EU Competition Policy, Vertical Restraints, and Innovation: An Analysis from an Evolutionary Perspective

Wolfgang Kerber and Simonetta Vezzoso

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Prof. Dr. Wolfgang Kerber
Chair of Economic Policy, Department of Business Administration and Economics,
Philipps-University Marburg, Germany; Am Plan 2, D-35032 Marburg
phone: +49 6421 2823921, fax: +49 6421 2823936, email: kerber@wiwi.uni-marburg.de

Dott.ssa Simonetta Vezzoso
Law Department, Faculty of Economics,
University of Trento, Italy; I-38100 Trento, Via Inama 5
phone: +39 0461 882261, fax: +39 0461 882303, email: svezzoso@economia.unitn.it
1. Introduction

Within the last few years, most realms of European competition policy have been reformed considerably.\(^1\) Aside from improvements of procedural rules, which were necessary in particular in view of the EU enlargement to 25 Member States, one crucial motivation behind these reforms was the need for a more economics based approach to the assessment of competition issues. In this respect, the question arises what theoretical approaches to competition should be used in order to derive the policy criteria for assessing competition cases such as mergers or horizontal and vertical restraints. An analysis of these reforms would show that the EU Commission primarily followed efficiency-oriented argumentations based upon neoclassical microeconomics. Therefore, it does not come as a surprise when considerations of static efficiency dominate, whereas innovations and dynamic efficiency play only a minor and widely neglected role.

With particular respect to vertical restraints as a specific type of competition restraints, this paper deals with the question whether it is necessary and possible to enrich the theoretical basis of competition policy by drawing on evolutionary theories of competition and innovation economics. Vertical restraints encompass a wide variety of vertical agreements, primarily between producers and retailers, e.g., resale price maintenance, exclusive or selective distribution, exclusive purchasing, and franchising. As part of the abovementioned reform, the EU Commission issued a general Block Exemption Regulation for vertical agreements in 1999, and a special Block Exemption Regulation for vertical agreements in the motor vehicle industry in 2002, in which the conditions for exempting vertical agreements from the prohibition of Art. 81 EC Treaty were defined. It is worth noting that in the specific regulation for the motor vehicle industry, the EU Commission explicitly pursues also the aim of promoting innovation at the retail level, whilst innovation does not play any particular role in the general policy assessment of vertical restraints.

With the aim of assessing to what extent evolutionary theories of competition and innovation economics can be applied to the competition assessment of vertical restraints, we shall scrutinize three groups of approaches: (1) Neo-Schumpeterian approaches to competition and innovation economics, (2) Knowledge-based theories of the firm, and (3) Hayekian (or Austrian) market process theories. By doing this, we do not intend to criticise neoclassical economic thinking as such. Rather, our main purpose is to investigate which criteria and reasonings concerning the assessment of vertical restraints can be derived from these evolutionary approaches, and which should therefore be taken into account, in addition to those derived from neoclassical economics.

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\(^1\) Examples of this “modernization”, only in 2004, are the introduction of new rules for the implementation of Art. 81 EC Treaty as well as amendments of the Merger Regulation (including the issuing of new Guidelines for Horizontal Mergers). Moreover,
in practical competition policy. Although our research is still in its infancy, we can show that from an evolutionary perspective new arguments can be developed, both for justifying vertical restraints under certain conditions and for explaining which vertical restraints would impede competition, particularly in respect to competition as a process of experimentation.

The paper is structured as follows. In Section 2 we briefly survey the current EU competition assessment of vertical restraints. Section 3 entails a short summary of the most important insights of the abovementioned three groups of evolutionary approaches, and then it proposes, following on from these approaches, a different theoretical framework for the analysis of market processes within the vertical chain. Section 4 investigates in detail which specific evolutionary arguments could be applied to the assessment of particular kinds of vertical restraints. Hence, in Section 5, we draw some general conclusions.

2. Vertical Restraints under EC Competition Law

2.1 The Evolution of EC Rules on Vertical Restraints

In the latest decades, the competition policy of the European Union concerning vertical restraints has undergone a remarkable development. The starting point is Article 81(1) EC Treaty prohibiting agreements which restrict competition, whereas Article 81(3) sets out an exception, stating that the prohibition may be declared inapplicable, given that certain conditions are fulfilled. In particular, the agreement must contribute to improving the production or distribution of goods or to promoting technical or economic progress, and it should not enable the firms to eliminate competition in respect of a substantial part of the products concerned.

Since most kinds of vertical restraints had been regarded as falling under the general prohibition of Art. 81(1), a large demand for exemptions emerged. Consequently, the Commission began issuing so-called Block Exemption Regulations, each of them exempting a class of similar agreements whose pro-competitive benefits are considered to outweigh their anticompetitive effects. When an agreement complied with the terms stated in such a regulation it was automatically exempted from the application of Article 81(1), and did not need to be exempted on an individual basis. By the end of the 1980's the Commission’s block exemptions covered a large part of vertical restraints, notably exclusive distribution, exclusive purchasing and franchising. The block exemption regulations contained exhaustive lists of the restrictive

the Commission produced a new Block Exemption Regulation for technology transfer agreements (and accompanying Guidelines).

Ellig and Lin (2001) follow an approach very similar to ours, but they concentrate on more general policy implications. See also Jorde and Teece (1991), in particular as regards to the issues of assessing market power in industries characterized by rapid technological change and of analysing agreements among competitors designed to promote innovation.
clauses that were exempted (‘white lists’) and lists of restrictive clauses that disqualified the agreements concerned from falling under the block exemption (‘black lists’). Vertical restrictions not covered by block exemptions, e.g. selective distribution agreements, were assessed according to the principles established by the Commission in its formal decisions and by the Community Courts in their judgements.

2.2 The Current EC Policy on Vertical Restraints

In the mid 1990’s, the Commission started an in-depth review of EU competition policy concerning vertical restraints. In the Green Paper on Vertical Restraints the Commission identified some major shortcomings of that policy, and strongly supported a more economic based approach for the competition assessment of vertical restraints. The in-depth review process ended with the provision of a renewed framework for the assessment of vertical restraints under EC competition policy, consisting of the general Block Exemption Regulation No 2790/1999 and accompanying Guidelines. The new block exemption provisions apply in principle to all vertical restraints - with the important exception of vertical agreements in the motor vehicle sector.

The Commission’s new economic approach to vertical restraints focuses on the assessment of the effects of vertical restraints on the market, with the aim of enhancing consumer welfare and creating an efficient allocation of resources. A further important aim is market integration, i.e. the Commission considers whether vertical restraints can affect market integration in a negative way. The Commission is convinced that most vertical restraints imply positive effects on efficiency, which have to be balanced with any anti-competitive effects of such vertical restraints. This is also a consequence of a slow evolution of the general concept of Article 81(3), which is now more and more considered as a structured “rule of reason”, in which the negative effects on competition have to be balanced against the pro-competitive ones. Only a small number of vertical restraints, such as resale price maintenance, certain forms of market

