Strohm, Andreas

Article

Competition policy at war with industrial policy?

EIB Papers

Provided in Cooperation with:
European Investment Bank (EIB), Luxembourg

Suggested Citation: Strohm, Andreas (2006) : Competition policy at war with industrial policy?, EIB Papers, ISSN 0257-7755, European Investment Bank (EIB), Luxembourg, Vol. 11, Iss. 2, pp. 34-53

This Version is available at:
https://hdl.handle.net/10419/44854

ABSTRACT

Competition policy has seen quite significant changes over the past years. *With the reform of Merger Control and the application of Article 81 (agreements) an 'effects-based, economic approach' was formally introduced by the Commission. Two other areas of competition policy are under discussion, namely state aid control and the application of Article 82 (abuse of a dominant position). It will be one of the key questions whether and to what extent an 'economic approach' should be followed here too. Some issues of competition policy with regard to industrial policy will be analysed in view of this changes. As the 'economic approach' is based on neoclassical market form analysis and welfare economics, I will try to make these approaches more comprehensive before I point to some problems which occur if the 'theory' were to be applied in real cases.*

Andreas Strohm (Andreas.Strohm@cec.eu.int) is a member of the Chief Economist Team of DG Competition of the European Commission. The views expressed are his own and do not necessarily reflect those of the Chief Competition Economist or those of the European Commission.

Competition policy at war with industrial policy?

1. What is 'industrial policy'?

Andreas Strohm

'Industrial policy' is a somewhat complicated word. There is no consensus on what it means and some commentators strongly believe that there should be no such thing at all: for some, industrial policy is key to the future, for others it only harms the market process. In the view of the European Commission this policy forms a key part of the commitment to focus on growth and jobs. Success will be of paramount importance here, not only for the survival of social security systems but also for society as a whole. During a period of approximately 150 years, economic policies in countries like Germany and France mainly focussed on how growing welfare was to be distributed – today the question seems rather to be how sufficient welfare can be created.

There are several challenges. Globalisation has happened and nobody is able to turn back the clock again. Costs are reduced and flexibility is constantly increased by global production networks. In particular, the Asian emerging market economies are today taking their place and fully participating in global markets. An increasing internationalisation offers enormous opportunities, but naturally also intensified competition for the EU as a location for investment, production and R&D spending. Of course, the path to globalisation is not easy. There is a need for sometimes difficult adjustment that we must help to overcome and manage. However, on the whole, globalisation can and should bring strong benefits for Europe: the EU is the biggest trading bloc in the world and we have most to lose from any rise in protectionism.

Secondly, the nature of manufacturing production continues to change profoundly. Fast technological changes are taking place across the globe. In many industries, traditional manufacturing methods of mass production are being replaced by more adaptable production runs, using intelligent and multi-task production equipment. Global production networks are putting a premium on reducing costs and increasing flexibility.

In spite of these challenges, we should be confident about EU manufacturing industry's place in the world and its future. Commission analyses show that EU industry has not by and large performed as badly as often presumed. The majority of individual EU manufacturing sectors have performed well in comparison with their counterparts in other industrialised economies.

Important EU manufacturing sectors like pharmaceuticals, mechanical engineering, chemicals and motor vehicles sectors have a substantial revealed comparative advantage and record trade surpluses against the rest of the world.

Nevertheless, the industrial structure of the EU economy as a whole makes it less than ideally positioned to face the ongoing globalisation process. Three observations are worth making. First, there is clearly a productivity growth differential between the EU and other industrialised economies, particularly the United States. To some extent this is due to an industrial composition effect: the ICT producing sector is one of the growth engines of the US economy; in comparison to Europe, its share in the whole economy is bigger as well as its growth. Second, another factor is that EU trade is overall still concentrated in sectors with medium-high technologies and low to intermediate skilled labour. That makes us vulnerable in the competition with Asia, notably China, and other emerging countries. Third, there is also increasing international competition for R&D spending. There is evidence that the EU is not competitive enough as a location for research.

The United States and Japan are attracting more international R&D expenditure than the EU, whilst there is evidence that countries such as China and India are becoming important locations for new R&D investments. The United States has also been more successful than the EU in attracting researchers and highly skilled staff. These trends are a matter of considerable concern in so far as they lead to a loss of R&D investment and researchers from the EU.

The challenge for industry is to be able to maintain and further improve their performance in the future in the face of further technological breakthroughs and continued internationalisation. The challenge for policy makers is to give a clear and coherent response by making substantial improvements to the general environment in which European industry operates.

Industrial policy contains various fields of action and not just 'one'. The Commission has analysed 27 manufacturing sectors in detail, identifying in each of them their strengths and weaknesses and the priority challenges. The initiatives will be different, depending on the priority issues for the sector.

In defining its industrial policy, the Commission has not identified a conflict with competition policy. Without any doubt, rivalry on the home market creates strong incentives for innovation. In the case of low performance of a company, it is more difficult to explain it with mysterious reasons since the conditions on that market are the same for all companies. The elimination of competition would reduce the pressure for the remaining companies to adapt to new challenges and changes. Economies of scale are not the only thing. The strength of local competitors is a key factor for developing competitive advantages.

2. Merger policy

2.1 The issue of 'predictability'

Effective competition on European markets is widely seen as enhancing the international competitiveness of Europe's industries, but a number of specific competition policy issues are surrounded by controversy.

Notwithstanding the widely shared view that effective competition on the European markets is key to international competitiveness of the industry, there are enough particular issues of competition policy on which commentators have disagreed. One prominent field is, not surprisingly, the Commission's merger policy.

Some commentators expressed the view that merger policy shall most importantly be 'predictable'. As markets become increasingly turbulent, the predictability of the framework established and implemented by politics was crucial. The European Round Table of Industrialists stated in 2003 that a system of rules whose interpretation is perceived as unsystematic or erratic was almost as bad as not having rules at all and suggested to make European merger control more predictable (Voigt and Schmidt 2003).

Other commentators however had the opposite view. They felt that the Commission's application of the merger regulation was very rigidly orientated on legal criteria and did not give enough leeway to integrate welfare considerations in the assessment of mergers.

The legal test was changed in 2004 within the reform of the merger regulation. Before it was adopted, statements showed a split between opposing camps. There was initial broad agreement that merger control should ensure adequate consideration of 'non-coordinated effects' in oligopoly

cases below the market dominance threshold.[1] The point of contention was whether such consideration necessitated a revision of the legal test – in order to ensure legal certainty.

