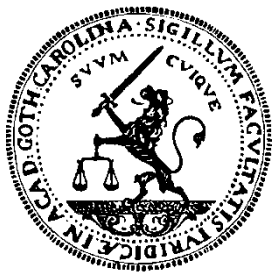

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The more economic approach

Efficiencies and their recognition within EU competition law

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Summary

In 2004, the Commission proclaimed a more economic approach, with the intention of taken efficiency positively into consideration. Efficiencies are of decisive influence of the market structure. Examples of efficiencies are economies of scale and scope, those building productive efficiencies, and network effects. The roots of economic analysis within the field of competition law lay inter alia within the Chicago school of thought, which claims economic efficiency as the sole aim of competition policy. Other possible aims are forms of welfare. If the EU competition law system is able to take efficiency into account, depends also on its roots and proclaimed aims. The Commission as the main competition authority within the EU supports the consumer welfare standard. Secondly, the legal basis of EU antitrust law have to examined. This research shows a tendency of positive recognition of efficiency within the prohibition of agreements restricting competition according to Art. 101 TFEU. Contrary, within the EU merger control efficiencies are likely to be assessed negatively. The role of efficiencies within the prohibition of abusive behaviour according to Art. 102 TFEU is however unclear, despite attempts by the Commission to open the provision towards a positive consideration of efficiencies.

Preface

Firstly, I would like to express my gratitude to my supervisor, HenrikNorinder, for his support and comments throughout this research,his encourage and great sense of humour.

I am grateful for the continuous support I received from my family throughout my studies. Especially, I would like to thank my sister Katharina for her wonderful sense of humour and her ability to see always the positive side.

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Abbreviations

Art.	Article
CJEU	Court of Justice of the European Union
CMLR	Common Market Law Review
EC	Treaty of the European Community (Treaty of Rome)
ECJ	European Court of Justice
e.g.	for example
et al.	and others
etc.	and the like
EU	European Union
EUMR	European Merger Regulation
GC	General Court
Ibid	in the same place
i.e.	that is
MC	Marginal cost
MES	Minimum efficient scale
OJ	Official Journal
para.	Paragraph
PPF	Production possibility frontier
R&D	Research and development
TFEU	Treaty on the Functioning of the European Union
Vol.	Volume

"*Efficiency is the ultimate goal of antitrust, but competition a mediate goal that will often be close enough to the ultimate goal to allow the judge to look no further*."[1]

[1] Posner, Richard A., Antitrust Law, 2nd edition, Chicago, III 2001, p. 29.

1. Introduction

1.1 Introduction to the topic

The interdependence of law and economics becomes most apparent within competition law. Here, both disciplines are closely linked as it is economics driving undertakings to improve and the law encouraging or restricting them. The aim of an undertaking is most likely to find the best method to increase its production output and accordingly its profits. The undertaking will be more successful with regard to this aim when enjoying and exploiting economic efficiencies. Those efficiencies can be of various nature, as there are inter alia productive efficiencies and dynamic efficiencies. Since there are often more than one undertaking producing a good or offering a service, the undertakings are subject to competitive pressure on the respective market. It is apparent, that efficiencies leading to one undertaking being more successful than another will have an influence on the market structure. In addition, the market structure might have in turn influence on the market behaviour of other undertakings. Those being not as successful as others might feel tempted to practice a behaviour, which is likely to be of such a nature that after all it will be harmful to competitors or consumers.