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1 In 1966 the European Court of Justice had clearly stated that Article 81 (at that time Article 85) was also applicable to vertical restraints, see Joined Cases 56/64 and 58/64 Grundig Consten v Commission [1966] ECR 299 and Case 56/65 Technique Minière v Maschinenbau Ulm, [1966], 235.
2 Green Paper on Vertical Restraints in Community Competition Policy, COM(96) 721 final, adopted by the Commission on 22.1.1997; Communication from the Commission on the application of the Community competition rules to vertical restraints - (Follow-up to the Green Paper on Vertical Restraints).
3 The results of the Green Paper pointed especially to the so-called strait-jacket impact of Block Exemption Regulations, their form-based assessment, and the lack of market share limits.
5 This is covered by Commission Regulation No 1400/2002 (OJ L 203/30, 01.08.2002); another exception are technology transfer agreements, covered by Commission Regulation No 772/2004 (OJ L 123/11, 27.04.2004).
6 Apart from that, as from 1 May 2004 there are new implementation rules for Article 81, which apply also to vertical restraints: Agreements which fall under Article 81(1) but fulfill the requirements set forth in Article 81(3) are now valid and fully enforceable without a prior decision by a competition authority. But block exemption regulations, which provide enterprises with a high degree of legal security, are still in force.
7 Undertakings should in fact be prevented from creating, by means of vertical restrictions, private barriers between Member States where State barriers have been successfully abolished. The Commission states that, in a way, after the successful abolishment of public barriers to trade, the potential relevance of vertical restraints to hinder economic integration has increased.
8 See also Case T-112/99, Métropole television (M6) and others [2001] ECR II-2459, para. 74.
partitioning by territory or by customer, and restrictions of active or passive sales to end users by members of a selective distribution network are seen as having nearly always anticompetitive effects (‘hardcore restrictions’) and are therefore generally prohibited ("per se rule").

Vertical restraints can be employed to reduce transaction costs or to achieve other efficiencies between undertakings at different levels of the production and distribution chain. In the Guidelines on Vertical Restraints the Commission gives an overview of some possible, non-exhaustive justifications for vertical restraints. They comprise the solution of free-rider problems, for example when one distributor tries to benefit from the sales efforts of another distributor, thereby saving promotion costs. In this respect, vertical restraints, like exclusive distribution (e.g., the distributor is allocated an exclusive territory where he is the sole supplier of a given brand) could help to solve the potential problem of under-investment and “restore” an optimal level of investments. So-called hold-up problems may also cause under-investment, e.g. when a component manufacturer does not commit the necessary client-specific investments in equipment. A possible solution to this specific problem may be provided by an obligation not to purchase the component from third parties (“single branding”) for a period of time whose (justifiable) length would depend on the relevance of relationship-specific investments.

The recent Guidelines on the application of Article 81(3) of the Treaty provide some further insights on the possible efficiency gains of vertical restraints. Since these policy considerations apply to both vertical and horizontal agreements, the Commission highlights a broader range of efficiency gains than the ones it acknowledged in its policy as regards vertical restraints. Interestingly, the Commission points out how both horizontal and vertical agreements “may create efficiencies by allowing the undertakings in question to perform a particular task at lower cost or with higher added value for consumers”, the latter gains are also-called qualitative efficiency.

But vertical restraints can also lead to anti-competitive effects. The Commission identifies four types of negative anti-competitive effects which may potentially result from vertical restraints, notably foreclosure by raising barriers to entry, reduction of inter-brand competition (including facilitation of collusion, both explicit and tacit), reduction of intra-brand competition and creation of obstacles to market integration. However, in the Commission’s view, these negative effects can only emerge if the undertakings hold a certain degree of market power. The main

11 Other vertical restrictions too are excluded from the coverage of the Block Exemption Regulation, such as non-compete obligations, the duration of which is indefinite or exceeds five years, or when they are post term (i.e., after termination of the agreement), unless the post term non-compete obligation is indispensable to protect know-how transferred by the supplier to the buyer and other specific conditions are met.

12 Moreover, according to the Commission, free-rider problems can be particularly serious when a manufacturer who wants to enter a new market needs the distributor to make first-time investments with a view to establishing the brand in that market.

13 Other efficiency gains could derive from economies of scale in distribution achieved by employing vertical restraints such as minimum purchasing requirements or exclusive distribution (clauses by which the manufacturer concentrates the resale of his products on a limited number of distributors).

14 Ibidem, para. 62. See also para. 60: “In general, efficiencies may stem from an integration of economic activities, whereby undertakings combine their assets to achieve what they could not achieve as efficiently on their own or whereby they entrust another undertaking with tasks that can be performed more efficiently by that other undertaking”.

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reason here is that the profits of the vertical structure resulting from an efficiency-enhancing vertical restraint are more likely to benefit consumers in the form of reduced prices or better quality if there exists strong competition from other suppliers of goods. Otherwise, if the vertical structure holds a sufficient degree of market power, it will tend to absorb those efficiency gains in the form of extra profits. But the degree of market power required for the finding of an infringement under Article 81(1) is less than the degree of market power necessary to assess the existence of a dominant position under Article 82.

The presumption that, in the absence of market power, the procompetitive – efficiency – gains of vertical restraints outweigh any anticompetitive effects is at the heart of Block Exemption Regulation No 2790/1999. This Regulation creates a safe harbour for vertical restraints undergone by suppliers whose market share does not exceed 30%. Below this market share, vertical agreements are always exempted unless they contain one of the above-mentioned ‘hardcore’ restrictions. Vertical restrictions not covered by the Block Exemption Regulation are then in principle subject to a full competition analysis. In that case, all four criteria of Article 81(3) have to be assessed: (1) The positive efficiency effects have to outweigh the anti-competitive ones. (2) The customers should have a fair share of the efficiency gains, (3) the vertical restrictions have to be indispensable for the attainment of these efficiencies, and (4) competition must not be eliminated, i.e. the firms must not be dominant or become dominant as a consequence of the vertical agreement. This shows that competition analysis of vertical restraints under Article 81 is mostly centred on the demonstration of efficiencies and on the ascertainment of possible indicators of market power, such as the market position of the supplier and of competitors, and the presence of entry barriers.

The underlying theoretical basis of this general policy to vertical restraints has been largely influenced by neoclassical, efficiency-oriented reasonings, stemming in particular from the Chicago School tradition (Telser, 1960; Bork 1965, 1966; Posner, 1975) or transaction costs economics (Williamson, 1979). These various theoretical influences have contributed to correct the often less positive assessment of vertical restraints by the former EU competition policy. It is apparent, for instance, that the emphasis on interbrand competition instead of on intrabrand competition has a parallel in Chicago-styled reasonings. On the whole, it can be concluded that the Commission has now based its analysis and criteria on the recent economic thinking on vertical restraints. However, due to the dominance of the efficiency criterion in this policy, the effects of vertical restraints on innovation are not systematically taken into account.

15 See note6, above.
16 However, the exemption of 'hardcore restrictions' is very unlikely.
17 Explicit reference is made by the Commission to Rey/Caballero (1996).
2.3 The EC Policy on Vertical Agreements in the Motor Vehicle Sector: A Special Case?

Shortly after the EU Commission finalized its general analytical framework for the assessment of vertical restrictions, a critical review of the competition policy for the motor vehicle sector took place. Interestingly, though, instead of applying the competition rules explained above, especially Regulation 2790/1999, it was decided to issue a sector specific Block Exemption Regulation in order to come to terms with the specific problems that had emerged from surveys conducted by the EU Commission and other national competition authorities, in particular in the UK. Essentially, a more restrictive approach to vertical restraints was deemed necessary with a view to remedy the lack of competition among distribution formats in the motor vehicle retail sector. In fact, almost every car manufacturer in the EU employed the same distribution system, namely qualitative selective distribution combined with exclusive territories, and innovation at the retail level was practically switched off. One of the main aims of the EU Commission through the new policy, therefore, was to stimulate innovation on the motor vehicle retail market, and the rules on vertical restraints were crafted to a large extent in accordance with this aim (Vezzoso, 2004).