According to the arguments of the supporters of the so-called substantial-lessening-of-competition (SLC) test, this criterion took into account the post merger competition consequences for the market as a whole, unlike the market-dominance test, which dealt with just the market position of the merging companies. Thus, only the implementation of the SLC test would be able to offer legal certainty regarding non-coordinated effects in an oligopoly. Expanding the conditions of market dominance to encompass all cases relevant to competition policy was seen by these parties as an unacceptable alternative.

Interestingly enough, the supporters of a maintenance of the existing market-dominance test also claimed arguments of legal certainty. The evolution of the market-dominance concept through Commission decisions and court rulings had validated it as an effective and flexible regulatory instrument. Initially market-share focussed, the criterion had become applicable to all merger cases posing possible risks to competition. Changing the existing legal test would have the effect of loosing existing case law and raise the problem of legal certainty.

The compromise that resulted in the Council was essentially a rewording of Article 2 (3) of the EC Merger Regulation, through which the secondary limb – the 'significant impediment to effective competition' – became the central and sole basis upon which to assess a merger. The creation or strengthening of a dominant position on the other hand is now only one possible (although the most important) instance of a significant impediment to effective competition. The new provision was aimed to achieve more legal clarity regarding how to handle the unilateral effects of oligopolies. On the other hand, market dominance remained the most important factor in significant impediments to competition, as the Commission made expressively clear in its guidelines for horizontal mergers. By maintaining the original wording, the goal was to preserve the applicability of the wide-ranging legal basis built through rulings by the European Court of Justice on market dominance issues.

The 'significant impediment to effective competition' criterion has become the central basis for the Commission's assessment of mergers, with 'market dominance' remaining the most important factor in assessing impediments to competition.

2.2 Assessment of 'economic effects'

The introduction of the new primary criterion of 'significant impediment to effective competition' was not a matter of implementing a particular economic concept. The economic applicability depends on the procedures of the entire regulatory process. Most importantly, it depends on 'economic thinking'. The study of the Round Table of Industrialists has analysed some of the developments in the so-called 'new industrial organisation'. Although the study finds models in this tradition very convincing, it points out that the application in the real world of merger cases is "often confronted with the fact that the results of the models are very sensitive on specific assumptions made." (Voigt and Schmidt 2003, p.157)

Has the Commission taken a wrong approach in the Horizontal Merger Guidelines[2]?

In economic theory, there is no shortage of attempts to clarify the relationship between competition and market power. The approaches show that the question of how to define market power very

1 Non-coordinated effects ('unilateral effects') refer to effects on competition solely due to the fact that the competitive pressure exercised by the merging parties on each other disappears as a result of the merger. This term does not include factors pertaining to a merger-created environment that facilitates coordinated behaviour.

2 European Commission (2004).

often depends on the concept of competition underlying the analysis. The Lerner Index for evaluating market power, for example, is based on a model of total competition. The condition for efficient allocation, by which all exchange profit is exhausted and the price corresponds equally to the cost margin, has to be seen in economic terms as applying not only to one market but to all markets simultaneously. Other concepts are based on a dynamic competition model and attempt to optimise the intensity of competition within a framework of previously defined competition functions. An increase in market concentration does not automatically mean an increase in unwanted market power, but may result in an increase in competition intensity. The examples above illustrate that a generally valid definition of market power remains elusive. Similarly, the related question of what exactly is meant by 'competition' remains – from the viewpoint of Karl Popper's initial criticism of essentialism – an unanswerable question.

The horizontal merger guidelines of the Commission aimed at preventing mergers capable of denying consumers the advantages of effective competition.

The guidelines describe the goal of merger control as the prevention of mergers capable of denying consumers the advantages of effective competition – meaning in particular low prices, high-quality products, broad selection, and innovation. The central criterion looks at the market power of the merged company, meaning whether or not such power is noticeably increased by the merger. Market power means in this context the capacity of one or more companies to raise prices in the interest of increasing profit or to limit the availability, selection or quality of goods, or to restrict innovation or otherwise influence the parameters of competition (European Commission 2004, Recital 8). This goal of safeguarding effective competition by limiting market power is based on the economic principle that competition leads to greater efficiency and economic viability for companies, therefore being ultimately beneficial to the common good.

The guidelines define not only the general goal of merger control but also the welfare standard. Defining the process as aimed at the goal of consumer welfare was a key decision determining the specific economic orientation of competition analysis (de la Mano 2002). The choice of welfare standard has consequences for the entire evaluation of mergers, particularly considering the significance of 'cognisability of efficiencies' as a core element of the clearance process. The welfare-related approach is fundamentally based on competition not existing for its own sake, but as a tool to achieve a higher level of welfare.

In contrast to the structural approach of German merger regulation, which justifies the interference of regulators on the basis of abstractly defined anticompetitive market structures and behaviours,[3] the concept of consumer welfare is bound to the specific effects of a particular merger. The aim is to better orient rulings on the specific economic effects (for the consumer) expected from a merger. Conceptually, this differs from the concept evident in the guidelines as well as in the model of unfettered competition. It is guided primarily by market results that are evaluated according to the criteria of consumer benefit or consumer welfare. This means, first and foremost, prices.

The application of quantitative methods and simulation models in merger control is seen, particularly in Germany, in a sceptical light and linked to fundamental questions about the possibilities of reaching accurate conclusions in economics (Strohm 2004). This debate has a long tradition. From the point of view of von Hayek (1969), whose position is particularly highly regarded in Germany, the limits that result from 'constitutional lack of knowledge' regarding the ability to make exact forecasts about market developments are 'insurmountable'. As a result, gearing economic policy towards specific goals (such as consumer welfare) will not necessarily lead to desired results.

Some developments of the 'new empirical industrial organisation' initially seem to confirm this view, since it is difficult to imagine that the models developed in such a way could be integrated

3 Also see *Bundeskartellamt, Arbeitskreis Kartellrecht, Diskussionsbeiträge* (2004).

into a merger–control process. But the question of whether it is possible to differentiate, in terms of validity, between two competing theoretical models on the basis of empirically observed data – the problem of identification, in other words – is as old as the social sciences themselves. Contemporary industrial economics provides methods of both a theoretical and empirical nature, which have not only changed our understanding of reality but have offered new, previously unimagined, possibilities of identification. The methods subsequently applied to test theoretical models range from descriptive statistics of relevant market forms, natural experiments and correlative analyses to complex econometric procedures or simulations. These methods are principally complementary. The key question in a case-by-case approach is whether it is possible to gain qualitatively reliable data about the relevant market parameters – such as prices, sales, or costs – within the framework of competition analysis. Only in this way will the resulting consequences in the context of competition analysis be sufficiently robust and able to withstand scrutiny in a court of law (see Röller *et al*. 2004, for instance).