Here, competition law is likely to intervene. Again, there are various ways how competition law will be of influence on competition on the market. It can be rather strict, prohibiting an extensive range of conduct, which it considers harmful. Contrary, it might be quite liberal, prohibiting a rather narrow scope of conduct. Which of those two rather extreme outcomes is applied, depends in turn on the policy underlying and forming the competition law. The various possible policies are based on economic theory formulated by different schools of thought, which partly refer to the microeconomic background. Those different schools of thought also claim different aims of competition law. What aim the EU competition law concept pursues is of special importance as it is, or at least should be, the aim of a policy to influence and flow throughout the complete legal system. If and what school of thought might have been prevailing during the formation of the EU and an EU competition law system in particular until today will be shown later in this research paper. Two possible aims of competition law are economic efficiency on the one hand, and consumer welfare on the other hand. At first sight, those aims should be easily combined within one competition law concept. However, the consideration above shows that they are likely to contradict another as they lead to different outcomes. Undertakings aiming for economic efficiency might harm

consumers by imposing higher prices. By contrast, focusing on consumer welfare might lead to efficiencies not being used or missed out. It is apparent, that this again contradicts the natural aim of an economic undertaking trying to increase its profit.

The above mentioned indicates a possible trade-off between as positively assessed efficiency gains and on the other hand a presumably negatively assessed dominant market position of an undertaking. This research paper therefore aims to connect, examine and evaluate and both the microeconomic background of efficiencies and their importance for EU competition law in theory as well as their actual practical relevance.

1.2 Research questions and hypothesis

The main research questions building the structure of this paper are the following:

What is efficiency? What types exist and what is their microeconomic background?

In order to answer sufficiently this first research question a proper understanding of the underlying microeconomic theory of the different types of efficiency is crucial. The thesis will specifically refer hereby to three types of efficiencies. Economies of scale and economies of scope, which both form productive efficiencies. Further, the study will present network effects as a third form of efficiency.

Why is efficiency relevant for competition law?

When having understood the microeconomic background, it is as a next step to examine the link between the concept of efficiency and competition law, both from a theoretical perspective towards economics as well as from a teleological point of view of competition policy.

Does the EU competition law system consider efficiency and, if the answer to the foregoing is positive, how does the consideration of efficiency look like? In particular, are the efficiencies presented in the first part, i.e. economies of scale, economies of scope and network effects, recognised within EU competition law?

Lastly, by trying to answer the third research question, this paper seeks to examine all three branches of EU competition law with respect to efficiencies. It will be assessed with the help

of the case law of the EU Commission and the CJEU if efficiency has been taken into account within EU competition law and ultimately, whether the microeconomic theory has been applied.

The hypothesis building the starting point of this research paper is that efficiency is of decisive influence for EU competition law, buthas not been fully recognised yet by the respective authorities.

1.3 Method and material

In order to achieve its purposes and being able to fully answer the research questions set out above, the thesis uses an interdisciplinary, qualitative approach. In particular, the first part of the study is based on pure microeconomic theory, nevertheless already pointing out the link of microeconomics and competition law. Accordingly, the first part of the study is to a great amount based on textbooks about microeconomics used in economics and business studies.

As the second part of the study aims to identify whether and how the concept of efficiency is part of EU competition law, the sources used mainly derive from the EU Commission itself as being the main competition authority of the EU. Legal sources used in this context comprise inter alia the Treaty of the Functioning of the European Union, case law of the Commission as well as of the CJEU. Further, the thesis uses notices and communications issued by the Commission, such as guidelines on the application of the respective provision.

Since the author of this thesis is German, some sources used are in German. Nonetheless, translations are provided of the concepts and ideas, which are presented in this paper.

Finally, the distribution of information and references among the chapters is explained by the structure of this thesis, which first introduces in detail the microeconomic theory of efficiency and subsequently assesses it with regard to the EU competition law.

1.4 Delimitations

As explained in the research questions set out above, this thesis tries to present an interdisciplinary study, starting from an economic point and leading to an assessment of the legal material used. The concept of efficiency is a broad field within microeconomics, comprising a variety of efficiencies. To exemplify the concept of efficiency, the thesis

presents and limits itself to three types of efficiencies: Economies of scale, economies of scope and lastly network effects. Thereby, two examples of productive efficiencies are given, namely economies of scale and scope. Network effects serve however, as an example fora non-productive efficiency, which will gain importance within other than the production level. Nevertheless, it has to be kept in mind that the amount of possible efficiencies being of value for competition law is extensive.