In particular, the sector specific provisions produced by the Commission and transfused into Block Exemption Regulation No 1400/2002 limit the range of permissible vertical restraints, independently from the parties’ market share. This has the result that some vertical restraints covered by the general Block Exemption are not exempted following on from the sector specific Regulation. Thus, for instance, selective distribution cannot be cumulated with exclusive territories, which implies that the parties are required to choose between these two retail forms. Moreover, retailers cannot be obliged to provide repair and maintenance services to the cars they sell, but they can delegate these services to independent, approved repairers, thereby providing for a higher degree of vertical dis-integration within the vertical chain. Finally, specific provisions of the said Regulation have the objective of safeguarding retailers’ economic independence from the manufacturer, for example, when providing for the dealers’ ability to transfer their rights and obligations to other dealers authorized to sell the same brand, realising therewith the value that they have built up.

Concerning the theoretical approach, by issuing sector specific rules for the motor vehicle sector the EU Commission therefore regards the competitive assessment of vertical restraints somewhat different from the efficiency-based approach of its general framework. In particular, efficiency considerations possibly linked to the existence of some vertical restraints have been held less relevant in the face of the policy objective of establishing more non-price competition.

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18 As note 7 above.
in the retail sector and more competition in the vertical chain generally. This shows a difficulty with the EU Commission’s general theoretical approach on vertical restraints when it comes to innovation issues: Because of the policy’s roots in neoclassical thinking, the question of the impact of vertical restraints on the process by which innovations of retail formats emerge and diffuse cannot be adequately dealt with.

2.4 Conclusions

The EU general competition policy on vertical restraints is largely influenced by neoclassical competition concepts with their neglect of the innovation issue. In its more recent competition policy approach to the motor vehicle sector, however, the EU Commission has stressed the importance of innovation on the retail market, and produced *ad-hoc* rules specifically aimed at promoting such innovation. In doing so, the need to develop a dynamic or evolutionary analytical framework for the assessment of vertical restraints has become apparent. Since evolutionary economics, dynamic theories of competition and innovation economics in particular deliver important insights on the functioning of competition as an innovation process, this gives rise to the question what kind of arguments could be gained from those approaches as regards the competition assessment of vertical restraints.

3. The Perspective of Evolutionary and Innovation Economics on Vertical Relations

3.1 Insights from Different Approaches of Evolutionary and Innovation Economics

3.1.1 Neo-Schumpeterian Competition and Innovation Economics

This group of approaches encompasses theories, which have their ultimate roots in Schumpeter’s "Theory of Economic Development" (1912). On the one hand, dynamic theories of competition were developed, emphasizing the central role of the entrepreneur and conceiving competition as a rivalrous process, primarily consisting of innovation and imitation processes (see e.g. Arndt 1952, Clark 1961, Heuss 1965). On the other hand, most theories of modern evolutionary innovation economics, exemplified by the research work of Nelson, Winter, Dosi, Metcalfe, Saviotti and many others, are based upon central ideas of Schumpeter, e.g. the endogeneity of technical progress, which, in this literature, have been combined with the concept of variation-selection-mechanisms, borrowed from the theories of biological evolution (see e.g. Nelson/Winter 1982, Anderson 1994, Metcalfe 1998).

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19 For an overview on the German-language market process theories, which are primarily based upon Schumpeterian competition, see Kerber (1994).
Important insights from this perspective are the importance of innovations (dynamic efficiency) in comparison to (static) efficiency, the wide scope of different kinds of innovations (product, process, and organizational innovations), the heterogeneity of firms, the process character of competition, and the possibility of analyzing market processes as evolutionary processes of variation and selection of products and technologies. The latter implies a process of experimentation and leads to evolutionary processes of economic development. A particularly crucial result of this theory is the recognition of the importance of generating variety as necessary input for the permanent working of such evolutionary processes of the accumulation of knowledge. But there are also many other contributions in innovation economics, which can offer valuable arguments for a better understanding of vertical arrangements, such as the research on industrial and system leadership (Bresnahan/Malerba, 1997; Bresnahan, 1999).

3.1.2 Knowledge-Based Theories of the Firm

The idea that the most essential characteristic of the existence and the boundaries of firms should be found in the differential knowledge-base that firms possess belongs to the core of a group of theoretical approaches to the economics of organization as alternative to the incentive-based theories of the firm. According to the organization approaches based on capabilities (Richardson, 1972; Silver, 1984; Langlois/Foss, 1998), resources (Penrose, 1959; Conner, 1991; Conner and Prahalad, 1996), dynamic capabilities (Teece/Pisano, 1994) and cognition (Nooteboom, 1997) firms exist and develop according to their idiosyncratic capabilities (skills, tacit knowledge). In particular, firms are seen as taking advantage of complementarities among assets, made idiosyncratic through their firm-specific knowledge. Moreover, important issues are raised of how to connect different competences and of the costs thereof.

Accordingly, the literature analysing collaborations between firms under a learning and knowledge perspective focuses on the issues of similarity between competences and interdependency between activities – and the problems related therewith. Many contributions stress, on the one side, the importance of multiple relations in order to get access to complementary knowledge-bases the firm does not possess (“cross-firm economy of learning”, Nooteboom, 1992), but on the other side also the need for intensive co-operations and trust between partners in order to allow for the knowledge to be transmitted (Håkansson, 1989) - and not only to solve opportunism-induced transaction problems. An additional, important insight is that, by taking part in various forms of interaction, the firm may gain access to new cognitive frames, and by that avoid to be stuck in routine behaviour (Mytelka, 1991) and/or the firm may test a wider variety of hypotheses than is possible within any one firm. Of even greater relevance, perhaps, is the recognition that, thanks to specific forms of collaboration not only
transaction costs can be avoided, but novel opportunities, novel combinations of inputs or completely new products or services may emerge (Powell/Koput/Smith-Doerr, 1996; von Hippel, 1994)

3.1.3 *Hayek and Evolutionary Market Process Theory*

A third strand of influential evolutionary literature is based upon central ideas of Hayek and Austrian Economics, leading to the concept of an evolutionary market process theory. Starting from Hayek's insistence on the importance of the "knowledge problem" (including his rigorous critique of the model of perfect competition), a central tenet is Hayek's contention that competition has to be seen as a "discovery procedure" (Hayek 1948, 1978). Other important contributors are several authors of American Austrian economics such as Kirzner, Lachmann, and others that emphasize the process character of the market (Kirzner 1997). The idea of competition as a discovery procedure has been linked to Popper's evolutionary theory of growth of knowledge, leading to a number of contributions that stress and analyze the knowledge-generating character of competition and market processes as an evolutionary process of experimentation (Streit and Wegner, Loasby 1993, Harper 1996, Kerber 1997, Kerber and Saam 2001).

Essential inputs from this perspective include the importance of the knowledge problem, both on the level of individuals (and firms) and on the level of public policy. Closely linked to that is Hayek's (and also Lachmann's) insistence on the subjectivity of knowledge, which leads to a variety in the judgement of individuals and which is therefore an important source of heterogeneity between individuals and firms. Another aspect is the widespread existence of specific local knowledge (Hayek 1945), which, to a considerable extent, can be implicit (tacit) knowledge that cannot be communicated to others. From the perspective of such evolutionary market process theory, competition can be seen as a process of trial and error (or experimentation), in which firms create and test conjectures or hypotheses about preferences, products, and technologies, and where the market provides a feedback mechanism, as to which of these hypotheses are superior and should be selected by imitation (market test). Also, heterogeneity or variety is crucial in this context for the workability of these knowledge-generating market processes. Starting from Hayek's general contentions of the openness of market processes and of the lacking knowledge of governments or public agencies how to intervene successfully in markets, the insight in the very limited knowledge of competition authorities is another important element that should be taken into account in competition policy.
3.2 Vertical Relationships from the Perspective of Evolutionary Economics: General Insights

3.2.1 The Innovation/Knowledge Perspective on Vertical Restraints

By pointing to the possible merits of the knowledge-based theories of the firm in explaining vertical arrangements, we should not underestimate the contribution of the incentive-based approaches to the development of competition policy with respect to this rather complicated issue. The analysis of vertical arrangements under the incentives viewpoint, and especially Williamson’s transaction costs approach has provided a theoretical basis which constitute a well-founded alternative to the otherwise potentially all-embracing market power explanation of the Harvard School. By focusing on the problem of specific investments, externalities and opportunism, the incentive-based literature in the theory of the firm has quite correctly pointed to the possible high costs of monitoring and enforcing contracts between partners.