Since competition analysis has to satisfy a very specific demand – namely market analysis based on short-term data, solid factual basis, and resistance to manipulation – simple techniques, such as natural experiments, are often better suited than very complex methods. Natural experiments examine historical events towards identifying the relationship between two specific variables. For instance, a departure of a company from the market provides observable data on the relationship between the number of competitors and the level of prices (provided other important factors remain constant). Like the quality of econometric calculations and statements in general, the value of natural experiments depends on the availability of data. This data must be as comparable as possible and lie within a specific time period. The merger-control process does not always allow for an optimal situation, since the time in which a ruling has to be reached is strictly limited by the EC Merger Regulation (ECMR from here on). In addition, participants cannot be asked to submit to a disproportionately strenuous examination process.[4]

The merger-control process does not always allow for an optimal situation, since the deadline for reaching a ruling is strictly limited by the EC Merger Regulation.

However, the willingness to apply new methods does not mean that the limits of their use are ignored. The effects of innovation, improvements in quality, or the vertical effects of mergers are more difficult to document – in terms of empirical verification – with quantitative methods. A specialised theoretical or empirical analysis can therefore not replace the case-by-case comparative analysis of specific factors. Simulation models have also proven inadequate to fully explain possible behavioural changes resulting from a merger – such as the shift of companies to a cooperative strategy. Empirical analyses can at the most provide answers to specific problems, but this information may nevertheless be decisive in the overall review process.[5]

2.3 Efficiencies in merger control

The idea of including efficiency perspectives in merger analysis reflects the assumption that while efficiencies can impede competition, they may also have economic advantages. For example, the study of the European Round Table of Industrialists claims the integration of transaction cost efficiencies in the assessment of vertical mergers since – under the conditions set out in transaction cost theory – "the prohibition of mergers would be detrimental to overall efficiency." (Voigt and Schmidt 2003, p.30)

How does the Commission asses efficiencies? Is there space for improvements?

---

4 *Bundeskartellamt, Arbeitskreis Kartellrecht, Diskussionsbeiträge* (2004, p.6).

5 *Bundeskartellamt, Arbeitskreis Kartellrecht, Diskussionsbeiträge* (2004, p.7).

2.3.1 The 'theory' of efficiencies

The question of whether efficiencies shall be a valid standard for merger control hinges to a large extent on whether there is adequate knowledge, notably whether it is actually possible to precisely gauge the effects of the merger and whether, in the context of the specific welfare standard, they can be comparatively evaluated. A comparative evaluation is necessary if the goal is to facilitate the approval of mergers that may have a negative effect on competition, which may however be offset by positive welfare effects. This poses specific conditions regarding the content of the evaluation in question. The Williamson trade-off, which forms the theoretical basis for efficiency analysis within economic theory, provides a good illustration of the idea that a decision based on the proposed criteria can only be reached when the opposing effects, namely allocative inefficiencies (welfare losses through monopolisation) and productive efficiency (welfare gains through cost savings) of the merger in question can be precisely determined. We will come back to this point later.

Economists usually suggest that competition policy should be based on the effects a decision may have on welfare as a whole.

Economists usually suggest to base competition policy generally on the effects a decision may have on the welfare as a whole, or 'total welfare' (Schmidtchen 2004). In relationship to merger control, as illustrated in the Williamson model (see Schwalbe 2004, for instance), this means that a merger could be approved according to the welfare standard if the sum of producer and consumer benefit is positive. In a simplified form, the total welfare standard includes cases in which the price rises after the merger (the consequent lowering of consumer benefit being compensated by the efficiency gain to the producer in the form of an increase in producer benefit).

The decision which welfare standard shall apply cannot be reached through welfare theory itself, but must be decided normatively. Practically, this means that the decision is a political one.

However, *de lege lata*, it is not possible to choose a welfare standard entirely on a theoretical model. In the literature on this subject, the core assumption is that European merger-control law is "based on the narrower welfare standard that conforms to the consumer interest." (Montag 2004, p. 95). The use of the term 'welfare standard' in this context can easily lead to misunderstandings because (as stated in Article 2 ECMR, the basis for appraisal being 'the consumer interest') it equates the proper standard with a familiar term from welfare economics. However, some commentators have reached the conclusion that the analysis of mergers may rest solely on the quantitative analysis of prices.

The welfare-theory approach basically starts with the assumption that competition is not an end in itself, but an instrument for increasing welfare. It follows that mergers should be judged individually and to a greater degree on the basis of their actual economic effects, which is why merger-control reform is often said to be striving for a 'more economic approach'.

There is a fundamental difference between this focus on actual effects and the structural approach currently underlying German competition law - which formed a kind of blueprint for the EC Merger Regulation at the time when it was created. In the classical structural approach, no explicit prognoses are laid out regarding the changes in price or quantities resulting from a merger. The sole test is whether the merger allows the new company manoeuvrability to raise prices.

In hindsight, these differences harbour a key consequence for efficiencies as evaluation criteria: within the structural approach, there is no possibility for efficiencies to play a role, since the structural criteria sets an upper limit above which efficiencies cannot be taken into account. If, however, the analysis is based on actual welfare effects, possible efficiency gains must always be a part of any analysis, since they may always have the effect of increasing welfare.

Another difference to the structural approach is the relevant timeframe. Proponents of the structural approach start with the assumption that due to the loss of competition, a company dominating the market as a result of a merger will gradually lose in the medium term the impetus to strive for efficiency gains and pass the benefit on to the consumer (Böge 2004). Structural market changes should therefore not be judged according to short-term profit. They should be evaluated with the view of whether competition maintains its long-term function as a welfare-boosting impetus for rivalry in the marketplace following the merger or whether a serious and lasting impediment to this process will emerge as a result of market dominance. Welfare analysis, on the other hand, is based on projected short-term welfare effects. To the extent that a valid consumer standard exists, the theoretical studies on this subject focus on projected prices. The logical result of this would be that a merger can only be approved if it does not result in higher prices (within a yet undetermined timeframe) independent from the change of the market structure (Röller *et al.* 2001). This is based on price-theory models remaining comparatively static, meaning that all conditions remain constant, therefore reflecting a timeframe of zero.

Theoretically, efficiency standards can be integrated into merger regulation in various ways, including as 'efficiency defence' and, alternatively, as an integrated part of the competition analysis itself (integrated approach).

Theoretically, efficiency standards can be integrated into merger regulation in various ways.