Furthermore, the research presented in this paper will focus on the three main branches of competition law, i.e.:the prohibition of agreements restricting competition and restrictive business practices according to Art. 101 TFEU, the prohibition of abuse of a dominant position according to Art.102 TFEU, and lastly the merger control according to the EU Merger Regulation. Accordingly, the field of state aid will not be examined within this research, despite the fact that efficiencies are also discussed in this context.

Likewise, procedural aspects of EU competition law are not addressed in this research study. It will exclusively deal with the efficiencies mentioned above and their application within the material scope of EU competition law. No reference will be made to procedural issues discussed by the Commission or the EU courts.

Lastly, the study focuses on the dimension of the EU and the EU competition law. Therefore, the case law used in this study originates only from EU institutions. Thus, no case law originating in a member state of the EU or from outside the EU is addressed or examined. In addition, national case law in the context of competition law will not be covered.

1.5 Outline

With regard to the research questions set out above, this thesis comprises four chapters. Following an introductory chapter, the second chapter will deal with the economic terms. The terms of the efficiencies of economies of scale, economies of scope and network effects will be described in sufficient detail, thereby already connecting the respective efficiency to a possible influence on the market and thus the competitive relationship.

The third chapter aims to examine firstly the theoretical background of the interrelation of economic efficiency and ultimately EU competition law. Secondly, the three branches of EU competition law will be examined with regard to the third research question, i.e. are the different types of efficiency taken into consideration within the respective assessment.

The fourth and last chapter will present the respective conclusions found for the three competition law branches and close with an overall conclusion and prospect.

2. The economic terms

2.1 Introduction

The aim of every undertaking is to find the best method to increase its production of goods. Economies of scale and economies of scope are productive efficiencies and result in an optimized allocation of resources. In addition, network effects can have positive effects on the efficiency of an undertaking. An increase of efficiency of an undertaking has an impact on the market structure and therefore can conflict with the overall aim of maintaining effective competition.[2] On the contrary, also the market structure can have a decisive influence on the undertaking´s increase of efficiency.

In the following, firstly the economic terms forming the possible efficiencies of the undertakings will be explained with respect to their microeconomic background. Further, already the correlation between the respective efficiency and its influence on the competitive structure will be presented.

2.2Economies of scale

2.2.1 General

It is determined in the production process what amount of input is necessary for the production of a specific amount of a good. How the output changes with proportional change of all inputs is characterized as the scale characteristic of a process.[3]

2.2.2 Forms of economies of scale

[2]Schmidt, p. 96.
[3]Stark, p. 27.

Increasing returns to scale occur, when the output more than doubles while the quantities of all inputs are doubled. Economies of scale occur, when a doubling of output requires less than a doubling of cost.[4]

Where average cost goes down when output goes up, a firm enjoys increasing returns to scale. This effect is also called "economies of scale". Constant returns to scale are the result of a proportionate change of output to input.[5] Here, the size of a firm does not influence the productivity of its factors. For instance, a big travel agency is able to provide the same service per client as a small travel agency with fewer customers.[6]

Contrary, a firm suffers from diseconomies of scale where the average cost rise when output goes up, which results in a disproportional change of output to input.[7]

When input proportions change, the firm´s expansion path is no longer a straight line and the concept of returns to scale no longer applies. Rather, a firm enjoys economies of scale when it can double its output for less than a doubling of costs. Again contrary, there are diseconomies of scale when a doubling of output requires more than twice the cost. The term economies of scale however includes returns to scale as a special case, but is more general as it also reflects input proportions that change as the firm changes its level of production. A U-shaped long-run average cost curve shows the firm facing economies of scale for relatively low output levels, and diseconomies of scale for higher levels. To exemplify the difference between economies of scale and returns to scale, one can take the example of a dairy farm, needing land, equipment, cows and feed. A farm with 100 instead of 50 cows would double its milk production. However, large dairy farms might use milking machines and therefore are able to reduce its average costs of milk production. In that case, there are economies of scale. Accordingly, a firm can experience constant returns to scale and still enjoy economies of scale as well.[8]