However, the incentive-based perspective has neglected knowledge-related issues like learning, communication and innovation (Foss, 1999; Nooteboom, 2002; Wuyts/Colombo/Dutta/Nooteboom, 2004). Thus, for instance, according to the transaction costs’ approach, parties to an agreement should prefer low transaction costs but also less flexibility and less freedom, and this notwithstanding the destructive effect that those characteristics have on the innovation potential. The further prediction that collaborations should not occur under high uncertainty is hardly much more convincing, and empirical work on technological alliances and the high presence of technological alliances in turbulent environments would firmly rebut that prediction. In a way, therefore, the knowledge-based theories of the firm should be considered as providing a whole bunch of additional, the incentive-based literature largely complementing explanations for vertical arrangements. In particular, this literature may provide useful insights on the possible role of vertical arrangements in the process by which, on the one side, knowledge is transmitted between economic agents and, on the other side, entirely new knowledge develops.

3.2.2 Evolutionary Market Processes and Innovations over Vertically Linked Markets

A whole body of neoclassical theory has been developed for the analysis of competition in vertically linked markets, identifying a number of potential competition problems, such as the double marginalisation problem (Spengler, 1950). Without denying the relevance of this literature, another theoretical framework can be elaborated from an evolutionary perspective, which might be able to show important additional aspects of market processes over several vertically linked markets.
Let us assume an industry, producing a consumer good, and in the downstream market retailers, buying these products and selling them to the consumers. This situation implies three different competition processes, which are intertwined in a complex way. Each of them work as experimental discovery processes and can be described as processes of variation and selection (see in more detail Kerber 1989, 1991):

(1) The firms on the producer level compete with their products, which have to be seen as fallible hypotheses about the best way to fulfil the consumers' preferences, whereas ultimately the consumers act as selectors who decide, which of these hypotheses are the relatively best ones with regard to their preferences. But it must be realized that, first of all, the retailers select which products they accept in their range of products ("gatekeeper" position), and that the consumers can thus select only from those products, which are offered them by the retailers. Therefore, we have a double, sequential selection, first by the retailers, and afterwards by the consumers. The retailers, of course, have incentives to select those products that the consumers want, but note that the retailers can make erroneous decisions due to their limited knowledge.

(2) Furthermore, the retailers compete also with their services for the consumers. This competition process is also a process of experimentation, in which the retailers search for the best combination of prices, range of products, location, style of the outlet, service to the customer etc. (Nyberg, 1998). While the producers experiment with new products, innovations are equally important on the level of retailing, leading to new distribution formats, as in earlier types supermarkets or, recently, distribution via the internet. With regard to this process of variation in retailing, the consumers are the selectors, and the profit/loss-feedback is the ultimate criterion for the relative success of the retailers in this market test.

(3) The retailers, however, do not only compete with their services for the consumers, but they offer also more or less attractive distribution channels to the producers. The innovation of new distribution formats could eventually lower the costs for producers to attain their specific group of potential customers. Depending on the specific product, the retailers can be very heterogeneous as distribution channel from the perspective of the producers. Retailers which are more attractive in this respect than others will be able to bargain for better conditions, as e.g. higher rebates, and this kind of price differentiation will give these retailers a competitive advantage over their competitors, which also is necessary as incentive for improving their performance as distributor. In this evolutionary competition process, the retailers offer variations and the producers are the selectors.

This theoretical framework implies that vertical relationships between producers and retailers are part of complex market processes, in which several competitive trial and error-processes take place at the same time, and in which the same firms are simultaneously suppliers that create and
test new products or services (variation), and selectors of the products or services of the firms in upstream and downstream markets. In addition to these three horizontal competition processes, there are processes of vertical competition (Steiner, 2002) between the firms on the production and retailing level, because retailers can overtake functions which were previously exercised by producers, such as the branding of products or advertising, or, vice versa, producers can fulfil classical functions of retailing, such as shelf replenishing. For example, by finding better ways of bundling the activities of firms - perhaps due to the discovering of new complementarities of resources - organizational innovations in vertical chains can occur. Therefore, the division of labour between the different levels is of itself an object of innovative experimentation in competition processes - up to the possible extreme consequence of full vertical integration between both levels (see also Mahnke 2001).

3.2.3 Vertical Restraints and Innovation: Potential Effects

In neoclassical reasonings it can be demonstrated that vertical restraints can have positive effects, in form of various kinds of efficiency gains, but also anti-competitive effects, e.g. impeding intrabrand competition, raising entry barriers or facilitating collusion. What are potential positive or negative effects of vertical restraints from an evolutionary perspective, particularly on innovation? We want to pose two questions:

(1) To what extent can evolutionary economics lead to additional arguments, why vertical restraints might be necessary for solving specific problems and therefore should be exempted from Article 81(1)?

(2) Can evolutionary economics also provide arguments, why vertical restraints might have anti-competitive effects, in particular, lead to negative effects on innovation processes?

In the next section, we attempt to give answers to both of these questions. But some general considerations can already be presented here. One crucial type of innovations are organizational innovations, i.e. new forms of organizing activities and transactions. These organizational innovations can help to reduce transaction costs, solve incentive problems (e.g. free-rider problems) or help organizing processes of learning and communication between vertically linked firms in upstream and downstream markets. Most of these organizational innovations require

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20 Additionally, the quality of the selection decisions of the firms is also of itself part of their performance offered to others.
21 As, for instance, when the retailer discovers that post-sales services like repairing can be performed more effectively by him than by independent repairers because of complementarities between retailing and repairing activities – in particular because those activities are ‘similar’, in the sense that they draw on the same kind of capability (Richardson, 1972). However, what is more efficient for a specific retailer, is not necessarily more efficient for all retailers in an industry.
22 Another extension of this complex perspective on market processes in the vertical chain is shown in section 4.4, where it is argued that also vertical leadership can be necessary for organizing systemic innovations.
23 Therefore, changes in the division of labor within the vertical chain can take place independently from products’ and retail services’ innovations. This can also be called “evolution of the value chain structure”, see Jacobides, 2004:40, italics in original.
specific contractual arrangements, which often might involve some kinds of restrictions on the behaviour of at least one partner, qualifying them as vertical restraints. If we emphasize from an evolutionary perspective the relevance of innovations, then we have to accept that organizational innovations might require often some kind of vertical restraints. Another consequence is that, in order to generate knowledge about the efficacy of those organizational innovations, some experimentation with vertical restraints might even be necessary. On the other side we also have to ask whether vertical restraints, which by definition restrict the freedom of firms to act independently from others, might not also impede innovative activities.