An efficiency defence entails a trade-off, meaning the appraisers have the option of approving a merger even if it has been determined that doing so will impede competition. In contrast to the integrated approach, the procedure is twofold: the appraisers will weigh any advantages of the efficiency gain against the previously determined disadvantages to competition. In the Williamson trade-off, the comparison is between the projected efficiency gains (cost cuts) and the merger–related anti-competitive effects (allocative inefficiencies). The main principle of an efficiency defence is a 'rule of reason', which may entail entirely different standards[6] – one reason why this concept has been accused of resulting from corporate lobbying (Schürgas 2002). From the viewpoint of welfare theory, however, it is necessary (and possible) to tie the decision to welfare criteria – such as that total welfare must increase from the achievable efficiencies (Schmidtchen 2004).

Within the integrated approach, efficiency is a factor of competition analysis itself. In other words, efficiencies are an additional element influencing the appraisal of a merger. In this alternate approach, achievable efficiencies of a merger cannot be weighed against its impediments to competition, efficiencies are seen as a factor which might help to solve the competition problem itself. In most of the theoretical studies as well as in suggested merger simulation models this is nothing other than a price reduction achieved by a gain in efficiency (see also de la Mano 2002).

The decision to use an integrated approach, provided it is carried through, results in the efficiency analysis providing the blueprint for a partial price-theory analysis. This is evident primarily in the question of which efficiency categories are admissible as cognisable efficiencies and which are not:

- Efficiency advantages enjoyed by consumers in other markets (such as in the form of new products) cannot be taken into account since they do not contribute to solving the competition problem within the relevant market. This condition is based on cost-benefit analysis, which examines solely the relationship between prices, costs and quantities. The admissible efficiency gains, therefore, are only those dealing with cost savings (Strohm 2004).

6 This problem plays a particular role in the application of Article 81, according to Odudu (2002).

- Efficiencies must be defined to take into account only the reduction of variable costs (Stennek and Verboven 2001). This is based on a theoretical scenario in which the variable costs from an increase in output alone exercise an influence on prices. Fixed costs are, in this model, not part of the price calculation of a profit-based company, since cost limitation is the key factor.

- Product analysis must be limited to homogeneous goods. Factors unrelated to products in the market determining cost-cutting goals are irrelevant. The implication here is that we are dealing with efficiency gains and cost savings related to the manufacture of existing products.

- Efficiencies must be exactly quantifiable. Price theory evaluates the most profitable price/quantity combination, that is, whether cost cuts lead to optimum profit at reduced prices.

- Projected price cuts resulting from efficiency gains must be achievable in the short term. The price-theory reference model is comparative static, meaning the situation before and after the merger will be compared against an identical demand curve. A change in demand would change the profit-maximising relationship of price and output. Failure to realise efficiency gains in a timely manner makes the drawing up of a realistic scenario for decision-making significantly more difficult.

2.3.2 Efficiencies under the EC Merger Regulation

In practice, efficiency criteria have not played a role under the old market-dominance test of the ECMR, but it would have been legally possible to integrate them into this test.

A look at the real-world practice of ECMR reveals that efficiency criteria under the old market-dominance test have not played a role. Furthermore, there was no legal security as to whether and in which form real-world efficiencies would be taken into account at all by the Commission. The cases of Aerospatiale-Alenia/de Havilland[7] and MSG Media Service[8] in particular caused some confusion. In the first case, the Commission clearly included the parties' claims regarding efficiency gains in its appraisal of the case, whereas the efficiency claims of the parties in the MSG Media case were rejected without additional examination due to the foreseeable consequence that the merger would have resulted in clear market dominance. On the other hand, in the case of BASF/Eurodiol, the emergence of market dominance was examined in the context of a restructuring model according to Article 2 ECMR, which reflects in its two-stage approach an 'efficiency defence'. The economic literature on this matter remains divided on whether the negative consequences of market dominance can be adequately offset by achievable efficiency gains (Berg 2004).

The change in ECMR's dominance tests under its 'Significant Impediment to Effective Competition' (SIEC) criterion was not aimed at giving more consideration to economic efficiencies of mergers. Greater integration of efficiency questions within the legal parameters played no role whatsoever in the Council's compromise process. However, the efficiency chapter of the guidelines for horizontal mergers, which had been drafted in parallel to the reform debate, was provided to the Commission in rough-draft form at a time when it was assumed the agency would maintain its dominance test unchanged. In other words, in the view of the Commission it would have been legally possible to integrate efficiency criteria into the unchanged market-dominance test.

The introduction of the new primary criterion SIEC has no self-contained economic concept. Being a decision reached by the EU Council of Ministers, it is chiefly a reflection of political compromise and aims to ensure that certain oligopolies remain accessible to regulation. The revision of the legal parameters do not therefore represent any obligation on the part of the Commission to take into account efficiency gains as possibly critical criteria.

---

7 European Commission Official Journal (1991) L 334/42 – Aerospatiale Alenia/de Havilland.
8 European Commission Official Journal (1194 L 364/1 – MSG Media Service.

On the other hand, the SIEC test does not explicit disallow it either (Berg 2004). Recital 29 of ECMR states that it is possible "that the efficiency advantages of a merger could counterbalance the effects of the merger on competition, especially the possible drawbacks for the consumer, so that effective competition in the common market or a major part of it will not be significantly impeded through, in particular, the creation or strengthening of a dominant position." In the guidelines for judging horizontal mergers, the Commission makes clear that for the analysis of merger effects it is advisable to take into account well-founded and relevant efficiency advantages.

In its guidelines for appraising horizontal mergers, the Commission's basic criteria for including efficiencies are summed up in a single chapter. Efficiencies are systematically treated as dampening factors. While Section III describes the analytical parameters for the evaluation of possible impediments to competition resulting from a merger, the following sections deal with special factors that might contribute towards dampening these effects. Specifically, these factors are: countervailing power (Section IV), the probability of market entry (Section V), efficiencies (Section VI), and failing firms (Section VII**)**. Alone from the systematic approach – not to be confused with the use of this term to refer to, among other things, both forms of efficiency analysis (Verouden *et al.* 2004) – it is clear that we are dealing not with an 'efficiency defence', but with an integrated approach.

This means that efficiency gains cannot counterbalance a definite anti-competition effect. They can only come into play in a marketplace in which a competition problem already exists (in the relevant market) – and not in tertiary markets. This precludes the possibility of negative effects of a merger for a specific group of consumers being measured against advantages for another group.

According to the horizontal merger guidelines of the Commission, efficiencies should be quantifiable and result in lower variable production costs.