2.2.3 Categories of economies of scale

There are two categories of economies of scale. Product-specific economies of scale result from the production and distribution of one single product. Causes are a division of labour,

[4]Pindyck, Rubinfeld, p. 238.
[5]Breyer, p. 9.
[6]Pindyck, Rubinfeld, p. 237.
[7]Besanko, Braeutigam, p. 274.
[8]Pindyck, Rubinfeld, p. 237, 238.

the use of special machinery and learning effects, i.e. a firm´s production costs may decrease over time as managers and workers become more experienced and more effective at using the available plant and equipment.[9] The implementation of production lines in the automobile industry also caused economies of scale, which is also referred to as the benefit of mass production.[10]

Plant-specific economies of scale are associated with the total output of a plant. Here, causes are cost savings of the means of production, disproportionately increasing total costs of the business management as well as disproportionately growing stock inventories. In addition, improving the rapidity of a manufacturing process with faster machines and computer-controlled technology lowers costsand in effect expands the size of an individual processing unit, thereby causing economies of scale.[11]

2.2.4 Causes of economies of scale

Fixed cost digression, i.e. with higher levels of capacity utilisation a division of fixed costs to a higher production volume, can cause plant-specific and product-specific economies of scale.[12] The need for indivisible inputs, i.e. an input whose quantity cannot be scaled down as the firm´s output goes to zero, may also result in economies of scale. E.g., a high-speed packaging line for cereals is indispensable for a producer even if he only plans on producing an output smaller than the capacity of the packaging line could produce. Indispensable inputs lead to a decrease of average costs since a firm is able to spread the cost for that indispensable input over more units of output as output increases.[13]

Economies of scale i.e. decline in average production costs, can occur for various reasons: If the firm operates on a larger scale, a larger number of workers allows them to specialize in those activities at which they are most productive. Likewise, specialisation can eliminate time-consuming changes of workers and equipment. This all increases productivity and lowers the costs per unit.[14]

Furthermore, scale can provide flexibility, which is why varying the combination of inputs used to produce the output can make the organization of the production process more

[9] Scherer, Ross, Industrial Market Structure, p. 97, 98; Pindyck, Rubinfeld, p. 244.
[10] Pindyck, Rubinfeld, p. 237.
[11] Scherer, Ross, Industrial Market Structure, p. 98.
[12] Scherer, Ross, Industrial Market Structure, p. 97.
[13] Besanko, Braeutigam, p. 275.
[14] Besanko, Braeutigam, p. 274, 275.

effectively. In addition, buying some inputs at a large quantity might help to negotiate better prices. Further, if using lower-cost inputs thismight lead to a change of the input distribution key in the firms operation, again saving costs.[15]

However, the average cost of production are likely to increase with output and leading to diseconomies of scale. Those can occur for the following reasons: Factory space and machinery might make it difficult for workers to do their job effectively. Managerial diseconomies arise when an increase in output forces the firm to increase its expenses on services of managers by more than the percentage raise in output. This applies particularly to businesses depending on the talent of a key individual.[16]

In addition, managing a larger firm may become complex and inefficient as the number of tasks increases. Diseconomies of scale arise in large organisations, which are hard to oversee by managers, so that the manager-team grows but also becomes less effective.[17]Lastly, advantages of buying in big quantities may disappear once a certain quantity is reached. Available supplies of some inputs may even be limited, which pushes again procurement cost.[18]