4. How to Use Evolutionary Arguments for Assessing Vertical Restraints

4.1 Subjectivism, Heterogeneity, and Local Knowledge

A crucial insight from an evolutionary perspective is that knowledge seldom has an explicit character and often cannot be easily communicated. The knowledge of firms on up- and downstream markets has to be described as subjective, fallible, local and sometimes even tacit knowledge. The focus is put on the heterogeneity of knowledge, i.e. subjective knowledge derived to a high degree from one’s own experience. In fact, we can expect that economic agents, acting on their individual, subjective knowledge, will bring out a wide variety of differentiated offerings, because they are bound to differ in their assessment of consumers’ needs. The more heterogeneous the knowledge bases, the more differentiated the market offers for products and services are likely to be (‘cognitive distance’ as a key to diversity, Nooteboom, 1999). But heterogeneity is also important in the relation between firms in the vertical chain, e.g. between firms on the producer and the retailing levels (Windsperger, 2002). It can be expected that there are also different assessments of markets and of the most promising business strategies between firms on the producer and on the retailing level. This is partly a consequence of different judgements in situations of high uncertainty, but also of specific local or tacit knowledge of particular firms in the vertical chain that is not known by others, and often cannot even be communicated to them (Minkler, 1993). The Hayekian insight that "knowledge of the particular circumstances of time and space" is widely dispersed among individuals and cannot entirely be centralized (Hayek 1945) is to some extent also true for the network of firms that cooperate within a vertical chain.

In neoclassical analyses about vertical restraints, this complex structure of knowledge and heterogeneity in vertical chains has not been taken into account in a sufficient way. For many consumer goods, it can be expected that the demand conditions vary considerably throughout the entire country. Therefore, it will not be efficient that these products are sold on the retailing level everywhere at the same price and with the same level of convenience, service etc. If we assume -
from this evolutionary perspective - that the local or regional retailer has better (and often tacit and therefore not communicable) knowledge about the preferences of their customers, vertical restraints that restrict the freedom of the retailers to decide themselves how they want to sell the products impede the utilization of this specific local knowledge of the retailers. This can lead to inefficiencies in regard to the selling of these products - an effect which has not been emphasized enough in the discussion about vertical restraints.\textsuperscript{24}

An important consequence is that this argument strengthens a somewhat "old-fashioned" principle in competition policy, namely, that also the freedom of the retailers should be protected.\textsuperscript{25} If retailers retain their entrepreneurial freedom to a larger extent, they are better able to use their specific knowledge.\textsuperscript{26} Of course, there are also many sound arguments, why this negative effect of vertical restraints might be outbalanced by other positive effects (including the argument that "wise" producers might give their retailers discretion for making the whole system more efficient\textsuperscript{27}). But in a comprehensive assessment of vertical restraints this specific effect should be taken into account. In the next section we will see why this freedom may also be crucial for the workability of competition as a process of experimentation.

4.2 Freedom to Experiment and Variety

4.2.1 Vertical Restraints and Experimentation

In section 3.2.2 above, it was shown that in vertically linked markets there are several intertwined competition processes that work as processes of experimentation with new hypotheses about products, services or distributions formats and their selection by firms or consumers on the other market side. Vertical restraints can have a substantial impact on the degree to which economic agents’ heterogeneity transforms into a variety of offerings from which other agents can choose. This is for instance the case of a qualitative selective distribution arrangement imposing retailers to perform a bundle of predetermined post-sale services. Because of the vertical restrictions, distributors are prevented from making use of their subjective knowledge and skills, from which a variety of alternative distribution services could have

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\textsuperscript{24} This can be regarded also as a problem of centralization vs. decentralization of decisions. A strict nation-wide distribution system that applies uniform rules for all retailers, e.g. in the case of a selective distribution system or a franchise system, can be seen as an example of a centralized system, which does not allow the decentral units (here: the dealers) to make their own decisions on the basis of their own specific knowledge.

\textsuperscript{25} This was particularly emphasized by the Freiburg School of Law and Economics (Ordoliberalism) and has ever since been an important principle.

\textsuperscript{26} As well as other capabilities and skills they possess. See also Denozza (1988) on the information the retailer would be able to acquire about consumers’ needs and decision processes if the retailer would have sufficient freedom of experimentation within its relationship with the consumers.

\textsuperscript{27} Windsperger (2002) suggests, in the context of franchise agreements, that the more important is the franchisee’ outlet-specific know-how for the creation of residual income, the more residual rights are likely allocated to the franchisee.
otherwise developed, thereby exploring a wider variety of hypotheses as to how to meet consumers’ needs. Therefore, vertical restraints restrict the freedom to experiment and reduce the amount of variety that is being generated and tested.

This problem can also be depicted as follows: If the firms on the two levels are entirely independent, i.e. there are no vertical restraints between producers and retailers, then the firms on both levels can experiment and select independently from each other - on the basis of their subjective knowledge. In the case of vertical integration as the extreme case of vertical restraints, in which two firms in the vertical chain merge, only one firm decides on all aspects of production and distribution. In this case there are not two parallel processes of experimentation on the producer and the retailer level, in which independent from each other two different sets of hypotheses are generated and tested, but there is only one process of experimentation, in which vertically integrated firms test one large bundle of hypotheses on the optimal product and the optimal distribution. This has two consequences: On the one hand, the number of independent sources of innovation is considerably reduced in comparison with the vertically disintegrated case, leading to a lower level of variety. On the other hand, it can be shown that the quality of the selection of hypotheses may decrease, the larger the bundle of the hypotheses is, with which the firms experiment in the market.

The decisive argument is that there might be a positive effect on the efficacy of this process of knowledge generation and spreading, if there are two independent processes of experimentation on two different vertical levels, in which more but smaller bundles of hypotheses are tested, than if there are less but larger bundles of hypotheses which are generated and tested by more vertically integrated firms (or firms with close vertical ties in up- and downstream markets). If this is the case, then a vertical dis-integration (or unbundling) can have positive effects on the efficacy of competition as a process of experimentation. From this point of view, vertical restraints restricting the freedom of experimentation in up- and downstream markets can impede competition as a discovery procedure, and therefore might hamper processes of innovation and imitation. Of course, there are also many good arguments why vertical integration and vertical restraints might increase efficiency, and in section 4.4 evolutionary arguments to that effect will be presented, but the contention made here is that a positive effect for the knowledge-generating aspect of competition might exist, if through less vertical restraints the extent of the freedom to experiment and therefore the possibility for generating more variety increases.

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28 A similar conclusion was reached by the UK Competition Commission, in *New cars, A report on the supply of new motor cars within the UK*, see Vezzoso (2004).

29 For an analysis of (1) the positive effects of a larger number of firms and (2) the negative effects of a larger bundle of hypotheses, which are tested together in the market, for the knowledge-generating effect in horizontal competition as processes of experimentation see Kerber and Saam (2001).
This argumentation can also be put in relation with the well-known discussion on interbrand vs. intrabrand competition. From a Chicago-type perspective, a well-functioning interbrand competition among producers can substitute intrabrand competition among retailers. As we have seen above, the EC Guidelines on vertical restraints enlist eight, non-exhaustive reasons why vertical restraints could give rise to efficiency gains, and the general presumption underlying that policy is that, in the absence of market power on the upstream market, the procompetitive gains of vertical restraints are considered to prevail over anticompetitive effects. For this and other reasons, the EU Commission considers the protection of interbrand competition much more important than the protection of intrabrand competition. But from our evolutionary perspective a different picture unfolds: The elimination of intrabrand competition among retailers might lead to the loss of the positive knowledge effects from experimentation on the retailing level, even if there is sufficient interbrand competition among the producers. This negative effect will be aggravated, if in addition thereto, we consider the existence of heterogeneity and local knowledge on the retailing level (see section 4.1).