Two further criteria of the guidelines can be situated within this price-theory context. According to the guidelines, efficiencies should, if possible, be quantifiable[9] and the primary concern regarding an admissible efficiency is the reduction of variable costs[10]. This conforms to the price-theory model by which only a reduction in variable costs (but not fixed costs) combined with a boost in output can lower prices. To be able to calculate on a case-by-case basis whether the merged company has the incentive to pass the merger-related efficiency gains on in the form of lower prices, cost cuts must be measured as precisely as possible. Only if one can assume that cost cuts are so significant that they can boost profit as prices fall, can efficiency gains actually be a key factor.[11] If we abandon this defined framework – such as through a broader definition of admissible efficiency categories – the immediate result is that the basic method of quantitative effects can no longer be used: "(…) mergers leading to technological change and improvement in the quality of the product can improve consumer welfare even with price increases. But these aspects are not measurable and cannot be taken into account with the usual methods." (Ilzkovitz and Meiklejohn 2001, p.20).

2.3.3 Perspectives: the practical impact of efficiencies for decisions

The efficiency chapter in the guidelines for evaluating horizontal mergers is directly related to the stated goal of the Commission to appraise mergers in the merger-control process primarily on the basis of their economic effects. The evaluation of effects requires however the prior clarification

9 European Commission (2004, Recital 86).

10 European Commission (2004, Recital 80).

11 Drauz (2003, p. 266): "Price is one of the main and most visible parameters of competition. It is also in this dimension in which the neo-classical economic benchmark of consumer welfare has been developed and most studied. Following the theory, there are situations in which cost reductions attributable to a merger are passed on to consumers in the form of lower prices, namely, where this is profit maximising for the merged unit. For example this would hold where the merged entity would achieve reductions in marginal costs. Consequently, a merger should be cleared if such a situation is present."

of this concept. The declared merger-control goal of 'consumer welfare' provides, according to its proponents, not only a clear reference point within price theory, but a concept that, assuming these theories can be reliably applied, leads to greater objectivity and justifiability of decisions by virtue of its focus on quantitative analysis.

Taken to its logical conclusion, such an approach to merger control would greatly marginalise the significance of market-structural criteria, since the primary concern would be the price expected after the merger. It follows that mergers with significant efficiency advantages would theoretically lead to a break with the traditional structural approach, since sufficient efficiency gains take the form of reduced prices if the merger parties already hold a powerful market position prior to the merger. The criteria stated in the Commission's guidelines follow directly from price theory since they base the admissibility of efficiency claims on a blueprint of relevant parameters (reduction in variable costs, efficiencies shall be quantifiable and have an effect on the relevant market). The analysis focuses therefore on the post-merger price.

But on the other hand, the possibility for efficiency gains becoming the key factor in the approval of a merger is itself limited by structural criteria. According to the guidelines, the inclusion of efficiency advantages can become a decisive factor in an approval only if the anti-competitive effects of a merger are limited. If we also consider that the guidelines themselves stipulate criteria to be qualitatively tested, which, in accordance with Article 2 (1) ECMR, are to be valuated with a view to the structural evaluation of the market affected by the merger, the question arises which sort of practical significance a quantitative efficiency analysis can possibly have for the overall result. Conceptually, the integration of a price-theory welfare analysis into a structural approach results in a sort of hybrid, the two aspects of which are based on fundamentally different principles. Therefore, it remains difficult to combine into a consistent whole.

The fact that the guidelines' intended "step toward greater convergence" (Verouden *et al.* 2004, p.285) with American merger control law is not yet within reach can be most clearly seen in the case of efficiency analysis. It may be true that a broad agreement with US guidelines exists in terms of form and content, but that does not necessarily mean a greater convergence of decisions.

Unlike the Commission, US agencies are not obliged to justify merger approvals or defend them in court.

Unlike the Commission, US agencies are not obliged to justify merger approvals or defend them in court, which implies that the criteria stipulated in the guidelines would be legally relevant only if the agencies planned to deny approval (and bring it to court themselves). Previous experience shows us – there being not a single case so far that was decided in favour of the parties on the basis of efficiency gains – that the demand for 'consumer pass on' in particular does indeed pose a serious hurdle (Drauz 2003). Therefore, the application of these criteria under EU law – accountability for approval decisions as well with the possibility of a lawsuit brought by a competitor—poses a significant legal risk for the Commission should it opt to approve a merger on the basis of efficiency gains. This is especially critical considering the fact that an exact quantification of future events is very difficult to verify (Montag 2004).

What alternatives exist?

With welfare theory as the basis, competition decisions are being considered on a model of 'second best', the basis being not the narrow consumer standard but welfare as a whole (Schmidtchen 2004). Whether such an approach can be achieved, *de lege lata*, under ECMR is another thing. But from an economic viewpoint, an 'efficiency defence' would be the logical approach according to these guidelines. Anti-competition effects (such as price increases) could be weighed against efficiency gains resulting from the merger (increase in producer benefit). This leads to an expansion of the

cost categories (to include, for example, fixed costs), but does not solve the problems resulting from the static nature of the analysis and which, in this context as well, regularly occur during the investigation into the necessarily precise quantification of effects.

If such a 'defence' were to apply not only to an increase in welfare through improved production of an existing product, but also to possible efficiency gains that might lead to new products or improved quality, then it is unavoidable that a case-by-case evaluation encompasses a qualitative appraisal. Certainly there are welfare-based appraisals that claim that, with the help of inter-personnel utility comparisons, precise statements as to welfare effects are possible. However, these models, when applied to an actual case, are saddled with significant speculative elements: if a merger can only take place provided that a new product will be brought to market in the future, then it can be assumed that the product does not yet exist. But how can we then exactly calculate the benefit it represents (for the consumer)?

There are welfare-based appraisals that claim that precise statements as to the welfare effects of mergers are possible, but they are speculative.

Upon closer examination, the guidelines, although largely conforming to the pattern of an 'integrated approach', do not entirely rule out economic efficiencies which are only admissible in the context of an 'efficiency defence'. Recital 79 of the guidelines, for instance, states that efficiency advantages must affect the relevant market, but only "in principle." Recital 81 goes on to say that consumers may benefit also from the products or services that result from efficiency gains in research and development or innovation. Assuming the welfare-theory foundation of the guidelines is to be adhered to, applying this rather carefully worded criterion demands however a rather broad interpretation of the term consumer welfare, such as the definition suggested by Drauz (2003, p. 266): "Consumer welfare can be conceived as the difference between consumers' willingness to pay for consumption and the price paid. It is a multidimensional concept, incorporating all aspects that have an impact on consumers."