2.2.5 Influence of economies of scale on the market structure

Economies of scale are a determining factor of the market structure. Concentrated market structures can result from persistently increasing economies of scale, which allow bigger undertakings to produce a good at less cost per unit and sell it at a lower price than smaller undertakings.[19] Therefore, economies of scale give the opportunity to fixed cost digression, whereby larger undertakings are more likely to achieve a more productive use of resources by e.g. a division of labour.[20]Typically, economies of scale increase with the growth of the company. However, the decrease of long-run average costs is not endless. The smallest quantity, at which the long-run average cost curve reaches its minimum point, is the minimum efficient scale (MES). The size of the MES depends thereby on the relevant market and

[15]Pindyck, Rubinfeld, p. 237.
[16]Besanko, Braeutigam, p. 275.
[17]Mankiw, p. 278.
[18]Pindyck, Rubinfeld, p. 237.
[19]Scherer, Ross, Industrial Market Structure, p. 97.
[20]Mankiw, p. 278.

indicates the significance of economies of scale in particular industries. The larger MES compared to overall market sales, the larger the extent of economies of scale.[21]

The following graph[22] shows the decrease of marginal cost (MC) until reaching the MES. With increasing quantity of goods (qx), marginal cost increase again, resulting in diseconomies of scale.

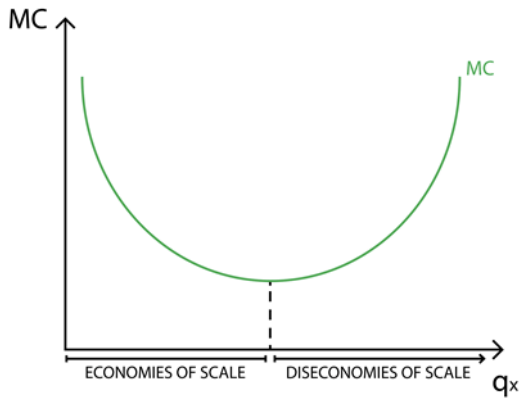

Figure 1: Economies of scale

Economies of scale can also occur in the commerce and services market, whereby they show different scales. In the production industry, increasing economies of scale are more likely, as the production usually demands initial high investments in facilities. By contrast, services are usually more labour-intensive, but at the same time as efficient in small units as in bigger units, as the example of the travel agencies showed above.[23]

Questionable is whether economies of scale constitute structural barriers to market entry. However, this is likely to depend on the structure of the market itself. When sunk cost, i.e. those cost, which are irrecoverable, are not required, economies of scale do not deter or prevent market entry as firms can enter and exit quickly.[24]

Declining average costs per unit canindicate a monopoly position as then one single undertaking is able due to the size of its production plants to use its economies of scale and produce a good at lower cost as many separate small providers, which produce in

[21]Besanko, Braeutigam, p. 275, 276.
[22]Source: http://www.policonomics.com/economies-of-scale/.
[23]Besanko, Braeutigam, p. 276-278.
[24]OECD, Policy Roundtable on barriers to entry DAF/COMP(2005)42, available at http://www.oecd.org/daf/competition/roundtables.htm#v2005, p. 29.

perfectcompetition with constant output of scale.[25] Accordingly, the market price of a good in case of a monopoly situation might be lower than in a situation of perfect competition.

Increasing economies of scale are often associated with natural monopolies. A natural monopoly is a market situation in which, for any relevant level of industry output, the total cost incurred by a single firm producing that output is less than the combined total cost that two or more firms would have if they split that output among themselves. An example for a natural monopoly is the satellite television broadcasting. The cost of the satellite is fixed: It does not go up as the number of subscribers goes up. A single firm needs just one satellite to serve the market, whereas two independent firms would need two satellites to serve the same number of subscribers.[26] Accordingly, the internal cost digression in relation to the market size is so important that over long-term only one undertaking would be able to survive in the competition. Therefore, a natural monopoly market situation depends on two conditions: Natural monopoly markets must involve economies of scale. As in the example of satellite broadcasting, the fixed cost of the satellite bring about significant economies of scale. Secondly, the demand in the market is so low, that only one firm with minimum optimal size has space and can survive.[27]