4.2.2 Market Entry, Ease of Exit, and Non-Compete Obligations

Moreover, the market entry issue could be seen in a somewhat different light. Normally, the question is whether new firms are able to enter the market within a short time at a sufficient scale in order to eliminate or effectively restrict independent pricing of incumbents. In that case, it is assumed that incumbents and entrants have the same knowledge. But from our evolutionary perspective, a potential entrant who wants to try out a new product normally needs to find retailers on the downstream market willing to distribute it. The innovator may need an even higher number of firms on the downstream market, given the substantial ‘dynamic transaction costs’ of finding somebody willing to experiment with something new (Silver, 1984). Also the heterogeneity of firms on the other market side could be very important, since the more heterogeneous they are, the higher the probability that someone might be willing to try out the new offer. But if a substantial part of retailers are already tied to other manufacturers, it can be very difficult for an entrant to find partners that try out its new product. Therefore vertical restraints, particularly if they are widespread in the market, can seriously restrain the capacity of the system to endogenously produce innovation, because market entry might be more difficult. Therefore, the policy of the EU Commission to be more restrictive in the case of a vertical restraint makes sense. This derives from the fact, essentially, that if the undertaking on the upstream market is subject to a sufficient degree of competition from other brands, it cannot appropriate the efficiency gains acquired thanks to the vertical restraint (extra-profits), but it has to pass them on to consumers in the form of better quality or lower prices of the products sold.
restraint being applied by most firms in the market can be additionally substantiated by these evolutionary considerations.\textsuperscript{31}

In this respect, the assessment of vertical restraints according to Article 81 should develop a concern for arrangements that make it very difficult for undertakings to terminate an ongoing relationship or to engage in relationships with more than one partner at the same time. Thus, for instance, it could be questioned if the antitrust assessment of vertical restraints should be biased in favour of vertical restraints linked to investments which are relationship-specific and therefore make termination much more difficult (see Guidelines on Vertical Restraints, para 119, pt.9).\textsuperscript{32} In addition thereto, a more restrictive approach to so-called single-branding\textsuperscript{33} could be worth considering. Non-compete obligations are enforceable according to the general Block Exemption Regulation if it does not exceed five years, and extraordinary efficiencies can justify even longer non-compete obligations. In this respect, concerns could be raised that this period might be too long, especially in certain highly dynamic sectors or in the presence of such information asymmetries between the parties to imply a dramatically different perception of market dynamics. Non-compete obligations or qualitative restrictions of the retailer's behaviour can also set restrictions or limits on vertical competition between producers and retailers, and cannot simply be seen as largely procompetitive forms of vertical integration that yield positive consequences for consumers.

\section*{4.2.3 The Reform of the EU Rules for the Motor Vehicle Industry: An Application}

The problems how to ensure the openness of an industry for innovations through crafting appropriate rules are well illustrated by the recent EU competition policy for the motor vehicle sector (see above Section 2.3). The distribution of cars in the EU was characterized by the almost uniform employment of the same distribution format. Cars were sold by authorised retailers within a system of selective distribution requiring each dealer to perform a certain amount of activities like promotion and repairing and assigning to each dealer an exclusive territory. Moreover, since independent retailers like supermarkets or internet operators did not fulfil the requirements to become an approved retailer within those systems and were not entitled to buy cars for resale from approved dealers, there was nearly no competition among different distribution formats.

\textsuperscript{31} See Article 6 of Reg.2790/1999, under which the Commission can withdraw the Block Exemption when access to the relevant market or competition therein is significantly restricted by the cumulative effect of parallel networks of similar vertical agreements practised by competitors; moreover, under Article 8, the Commission can remove, in respect to specific restraints and markets, the benefit of the Block Exemption Regulation, when parallel networks of similar restraints cover more than 50\% of a relevant market.

\textsuperscript{32} Essential for the freedom to experiment is the possibility to move to other, better offers. In this sense, the innovator could certainly be the one who acts opportunistically concerning his present partners.

\textsuperscript{33} Defined as obligations that require the buyer to purchase from the supplier (or from another undertaking designated by the supplier) more than 80\% of the buyer’s total purchases (see definition in Article 1(b))
In order to promote innovation and thereby diversity of offerings in the motor vehicle retail market, the EU Commission has provided for a series of specific measures that should lead to an unbundling of activities and to more independence of dealers. For once, the requirements to become an approved dealer were relaxed, providing for instance that the distributor is not obliged to perform the car repair service himself, but that he can contract-out this specific function to an approved operator. This means that, in principle, it will be for the retailer to find out if, under the circumstances of his specific case, outsourcing the repair services to an independent operator would be an efficient choice. The heterogeneity of retailers in regard to their knowledge and skills includes that they could be differently competent at performing the same function. Therefore, for some retailers it might be profitable to outsource the repair function, for others it might be best, if they exert both functions. Additionally, this could give rise to vertical rivalry between retailers and repairers, competing on the allocation of this specific task – or parts thereof – within the vertical chain. But it can also be seen as a general process of experimentation, whether both services should be provided by the same firm, e.g. due to some similarities of knowledge and skills that is necessary for both, or better be offered by different firms due to the differences in the necessary knowledge bases and skills. Another advantage of this unbundling is that entry barriers are lowered, because new firms need not offer simultaneously distribution and repair services. Thus, by unbundling single activities that form a complex performance, the newer EU competition policy for vertical arrangements is providing for a higher degree of experimentation within the vertical chain of the motor vehicle sector. Moreover, some additional measures that have been introduced in order to provide the retailer with a higher degree of economic independence from the manufacturer can help to improve his capacity to be innovative in the offering of his distribution services to the consumers.

4.3 Communication Costs

Knowledge-based theories of the firm could provide additional support for the explanation of vertical arrangements. In this regard, a particularly important consideration could be that vertical restraints may help economizing not only on transaction costs but also on communication costs.

34 See Block Exemption Regulation 1400/2002
35 Therefore, the EU policy for the car sector differs considerably from the general EU policy on vertical restraints as set out in the Reg. 2790/1999 and the Guidelines for vertical restraints, because, according to the latter, the manufacturer (within the 30% market threshold) would be allowed to bundle the distribution and repairing of his products, whereas the exemption rules for the car sector leave this choice with each single retailer. This measure would not have been necessary if a substantial part of manufacturers had already provided for the possibility of unbundling these two activities by leaving their retailers free to contract-out the repair activity. Interestingly, though, this unbundling of activities was not allowed according to the previous Block Exemption Regulation for the motor vehicle sector, so that, in a way, the EU Commission by means of the new rules is also amending its previous policy.
36 Like broadening the scope of the mandatory dispute settlement method and providing that dealers should have the ability to transfer their rights and obligations to other dealers authorized to sell the same brand.
If firms’ knowledge bases are heterogeneous, and knowledge is not given to anyone in its totality, we can expect some form of knowledge sharing to become necessary. This is especially the case when the interaction among quite different competences is needed in order to provide a final output. Establishing a fruitful communication between firms can be complicated. For once, the parties should share enough knowledge, so that they can understand each other (“syntax and grammar”, Argyres, 1999); but a firm’s knowledge can be very difficult to articulate (partly due to its tacit character) and transmit to other economic agents. Moreover, economic agents, also because of their specialization in different knowledge domains, have a limited ability to absorb and process information coming from outside. In this respect, organizational devices could represent a viable means of overcoming at least some of these difficulties and, thereby, improving the division of labor between parties contributing heterogeneous knowledge bases.  