However, it is important to emphasise that the legislator has not equated the 'interests of the consumer' – as referred to in Article 2 (1) ECMR – with the term 'consumer welfare', which is borrowed from the vocabulary of welfare economics. As indicated above, a qualitative comparison of various factors is ultimately always necessary in individual decisions, even if the quantitative factors alone are recognised as cognisable efficiencies in the narrow concept of partial market analysis. When it comes to promoting efficiency as a factor of key practical significance, the most useful method would certainly not be to saddle it with the burden of proof regarding quantitatively examined welfare effects.

3. Economic approach under Article 82 of the EC Treaty

At present, the EU policy on the abuse of market power – the application of Article 82 – is under review. Commentators have held that the current policy of the Commission was too focussed on the application of *per se* rules instead of taking into account the economic effects of the behaviour of the market-dominant firm. The British Institute of International and Comparative Law states: "…the effectiveness, efficiency and coherence of European competition policy requires a modernised approach to the application of Article 82, involving an analysis of the economic effects of conduct on competition on the market, and in particular on consumer welfare". In no way would it be desirable to develop a policy alongside better economic performance and improved welfare.

However, it is not yet clear whether a 'rule of reason' would guarantee that the results on welfare would indeed be better than the application of '*per se* rules' and it remains unclear how to achieve sufficient certainty on this.

According to welfare theory, the objective of competition policy shall be the reduction of 'type one' and 'type two' errors. Translated into the application of Article 82 it means that the behaviour of a market-dominant firm shall be disallowed if it reduces consumer welfare. But how could this be proven? The welfare analysis of a conduct requires a benchmark, which is – unfortunately – hypothetical. To analyse, for example, the welfare effects of a rebate system, the competition authority must exactly identify to what extent the system has influenced the market process. This is not an easy exercise. Notwithstanding that the conduct is a fact and so is the economic result, 'how' the conduct (rebate system) has influenced consumer welfare is a difficult question to answer.

But even under the assumption that a new generation of extremely skilled economists using econometric studies were able to establish wisdom on welfare scenarios, such a policy may carry some undesired side effects. The more sophisticated the approaches of the new generation of economists will be in establishing these scenarios, the less a dominant firm would be able to anticipate its outcome. As a consequence it would perhaps not know whether its conduct (introduction of a new rebate system) is illegal or not. As aggressive market conduct is generally very beneficial to consumers, the policy itself may have endogenous effects on welfare. To my knowledge there is not yet a theory that can handle this problem.

But apart from that, would a case-by-case assessment deliver the answers to all kinds of problems in the field of abuse regulation?

Let us look at an example: the restrictions of parallel trade for pharmaceuticals. These restrictions have taken the form of Supply Quota Systems (SQS): a manufacturer refuses to deliver the full quantity requested by a dealer or refuses to deal altogether. Such behaviour could fall under Article 82 of the Treaty, provided the manufacturer holds a dominant position for the product in question. Already at this stage we can see that the powers of a competition authority to develop a policy is limited since an intervention on the basis of the abuse regulation requires evidence that 'this firm' on 'this market' holds a dominant position.

The more a competition authority bases its decision on the concrete economic effects of an individual case, the less information can be gathered from the decision as to whether the future behaviour of market participants is unlawful or not.

What are the consequences in terms of policy options? An individual case, which is to be decided by the Commission, is subject to jurisprudence, and it will take many years for the case to pass all instances. The more a competition authority bases its decision on the concrete economic effects of the individual case, the less 'information' can be gathered from the decision as to whether the future behaviour of market participants (e.g., application of a SQS) is unlawful or not. The added value of the decision in terms of developing a policy for a sector would thus be rather limited. It seems thus to be obvious that individual decisions, which would only stipulate that the application of a conduct (the application of a SQS) was only unlawful under the particular circumstances of the individual case, would have only little effect on the behaviour of market participants. In our example, traders and wholesalers of pharmaceuticals would still not have much more legal certainty as to what the manufacturer has an 'obligation' to deliver other patent products in any desired quantity, and the manufacturer might still have no certainty whether it would be legal to impose a SQS to another product.

There is probably some sort of conflict – between the idea to assess abuse cases on the economic effects that have to be proven individually within an economic analysis of the individual case and an approach that prefers to set out policy orientation for future cases. Perhaps the conflict is less evident in other areas of Article 82, but here it is. I do not advocate the end of a reasonable use of economic theory in abuse cases. But it needs a well-balanced approach, which – in line with the Commission's industrial policy – has to be orientated on the needs of the different industries.

4. State aid

4.1 Community control of state aid

Granting financial support may be considered as an important element of industrial policy. Therefore, there is strong interaction between the industrial policy of Member States and the competition policy of the Commission: Article 87 of the EC Treaty prohibits any aid granted by a Member State or through state resources in any form that distorts or threatens to distort competition by favouring certain firms or the production of certain goods in so far as it affects trade between Member States. However, the Treaty allows exemptions to the ban on state aid where the proposed aid schemes may have a beneficial impact in overall Union terms.

The following types of aid may be exempted under Article 87(3) if one or more criteria for exemption are met: (i) aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious underemployment; (ii) aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State; (iii) aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent that is contrary to the common interest; (iv) aid to promote culture and heritage conservation, where such aid does not affect trading conditions and competition in the community to an extent that is contrary to the common interest; (v) such other categories of aid as may be specified by decision of the Council acting by a qualified majority on a proposal from the Commission.

The way in which the Commission exercises its discretionary powers is outlined in a number of regulations and in so-called 'soft law provisions', such as guidelines and communications. Specific soft law provisions exist in order to set out criteria to assess compatibility for aid measures of a horizontal nature (e.g., Research and Development Framework, Rescue and Restructuring Guidelines, Rules applicable to Services of Economic Interest, the Environmental Guidelines, the Regional Aid Guidelines) and for measures in certain sectors (e.g., shipbuilding, broadcasting, 'stranded costs' in the electricity sector).

4.2 The Lisbon Strategy for growth and jobs

Competition policy rests upon the idea that a market-based economy provides the best guarantee for raising living conditions in the EU to the benefit of citizens. Functioning markets are also essential elements to enhance the competitiveness of the European economy, as it creates an environment in which efficient and innovative companies are rewarded properly. State aid control is necessary to maintain a level playing field for all undertakings active in the Single European Market. There is a particular need to be concerned with those state aid measures that provide unwarranted selective advantages to some firms, preventing or delaying the market forces from rewarding the most competitive firms, thereby decreasing overall European competitiveness.

Competition policy rests on the idea that a market-based economy provides the best guarantee for raising living conditions in the EU.

As it was clearly expressed by the European Council of November 2004, there is a need for renewed impetus to the so-called Lisbon Strategy. The European Council of March 2005 has called on Member States to continue working towards a reduction in the general level of state aid, while making allowance for market failures. This movement must be accompanied by a redeployment of aid in favour of support to certain horizontal objectives such as research and innovation and development of human capital.

