. Vertical integration thus strengthens the market power of the remaining suppliers over independent downstream competitors, which reduces their incentives to invest in R&D and confers a competitive advantage to the integrated firm, whose market shares and profit expand at the expense of the independent rivals. Even if imitation does not occur in equilibrium, the threat of it suffices to distort competition. The authors then show that vertical integration does indeed affect the supplier's incentive to protect or exploit its customers' sensitive information, which makes indeed an integrated firm more likely to pass such customer information to its own subsidiary. This analysis supports the concern that vertical integration may create competitive distortions in innovative industries.

A policy implication is that merging firms should provide guarantees regarding information flows between their divisions. Firewalls for instance may limit the risk of imitation. In the US, the FTC recently put conditions on two vertical mergers on the market for carbonated soft drinks. In February 2010, PepsiCo acquired its two largest bottlers and distributors in North America, who were also acting as bottlers and distributors for its competitor Dr Pepper Snapple ("DPSG"). The FTC expressed his concern that "PepsiCo will have access to DPSG's commercially sensitive confidential marketing and brand plans. Without adequate safeguards, PepsiCo could misuse that information, leading to anticompetitive conduct that would make DPSG a less effective competitor". The FTC ordered PepsiCo to set up a firewall in order to regulate the use of this information. The FTC put similar conditions on Coca Cola's acquisition of its largest North American bottler in September 2010.

Marie-Laure Allain and Claire Chambolle

² Asker, J. and A. Ljungqvist (2010), "Competition and the Structure of Vertical Relationships in Capital Markets", *Journal of Political Economy*, 118(3), 599-647, 2010.

Allain, M.-L., C. Chambolle and P. Rey (2010), "Vertical Integration, Innovation and Foreclosure", *Ecole Polytechnique*.

Rey, P. and J. Tirole (2007), "A Primer on Foreclosure", *Handbook of Industrial organization III*, edited by, Armstrong, M and R. Porter.

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Selected Related Publications

Allain M-L, Chambolle, C., 2010. Anticompetitive Effects of Resale below Cost Laws, Forthcoming in International Journal of Industrial Organization

Allain, M-L and Chambolle, C., 2005. Loss Leaders Banning Laws as Vertical Restraints , Journal of Agricultural and Food Industrial Organization Vol. 3, No. 1, Article 5, <http://www.bepress.com/jafio>.

Allain, M-L, and Waelbroeck, P., 2007. La concurrence entre distributeurs favorise-t-elle la variété des produits?, Economie et Prévision, 178-179, 1-14.

Allain, M-L and Souam, S., 2006. Concentrations horizontales et relations verticales, Annales d'Économie et de Statistique Vol.82, 103-127.

Bergès-Sennou, F. and Chambolle, C., 2009. Threat of Exit as a Source of Bargaining Power, Louvain Economic Review, 75 (3).

Bourreau, M., Hombert, J., Pouyet, J. and Schutz, N., 2010. Upstream Competition between Vertically Integrated Firms, Forthcoming in the Journal of Industrial Economics.

Chambolle, C., Muniesa, L. and Ravon, M-A., 2007. Concentration horizontale et puissance d'achat, Économie et Prévision ,178-179, 2-3.

Graud-Héraud, E. Hammoudi, H. , Hoffmann R., Soler, L.G., (2008) Vertical Relationships and Safety Standards in the Food Marketing Chain. École Polytechnique, Working Paper.

Doctoral and Post-Doctoral Research Fellows who have collaborated with the Chair for Business Economics in the Vertical Relations area:

- Ozlem Bedre, Assistant Professor, ESMT European School of Management and Technology, Berlin, Germany.
- Clémence Christin, Post-Doctoral Researcher, Düsseldorf Institute for Competition Economics, Germany.
- Ruben Hoffmann, Economist SLU, Swedish University of Agricultural Sciences, Uppsala, Sweden.
- Maximilien Laye, Economist at Goldman Sachs, U.K.
- Igor Mouraviev, Economist, Minister of Economics, Region of Omsk, Russia.

- Claudia Saavedra, Economist at FranceTelecom, France.
- Nicolas Schutz, Postdoctoral Researcher, University of Mannheim, Department of Economics, Germany.
- Thomas Tregouet, Assistant Professor, chair CNRS University, Paris West, France.
- Zhijun Chen, Post-Doctoral Fellow, Department of Economics, Ecole Polytechnique, France.

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Recent Events

December 6, 2010: Séminaire Parisien d'Economie Industrielle X-CREST, « Compensating The Dead? Yes We Can! » Presented by Marc Fleurbaey (CERSES, U. Paris 5) co-authors Marie-Louise Leroux and Grégory Ponthière.

November 17, 2010: Second Workshop GMO Ecole Polytechnique-INRA: "The freedom of choice principle for consumers and farmers and its implications on the value chain".

November 12, 2010: Workshop on CSR co-organized with CIRANO took place in Montreal (Canada) with the support of the Chair for Business Economics and the Chair for Sustainable Finance and Responsible Investment.

November 8, 2010 : Séminaire Coriolis, Philipp Boydell, DuPont Photovoltaic Solutions, Geneva « L'Industrie Photovoltaïque : Comment la recherche contribue à l'atteinte du seuil de compétitivité» http://www.enseignement.Polytechnique.fr/mecanique/Confs/Boydell_conf.pdf

October 21, 2010: "Smart Grids" co-organized with the Chair for Sustainable Development-EDF-Ecole Polytechnique and Chair for Business Economics.

For further information:

<http://chair-business-economics.Polytechnique.edu/home/research-workshops/>

February 3-4, 2011 - (Paris) - Workshop ANR Franco-Allemand on « Market Power in Vertically Related Markets ». Organized by: Marie-laure Allain, Clémence Christin et Claire Chambolle. The workshop will be held in Paris at INRA, 147 rue de l'Université. The project started in 2009 and will last until 2011. Funded by the French ANR and the German DFG, it aims at developing theoretical and empirical researches in Industrial Organization on issues related to vertical relationships between suppliers and customers when customers have some market power. Some of the main issues are: vertical contracts or restraints, the buyer power of retailers, the nature of products (quality, variety) offered in a vertical chain, and innovation. Members of the research team include researchers from Paris (INRA and Ecole Polytechnique) and Toulouse School of Economics in France and from Berlin (DIW) and Dusseldorf Universität in Germany.

February 8, 2011 - Research Workshop on « Sustainability & Impact Challenges at the Base of the Pyramid », to be held in Paris.

Ten years ago Coimbatore Krishnarao Prahalad and Stuart Hart coined the term 'Base of the Pyramid' (BOP) which conveys the idea that companies can develop a profitable business by targeting the four billion people living with a few dollars a day in emerging countries. A keynote presentation will be done by Stuart Hart (Cornell University), one of the founders of the BOP concept.

Organized by: Ecole Polytechnique, Chair for Business Economics & Chair for Sustainable Finance and Responsible Investment (Jean-Pierre Ponssard) ESSEC Business School, Institut de l'Innovation et de l'Entrepreneuriat Social (Thierry Sibieude) and HEC Paris, Chaire Entreprise et Pauvreté (Frédéric Dalsace).

Forthcoming Events

December 13, 2010 - Conférence de l'Institut Coriolis pour l'environnement "Les enjeux environnementaux de la mobilité" par Jérôme Perrin, Directeur des Projets Avancés « CO2, Energie, Environnement », DREAM - Renault.