Vertical arrangements can help to establish over time routines for information transfer and handling, by means of which the parties learn to understand each other better, also in terms of their respective needs and desires (e.g., concerning product specifications). Despite the intention of each party to the agreement to do its best and to behave loyally, differences in interpretation of instructions, or of data relevant to the working and development of the relationship, can give rise to coordination difficulties, which could put the specialization of labor between the parties at risk (Conner and Prahalad, 1996). This is especially the case when the linkages between the activities performed by the different parties cannot be established once and for all (e.g., by providing standard operating procedures) but are continually revised in the course of the relationship (e.g., if new instructions become necessary). In this respect, crucial to establishing a climate supportive of a fruitful communication between the parties may be, for instance, the provision of credible exclusivity commitments, possibly going beyond what would normally be necessary to cope with free-riding, hold-up problems or even spill-over risks. In assessing vertical restraints, the consideration of such and other ‘dynamic’ transaction costs or ‘cognitive impediments to bargaining’ could also play an important role. Conversely, though, it could be argued that a certain amount of communication costs could be necessary under the viewpoint of evolutionary competition. In fact, it is through the establishment of the ‘optimal cognitive distance’ (not too close, for a higher novelty value of partner’s knowledge, but also not too distant, because this improves mutual understanding, Wuyts/Colombo/Dutta/Nooteboom, 2004) that relationships- endogeneous innovations can arise.

37 Moreover, reducing the cognitive distance can improve the possibility of exploring new resource combinations, also because it could become less difficult to convince the other party to invest in activities in order to be able to try out something new. About this peculiar difficulty cf. Silver (1984).
38 The need to learn how to manage relations is stressed especially by the economic literature on networks, as a key to taking a more central place inside them, cf. Powell/Koput/Smith-Doerr (1996)
39 Jacobides (2004:41) suggests, for instance, on the basis of empirical findings, that the “types of transaction costs operating in the initial dis-integration stage are quite different from those that push the industry (back) to integration”
4.4 Complementarity and Vertical Leadership

4.4.1 Complementarities and Vertical Restraints

The assumption that there may be complementarities between resources and activities is at the core of the resource-based theory of the firm. Although production can be broken down into various stages in vertical chains, as long as complementarities exist, social interactions not mediated through the market can be justified\textsuperscript{40}. Thus, due to complementarities, it may be necessary to qualitatively coordinate the production (e.g., choice of product characteristics) with the distribution of goods (Richardson, 1972). In this respect, the producer’s intention to coordinate ex-ante, i.e. by vertical cooperation, his own activity with the distributor’s activity can be explained by pointing not so much to problems styled in the double-marginalization-reasoning of neoclassical economics, but to the necessity of coping with interdependencies between activities\textsuperscript{41}.

On the one hand, there may be "technical" interdependencies, as when one piece has to fit into a complex mechanism (e.g. a car). On the other hand, there is what has been defined a somewhat “tighter” form of complementarity (Richardson speaks in this respect of activities which are \textit{closely} complementary). This could be a type of interdependence between activities based on the fact that the competences and the knowledge-bases required to exercise them are similar to each other. In this respect, for instance, there can be a complementarity between distribution and repair in the sense that it is more effective (also cost-effective) for a single firm to perform both of them, because their use of the same type of competence might lead to important synergies\textsuperscript{42}.

What could all this imply in regard to vertical arrangements? Firstly, this may offer an explanation for ex-ante qualitative coordination which is more clearly focused on the important dimension of complementarities between competences. Secondly, it could show that vertical arrangements can give rise to innovations as far as new complementarities and synergies between activities – and competences – are discovered.

4.4.2 Systemic Innovation and Vertical Leadership

From a different perspective, complementarities can also be seen as restricting the firm’s ability to innovate independently, since a change in one component of a complex system may require that other components be modified accordingly. In this case, innovations would be

\textsuperscript{40} Conversely, as long as interdependence is reduced, and therefore activities do not need to be coordinated ex-ante or internally (by way of hierarchy) markets can emerge.

\textsuperscript{41} It follows that, according to this theory, integration is needed when the activities to be coordinated are highly interdependent, cf. Langlois and Robertson (1989).

\textsuperscript{42} See also note 21 above.
‘systemic’, i.e., they can be realized only in conjunction with simultaneous innovations in complementary activities\(^\text{43}\) (i.e., related technologies). To solve this specific, innovation-related problem, one firm (or a small group of firms) can exercise a sort of system leadership or vertical (innovation) leadership within the vertical chain. The leader’s task would be to coordinate the innovative endeavours of all members of the vertical chain in order to ensure the compatibility among all different activities contributing to the overall performance. Another possibility is that the vertical leader innovates itself, and requires the other members of the vertical chain to modify their activities accordingly. A further variant could be that the vertical leader gets control over the system’s overall design configuration, and, by clearly specifying the interfaces between activities, allows for independent innovation within these modules. Of course, mutual adjustment between components may possibly substitute for vertical leadership, but this could simply take too long, also because of the communication costs involved therein (Silver, 1984), and in the meanwhile the system would be ill-adapted to a changed environment.

Thus, one basic argument in favour of vertical restraints could be derived from the often systemic character of innovation. In this respect, vertical restraints should be seen as the instruments by which the hub of a complex system can exercise its coordinating role. From a competition policy’s perspective, however, it could also be important to promote the modularization of activities, because this allows for more competition at each individual stage of a vertical chain\(^\text{44}\). But modularization is feasible only as long as the interfaces between the activities can be clearly specified.\(^\text{45}\) Therefore, as long as this ‘interconnection’ knowledge is not available, a convincing alternative to the more hierarchical forms of vertical leadership is difficult (“integration … to learn to manage the interface between stages”, Jacobides und Winter, 2003: 8). Particularly, if new combinations of previously unrelated activities and competences are tried out as in phases of radical innovation, the exercise of more hierarchical forms of vertical leadership, and therefore more restrictive vertical restraints could be justified.

### 4.4.3 Competition for Vertical Leadership

Even if complementarities require the coordination of innovation activities and imply a milder or stronger exercise of vertical leadership, other members of the system are not necessarily prevented from innovating independently, e.g. within clearly specified interfaces. Thus, a firm can exercise the role of the vertical leader but at the same time there can be a high degree of

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\(^{43}\) The more mutually dependent actors within a channel, the more systemic innovations will tend to be. This is especially the case with distribution channels, see Nyberg (1998:77).

\(^{44}\) This, in a way, could also be the firm’s interest, if it true that “a firm is better off and can extract more value when the complementary markets in which it does not participate are more competitive” (Economides, 2001: 212).

\(^{45}\) See also the findings of Brusoni and Principe (2001) about the need for “tight cross-company interaction and conscious efforts on coordination at the knowledge and organizational levels” that goes with modular product architectures.
dynamic competition at each stage of the value chain. However, in very innovative environments, in which the interconnection knowledge is constantly under challenge, the control over the system’s design configuration can become an essential precondition for the capacity of the firm to innovate its own activity. Moreover, there can be substantial benefits (i.e. in terms of the appropriation of the network’s rent) in exercising the role of the vertical innovation leader (Bresnahan, 1999). This can lead to fierce competition among system members as to acquiring the role of the vertical leader. Consequently, firms in such situations need to cooperate to serve their clients but also to compete with respect to the control of the activities’ overall architecture or large portions thereof.46

Hence, vertical restraints may just represent the instruments by which vertical leadership is exercised; but they should not become the means by which the vertical leader tries to unduly perpetuate its power, for example by restraining the system members’ freedom to experiment individually, as long as this does not cause any serious prejudice to the performance of the overall system, or making entry more difficult. Therefore, competition policy should ensure that competition for vertical leadership remains possible, and should take measures in order to preserve the capacity of undertakings on the succumbing side of the market or market entrants (Bresnahan, 1999: 198) to challenge that vertical supremacy.