2.2.6 Diseconomies of scale and X-inefficiency

Upon reaching a certain economic size, economies of scale are exhausted, so that long-term average cost are at their minimum level. The first reach of that certain minimum is called the minimum efficient scale (MES, see above under 2.2.5). When crossing that minimum negative diseconomies of scale can occur, which lead to an increase ofthe average total cost.[28] Reasons for this phenomenon are diverse as less motivation of employees in large companies due to growing bureaucratisation, too complex material flows or a suffering internal coordination. Likewise, regulatory requirements can cause diseconomies of scale.[29]Harvey Leibenstein developed the concept of X-inefficiency in connection with diseconomies of scale. According to his theory, it results in suboptimal performance of the corporate members because neither individuals nor the undertakings perform as efficient as they could. The tendency towards X-inefficiency increases with the size of the undertaking and with fewer

[25] Breyer, p. 93.
[26]Besanko, Braeutigam, p. 442.
[27]Besanko, Braeutigam, p. 443, 444.
[28]Scherer, Ross, Industrial Market Structure, p. 106.
[29]Wied-Nebbeling, p. 7

possibilities of controlling.[30]Accordingly, disadvantages as well as diseconomies of scale connected to the growing size of a firm are referred to as the disadvantages of mass production.[31]

2.3 Economies of scope

2.3.1 General

Firms often produce more than one product, either closely related products or products that do not seem to be in a physical relation. However, the firm might enjoy production or cost advantages due to economies of scope. These economies of scope exist in a positive or negative correlation of sales of different products or services.[32]

However, there are various types of economies of scope occurring on different stages of the production level.

2.3.2 Economies of scope through joint production

Economies of scope are realised when two or more products are produced together and thereby costs decrease.[33] Another possibility is that automatically while producing one product, a by-product or secondary product emerges which can be sold separately. This is also referred to as a coupled production, e.g. the metal scrap emerging in the production of sheet metal.[34]

The following graphs[35] show the situation of production without economies of scope (graph 1) and with the advantage of economies of scope (graph 2). A (graph 1) and B (graph 2) are presumably two multi-product firms. X_1 and X_2 are presumably two different goods, which are to be produced. PPF means production possibility frontier, which stands for the possible capacity of goods, which can be produced. The fact that the lower production possibility frontier (PPF_B) is concave rather than a straight line means that firm B will enjoy economies

[30]Leibenstein, in American Economic Review, p. 392, 407, 412, 413.
[31]Scheper, in Handwörterbuch der Wirtschaftswissenschaft, p. 269.
[32]Pindyck, Rubinfeld, p.240.
[33] Scherer, Ross, Industrial Market Structure, p. 361.
[34]Pindyck, Rubinfeld, p. 240.
[35] Source:http://www.policonomics.com/economies-of-scope/.

of scope, and be able to produce two goods for a lower average cost than when producing only one.

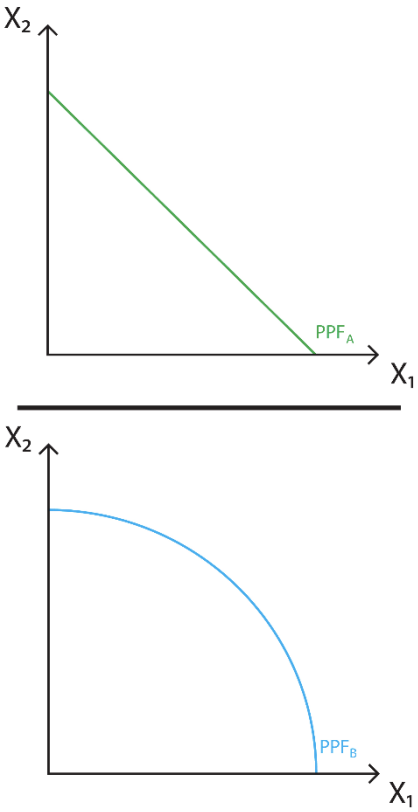

Figure 2: Economies of scope

2.3.3 Economies of scope due to joint marketing

Further, economies of scope come into existence when a change in marketing political instruments for one product or service results in an increase or weakening of demand of another product.[36] Especially a firm with an established brand reputation can make use of economies of scope when introducing new products, e.g. Nike´s swoosh readily visible on new products.[37] Possible measures to achieve economies of scope and accordingly cross buying of consumers are to introduce joint advertising or communication strategies implemented between manufacturer and retail market.[38] The makeup of the assortment might also lead to economies of scope, when products, which are typically used together, i.e.