Total state aid granted by the fifteen Member States was estimated at €53 billion in 2003, Germany granting the most aid (€16 billion), followed by France (€9 billion) and Italy (€7 billion). In relative terms, state aid amounted to 0.57 percent of EU gross domestic product (GDP) in 2003. The share of total aid to GDP ranges from 0.26 percent in the United Kingdom to 1.41 percent in Finland. Aid to fisheries and agriculture excluded, Finland represents only 0.36 percent of GDP, just below the EU-15 average of 0.40 percent. Germany (0.68 percent) and Portugal (0.96 percent) remain well above the average. From the relatively high levels of state aid in the early and mid-1990s, the overall volume of aid fell from €74 billion in 1996 to €55 billion in 1999. However, since 1999 the level of state aid has not shown significant change.

Besides the objective of reduction in total aid there is a need for more clarity. Increasing complexity and the number of documents progressively adopted by the Commission over time have created a need to streamline aid policy, focus attention on the most distorted types of aid, and make state aid control more predictable.

How does the Commission react to these challenges?

In its State Aid Action Plan, the Commission seeks a modification of existing state aid rules, as to both substance and procedures.

In its State Aid Action Plan, the Commission seeks a modification of the existing state aid rules, as to both substance and procedures. Any effective assessment of the allocation of distribution effects of state aid must take into account their actual contribution to commonly agreed, politically desirable objectives. The aim is to present a comprehensive and consistent reform package based on the following elements: (i) less and better targeted state aid; (ii) a refined economic approach; (iii) more efficient procedures, better enforcement, higher predictability and enhanced transparency; and (iv) a shared responsibility between the Commission and Member States: the Commission cannot improve state aid rules and practice without the effective support of Member States and their full commitment to comply with their obligations to notify any envisaged aid and to enforce the rules properly.

4.3 Economic approach to state aid analysis

To best contribute to the re-launched Lisbon Strategy for growth and jobs, the Commission intends to strengthen its economic approach to state aid analysis. By encouraging a Member State to target state aid better, it "can improve the functioning of markets and therefore improve the competitive dynamics, thereby increasing economic welfare. This is the case when markets do not function optimally, e.g. because market players do not sufficiently take into account some side effects of their actions…. In economic terms, a market is said to work efficiently when it is not economically possible to improve the outcome of the market process for some stakeholders without harming some other stakeholders." (Kleiner 2005, pp. 30-31)

The Commission's State Aid Action Plan identifies competition as being vital for the economy, to unlock Europe's growth potential. In this context, efficiency refers to the extent to which welfare is optimised. Translated into terms of policy this means that the Commission seeks to focus its analysis on market failures which "may be reasons why markets do not achieve desired objectives of common interest, in particular if they are of an economic nature. In those cases, identifying the market failure at stake will help evaluate better whether state aid could be justified and acceptable, would represent the most appropriate solution, and how it should be implemented to achieve the desired objective." (European Commission 2005, p.6)

Consequently implemented, Member States' state aid would be directed towards situations where the market does not lead to an economically efficient outcome ("less and better targeted

aid"). The State Aid Action Plan identifies notably the following origins for these market failures: (i) externalities, which exist where actors do not take full account of the consequences of their actions on other actors in society; market players may not have to pay for the full social cost of their actions or may also be unable to reap the full benefits of their actions; (ii) public goods, which are beneficial for society but are not provided by the market, given that it is difficult or impossible to exclude anyone from using the good; (iii) imperfect information, which may lead to transaction costs, agency costs or moral hazard (e.g., difficulties for start up firms in finding adequate funding); and (iv) coordination problems, which exist – for example – in the field of standard setting, transport infrastructures, or in the area of innovation.

Market failure appears to be the key element of the Commission's state aid policy to foster growth and jobs. However, there are three additional elements in order to design state aid policy alongside the Lisbon Strategy (Kleiner 2005, pp.32-33):

Market failure appears to be the key element of the Commission's state aid policy to foster growth and jobs.

- Incentive effect: state aid can change the incentives of the beneficiaries and therefore include a change of behaviour, possibly then resolving the market failure and leading to a better outcome (example: aid to start-up companies in order to compensate the specific costs for banks to evaluate their pay-off potential).

- Proportionality: the aid must be proportional, meaning that all its components are necessary for the aid to achieve the desired effect and that it is well targeted to the problem addressed. In order to be acceptable, an aid measure may therefore have to be limited in time, or differentiate between, for instance, large and small companies, or between regions. Also, the amount of the aid should be designed so as to precisely match the intensity of the market failure.

- Minimising distortions to competition: before approving state aid it must be ensured that the distortion of competition is kept to a minimum. Even if a measure targets a well-defined market failure, it could result in excessive market power, barriers to entry, and foreclosure in the market at stake or in other markets. It is therefore possible that the overall impact of the aid is negative.

4.4 Application of the theory in practice: an outlook

Discussions on the interface between economic theory and competition policy are not new. Today it appears that welfare economics is experiencing a sort of come back in the discussion of competition policy in Europe. However, the crucial question seems to be how much we can rely on the economic concepts put forward to assess concrete cases. Naturally, welfare economists are very optimistic here. Stimulated by their optimism, they propose to design state intervention as close as possible to and alongside economic concepts derived mainly from neoclassical welfare theory. The idea is indeed tempting: in the presence of a clearly defined benchmark one might be confident that the effects of state intervention would be objectively predictable and would only be admissible if it is proven that the action increases welfare.

In theory, the economic concept is based on the assumption that the elements to assess a market failure are present, in other words: the necessary elements to calculate the 'optimum' of a market – such as the demand curve and the relevant cost curves – are available in the form of objective information. If the market has not reached this optimum, there is scope for intervention and the economist may exactly identify what to do (Kleiner 2005). But is this a realistic scenario?

From a general point of view, one may reflect on why competitive markets normally bring better economic results than any other form of organising economic activity. Competition is a process of

rivalry in which the market participants constantly try to discover 'new' information and increase their knowledge on the relevant market parameters – which are always in flux in a dynamic, evolving economic environment. Exactly for this reason, something like a 'market optimum' – to be used as a benchmark to identify 'market failure' – simply does not exist in the real world.