4.5 Problems of Regulating Vertical Restraints

Which specific problems can be identified for the regulation of vertical restraints from the perspective of evolutionary economics? Important acknowledgements are that due to the openness of market processes it is not possible to predict the outcome of competition as a "discovery procedure" (Hayek 1978). This is closely linked to the Hayekian problem that government agencies have fundamental knowledge problems with regard to intervening successfully in market processes. Although most evolutionary economists would not deny that rules for safeguarding competition are an important part of the necessary institutional framework for markets, they have considerable doubts whether competition authorities have the knowledge to assess the effects of particular market structures or business behaviours sufficiently for making correct decisions in single competition cases. Hayek and other evolutionary economists recommended that economic policy (and therefore also competition policy) should primarily be made in the form of applying general rules ("rule of law") instead of attempting to intervene in the market on a case-by-case basis (Streit and Wegner1992). In US antitrust policy these two different approaches are well-known as the application of "per se-rules", implying that certain

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46 In this respect, horizontal competition and vertical competition for the control over the design configuration mutually reinforce each other.
behaviours are generally prohibited, versus "rule of reason", which means that in a particular case the advantages and disadvantages have to be balanced.

From this evolutionary perspective the general tendency in European competition policy, and particularly in regard to vertical restraints, to extend the application of the "rule of reason" approach seems to be very problematic, because it presupposes an amount of knowledge of competition authorities and firms, which both often will not have. Since regulation by general rules instead of singular assessment requires far less knowledge, the policy for regulating vertical restraints should primarily consist of general rules, while specific assessment in particular cases should be avoided. Therefore, the EU competition policy concerning vertical restraints has to be assessed also with regard to the amount of the required knowledge. A closely related problem from the perspective of evolutionary economics is that it is not really possible to know in advance whether certain kinds of vertical restraints, and particularly new vertical restraints due to organizational innovations, will lead to the expected efficiency benefits. Finding out which vertical restraints are connected with positive efficiency effects, requires itself an experimentation process. Therefore, it has to be asked to what extent the regulation of vertical restraints leaves enough scope for experimentation with vertical restraints.

In this regard, one important problem emerges. The EU Commission’s interpretation of Article 81 as a structured rule of reason requires that the firm invoking Article 81 (3) knows in advance that the vertical restraint will have a significant positive impact in the market. The recent Guidelines on the application of Article 81 (3) state that the firm invoking the application of the exemption provision must demonstrate that the procompetitive gains of vertical arrangements are objective and substantiated, so that they can be balanced against anticompetitive effects. In particular, the firm has to describe the nature, likelihood and magnitude of each claimed efficiency, and to explain how and when each claimed efficiency would be achieved. Moreover, in the case of claimed efficiencies in the form of cost savings, these latter should be computed “as accurately as reasonably possible” (para. 56), whereas in the case of non-cost based efficiencies (for example, a new or improved product) the firm has to describe their exact nature and explain how and why they constitute an objective economic benefit. The implementation of this part of the Guidelines would run the risk that only well-known practices (and possibly practices on which extensive economic literature already exists) are considered efficient, whereas for still unknown (and really innovative) ones substantiated benefits could be very difficult to describe and explain.

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47 For general analyses of the knowledge problems of economic policy and how to deal with them, see the contributions in Pelikan and Wegner (2003) and Kerber (2004), and already very early in regard to competition policy with the conclusion to apply only per se-rules Hoppmann (1972, 1977).
In most cases, however, this is no real problem, because the vertical restraints of firms fall within the scope of the general Block Exemption on vertical agreements, which is characterized by simple and clear rules. If the market shares of the firms are under 30%, all kinds of vertical restraints are exempted from the prohibition of Art. 81(1) - with the exception of the small number of clearly defined hard core restrictions, which are generally prohibited (per se-rule). Within this "safe harbour", the firms are free to experiment also with new and unknown types of vertical restraints, without having to substantiate the efficiency benefits ex-ante or ex-post. Thus, from an evolutionary perspective, the reform of the policy in regard to vertical restraints in 1999 was a major progress compared to the former block exemptions.\textsuperscript{48} The much more differentiated old block exemptions did not define such simple rules in form of a market share criterion delineating a safe scope for experimentation, but prescribed in much more detail what kinds of vertical restraints under which conditions can be allowed and which are prohibited. This approach was vastly criticized as a strait jacket for vertical restraints, which (1) impeded the best tailoring of vertical restraints to specific transaction and cooperation problems, and (2) eliminated to a large extent the scope for experimentation with new vertical restraints. But outside the scope of application of the group exemption the above-mentioned problem of the ex-ante substantiation of the efficiency benefits remains.

5. \textit{Conclusions}

This paper investigates to what extent evolutionary theories of competition and innovation economics can be used to derive additional criteria for the assessment of vertical restraints. Our analysis was made against the background of the most recent reforms of EU competition rules in regard to vertical restraints, i.e. the Block Exemption Regulations on vertical restraints in general and on vertical restraints in the motor vehicle sector in particular. To this end, we scrutinized three groups of evolutionary approaches (Neo-Schumpeterian approaches to competition and innovation economics, knowledge-based theories of the firm, and Hayekian (or Austrian) market process theories) for crucial general insights, which would enable the development of a different theoretical framework for the analysis and assessment of vertical restraints. An important result was the elaboration of the relevance of the knowledge / innovation perspective on vertical restraints, which provides explanations for positive and negative effects of vertical restraints beyond the current incentive-based viewpoint, in particular such as the transaction cost-approach. Another important part of the different theoretical framework is that market processes over several vertically linked markets consist of a number of competition processes, both

\textsuperscript{48} This does not preclude the criticism that it can be hardly substantiated by theoretical or empirical research, why the critical market share is determined as 30% (and not 25% or 40%), see also Boscheck (2000).
horizontally and vertically, which can be seen as processes of experimentation (variation-
selection-processes).

In Section 4, it was shown that specific evolutionary arguments, such as the subjectivity of
knowledge, local (and tacit) knowledge as well as the heterogeneity of firms in general allow a
much elaborate assessment of vertical restraints than through neoclassical reasonings. Particular
ly important is that the freedom to experiment, which is a precondition for the
generation of variety, plays a crucial role as regards the workability of innovation-generating
market processes in the context of vertically linked markets. As well as new vertical restraints
can be necessary for implementing certain forms of organizational innovations, vertical restraints
can also lead to an impediment of innovative experimentation in vertically linked markets, by
this reducing the extent of knowledge generation in competition. From that perspective, intrabrand
competition might not be substituted completely by interbrand competition, as would be the case from a Chicagoan perspective. Consequently, the new policy of the Commission in
regard to the treatment of vertical restraints in the motor vehicle sector, favouring a greater
independence of the car dealers in order to stimulate innovation in distribution formats, would
receive some theoretical support from evolutionary economics. Moreover, the knowledge-based
theories of the firm, emphasizing, inter alia, the problems of communication costs and of
complementarity of knowledge, capabilities and skills, can provide additional good reasons for
the need of certain vertical restraints. However, taking the expediency of vertical leadership in
vertical chains for innovating the overall product as an example, this indicates that competition
policy should also be concerned with maintaining sufficient flexibility, e.g. by limiting the
duration of vertical restraints, in order to ensure the necessary openness for further innovative
experimentation. From an evolutionary perspective, due to the lack of knowledge on the effects
of policy measures, economic policy is always difficult, and the competition assessment of
vertical restraints makes no exception. In this respect, it can be generally recommended that
competition policy should possible strive for "per se rules" instead of a "rule of reason"
approach, by this questioning the dominant tendencies in European competition law in favour of
the latter.

The aforementioned results are part of a broader research approach which aims at scrutinizing
the usefulness of evolutionary economics and innovation economics for developing additional
criteria for competition policy. In that respect, our contribution should also be seen as a small
step to supplement the so far mainly neoclassical efficiency-oriented criteria in competition
policy with evolutionary criteria, implying also a stronger emphasis on innovation and dynamic
efficiency as compared to static efficiency considerations.
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