[36] Corsten, Gössinger, p. 750.
[37] Besanko, Braeutigam, p. 289, 290.
[38] Bea et al., BWL-Lexikon, p. 4.

products that are complementary to each other in the sense of a combined consumption, e.g. shavers and razor blades, are arranged together.[39] Moreover, advertisements of only a subsidiary might lead to economies of scope for other subsidiaries, as it proclaims the common company name.[40]

2.3.4 Economies of scope in research and development

Cooperation in research and development mayresult in a more efficient usage of resources and thereby lead to economies of scope. Unnecessary duplication of studies and accordingly costs are reduced. Further, it promotes the exchange of ideas and often it generally leads to a faster development of products. Especially smaller firms are able to compete with larger firms by use of this effect.[41]

2.3.5 Economies of scope through risk distribution

Reducing the general economic risk an undertaking faces on the market is also an effect of economies of scope. An undertaking, which produces various products, might be active on different markets. With a growing product portfolio, the probability of extreme good or extreme bad experiences for the whole company decreases.[42]The undertaking can distribute its risk and profit as it is unlikely in case of independent markets to experience losses in all of the respective markets. When vertically integrated, subsidiaries might only interact with other subsidiaries, thereby again using economies of scope, and therefore fully avoid the market risk.[43]

2.3.6 Further economies of scope in a group of companies

Within a group of companies, further economies of scope can be achieved in the procurement sector as well as the sales area via price savings due to a central purchasing department. In addition, the possibility to rationalize results in cost savings due to economies of scope. Within horizontally connected companies, the joint usage of patents leads to significant

[39]Corsten, Gössinger, p. 751.
[40]Everling, p. 206.
[41]Pindyck, Rubinfeld, p. 241.
[42]Adam, in Handwörterbuch der Wirtschaftswissenschaften, p. 334.
[43]Everling, p. 205.

economies of scope as e.g. registration fees and licencing fees can be parted. A transfer of financial resources as well as a joint management are further ways to obtain economies of scope and consequently to save costs. Special economies of scope are the potential tax advantages by way of offsetting taxable profits and losses of different subsidiaries and thereby the total profit decreases.[44]

2.3.7 Correlation of size and economies of scope

There are economies of scope if the joint output of a single undertaking is bigger than the output of two different undertakings, each producing one product, and thereby cost savings occur. However, there is no direct correlation between economies of scale and economies of scope. An undertaking can enjoy economies of scope even though its manufacturing process entails diseconomies of scale.[45] For instance, the joint production of trumpets and trombones is more advantageous and involves economies of scope. However, the manufacturing is high-quality work, which is more efficient in smaller units. Likewise, a large conglomerate, which comprises several undertakings, might enjoy economies of scale within the respective productions, but on the other hand, it might not enjoy economies of scope, as e.g. the managements are separate.[46]

2.3.8 Diseconomies of scope

Diseconomies of scope occur within the production process if the joint output of an undertaking is less than the output that two separate undertakings could generate.[47] Within a group of companies or a conglomerate, the dependency of the subsidiaries might lead to diseconomies of scope as their freedom of decision and movement are limited.[48] Further, it is measurable, that economies of scope decrease as the company size increases since large companies again face disadvantages.[49] Reasons are e.g. difficult coordination and planning of processes as well as the more difficult controlling.