Knowledge on market parameters is widely spread among the market participants, and it is one of the key advantages of the market system that competition forces a great number of competitors independently from each other to reduce the inherent uncertainty and complexity – in order to gain profits and avoid market exit. Thereby, the process of competition constantly forces rivals to develop 'new' solutions, innovate, and adapt their plans to new situations. In other words: nobody has perfect information. New knowledge arises from a 'trial and error' process: a company, planning investment and innovation for a new product, will only find out whether it is profitable when the product finally arrives on the market. Thus, error and failure is inherent to the market economy and competition is the driver that those who erred and were inefficient must improve or will be driven out of the market. Competition, however, only selects negatively, therefore we never know if the 'survivors' in the competition process are efficient in terms of an 'optimum'.

The theory of market failure, however, is carried out on a comparative static basis. Applied in the way that Kleiner (2005) has suggested, the economic analysis would compare two static situations – with and without the aid. The fundamental question is whether the aid would bring the market closer to the defined (static) optimum. Assume, for a moment, that state aid intervention could be exactly designed so that it increases welfare (by granting state aid to respond to a identifiable market failure). Would there be a reason why not to encourage the granting of state aid? As long as the 'winners' of a state intervention can compensate those who were negatively affected by the state aid, there would still be a gain in total welfare.

This touches upon the core of the issue: welfare theory is a static approach where the economic parameters are kept stable. It is assumed that there is 'information' in the form of objective 'data' so that the analysing economist can calculate the net benefit of state action. Within such a scenario the economic analysis aims to identify the optimal allocation of existing resources.

But how does this fit into the philosophy of Article 87, which imposes a general ban to state aid? Shall competition policy deal with allocation of resources on a comparative static basis? Or should it rather be concerned with the dynamic process of rivalry?

Although industrial policy may stimulate innovation and employment, there is no certainty about any particular outcome or increased market efficiency.

Industrial policy may create stimulus for innovation and incentives for profit-seeking companies, thereby creating jobs. Incentives may also take the form of state aid. But it is not possible to define an optimum for a market and identify market failure in a way that could guarantee that the aid creates better economic performance. Industrial policy or the granting of state aid may (perhaps) increase 'chances'. And maybe there are 'ideas' which forms of government intervention might be more promising than others. But in no way is there certainty about any particular outcome or 'increased market efficiency'.

The reason why governments should stay away from granting state aid is the negative impact on the process of rivalry. This element of state aid policy is broadly recognised. The State Aid Action Plan expressively points out why the 'effects' of state aid on competition must be assessed: in the longer run, state aid discourages successful competitors and sets wrong signals. For this reason, the relationship between the identification of 'market failure' as the proposed first pillar of state aid control and the 'effects on competition' needs clarification. Market failure is a static concept and the concept of rivalry is dynamic – and thus difficult to apply within optimum-thinking of welfare theory.

Again: a policy to create jobs on the basis of stimulating innovation and growth can only aim to increase 'chances'. The economic theory of market failure may perhaps deliver some elements of such a policy. But these elements must be checked within the right context – any role as a *conditio sine qua non* for the approval of state aid would largely overstress the magnitude of static welfare considerations for the objectives identified by the Lisbon Strategy.

References

Berg, W. (2004). "Praktische Auswirkungen der Reform", in Crowell & Moring Betriebsberater (ed.), *Die neue EG-Fusionskontrollverordnung*. Washington, London, Brussels.

Böge, U. (2004). "Effizienz und Wettbewerb aus Sicht des Bundeskartellamtes", in Topos Verlag (ed.), *Schriften des Vereins für Socialpolitik*, Ruggel/Liechtenstein.

Bundeskartellamt (2004). "Wettbewerbsschutz und Verbraucherinteressen im Lichte neuer ökonomischer Methoden". Diskussionsbeitrage des Arbeitskreis Kartellrecht.

de la Mano, M. (2002). "For the customer's sake: The competitive effects of efficiencies in European merger control". European Commission DG Enterprise Paper No. 11.

Drauz, G. (2003). "An efficiency defense for mergers: Putting an intricate puzzle together". *Journal of Competition Law*, (3), pp. 254-270.

European Commission. (2004). "Horizontal merger guidelines. Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings". Official Journal No. C 31/5.

European Commission. (2005). "State aid action plan. Less and better targeted state aid: A roadmap for state aid reform 2005–2009". Consultation document No. COM(2005) 107 final.

Ilzkovitz, F. and Meiklejohn, R. "European merger control: Do we need an efficiency defence?". *European Economy,* (5), (2001), pp. 3-12.

Kleiner, T. 2005. "Reforming state aid policy to best contribute to the Lisbon Strategy for growth and jobs". *Competition Newsletter*, (2), pp.30-31.

Montag, F. (2004). "Effizienz und Wettbewerb in der rechtlichen Praxis", in Topos Verlag (ed.), *Schriften des Vereins für Socialpolitik*, Ruggel/Liechtenstein.

Odudu, O. (2002). "Article 81(3), discretion and direct effect". *European Competition Law Review*, pp. 17-25.

Röller, L-H., Stennek, J., and Verboven, F. (2001). "Efficiency gains from mergers". *European Economy*, (5), pp. 18-21.

Röller, L-H., Friederiszick, H-W, and Baudenbacher, C. (2003). "Neueste Entwicklungen im europäischen und internationalen Kartellrecht. Paper prepared for the 11th St. Galler International Competition Law Forum 2004.

Schmidtchen, D. (2004). "Effizienz als Leitbild der Wettbewerbspolitik", in Topos Verlag (ed.), *Schriften des Vereins für Socialpolitik*, Ruggel/Liechtenstein.

Schürgers, M. (2002). "Current issues in Germany's competition policy", in Verlag für Wissenschaft und Forschung (ed.), *Current issues in competition theory and policy*, Berlin, Germany.

Schwalbe, U. "Berücksichtigung von Effizienzgesichtspunkten in der Fusionskontrolle", in Topos Verlag (ed.), *Schriften des Vereins für Socialpolitik*, Ruggel/Liechtenstein.

Stennek, J. and Verboven, F. (2001). "Merger control and enterprise competitiveness: Empirical analysis and policy recommendations". *European Economy*, (5), pp. 133-138.

Strohm, A. "Effizienzgesichtspunkte und Europäische Wettbewerbspolitik", in Topos Verlag (ed.), *Schriften des Vereins für Socialpolitik*, Ruggel/Liechtenstein.

Verouden, V., Bengsston, C., and Albaek, S. (2004). "The Draft EU notice on horizontal mergers". *The Antitrust Bulletin*, p. 283.

Voigt, S. and Schmidt, A. (2003). *Making European merger policy more predictable*, Springer Verlag, Germany.

von Hayek, F.A. (1969). "Der Wettbewerb als Entdeckungsverfahren", in Mohr Siebeck (ed.), *Freiburger Studien, Gesammelte Aufsätze*, Tübingen, Germany.