[44]Everling, p. 204-208.
[45]Pindyck, Rubinfeld, p. 241.
[46]Ibid.
[47] Ibid.
[48]Everling, p. 208.
[49]Pindyck, Rubinfeld, p. 242.

2.4 Network effects

2.4.1 General

Network effects express that the benefit of a network grows with its number of users.[50]Sometimes it is also referred to as demand-side economies of scale, since a linearly increasing demand leads to a proportional benefit for users.[51]A network effect comes to existence when the adoption of a customer increases the value of that specific product for other customers already using it.[52]

2.4.2 Network externality

If a customer´s demand for a specific good depends on the fact how many other people buy it, there are network externalities.[53] The network externality can be positive or negative, direct or indirect.

2.4.2.1 Positive network effects

A positive network externality exists when the amount a typical consumer demands increases as a reaction to a growing demand of other consumers.[54] An example for a positive network effect is the bandwagon effect. A consumer often wants to purchase a good because others have it. Especially children´s toys often enjoy the bandwagon effect, which is used when marketing and advertising the respective goods. With the growing number, the intrinsic value of a good increases for the single user.[55] The more consumers of e.g. an operating system exist, the more undertakings will produce software applications for that specific operating system. Thus, the bandwagon effect increases the quantity demanded, more users lead to more software applications and therefore the personal use of a single consumer grows as he can use more software applications.[56] Further, from the distribution and frequency of a

[50]Bea et al., BWL-Lexikon, p. 258.
[51]Maaß, Scherm, p. 6.
[52]Mohr et. al., Marketing of High-Technology Products and Innovations, p. 395.
[53]Besanko, Braeutigam, p. 170.
[54] Ibid.
[55]Besanko, Braeutigam, p. 172.
[56]Pindyck, Rubinfeld, p. 133.

product,consumers conclude often on its quality.[57] The success of Windows, Microsoft´s operating system, results from positive network externalities. Other examples for a great use of network effects are the Internet, email or instant messaging.[58]

2.4.2.2 Negative network effects

A negative network externality exists if the demand for a specific good decreases the more other consumers use that good. An example for a negative network effect is the snob effect. Some goods enjoy a snob effect if the value of the good is higher the fewer people own it and the fewer goods are produced. This effect is typical for rare and unique goods or status objects such as expensive automobiles and club memberships. The respective "use" of the good is its exclusivity. A price reduction would usually increase the demand for that good. The snob effect on the other hand lessens an increase in demand as a reaction to purchases of others. A snob-good´s value decreases with the number of its owners.[59]

2.4.2.3 Direct network externality

With direct network externality, the use of a good for a single consumer depends directly on the number of other users. For instance, telephone and email show that every further user extends the communication possibilities. Thus, the benefit of those networks grows.[60]

2.4.2.4 Indirect network externality

In case of an indirect network externality, the use for a single user does not immediately depend on the number of other users. Nevertheless, the stronger the use of that specific good, the more complementary products or other advantages will exist. Examples of goods with indirect network externality are computer operating systems. The number of users is irrelevant for the single user. However, the range of complementary products such as software raises with the number of users.[61]

[57]Maaß, Scherm, p. 7.
[58]Besanko, Braeutigam, p. 171.
[59]Besanko, Braeutigam, p. 172.
[60]Wied-Nebbeling, p.288.
[61]Ibid.

2.4.3 Network effect commodities and standards

Network effect commodities demonstrate network externalities so that the use of a product for one consumer is dependent on the sales volume. However, the maximum benefit is achieved if products are compatible, for which in turn standards are necessary. In case of indirect network effects, also the compatible products need to be standardised in order to avoid problems such as plugs of electrical devices not fitting abroad. The production of many network effect commodities entail high fixed cost in research and development. However, the variable costs of production are relatively low which implies significant economies of scale.[62]

When consumers initially accept the network effect commodity, which can be forced by use of introductory prices and complementary goods free of charge (e.g. mobile phones after the introduction of the mobile telephony), the provider enjoys with his standard a first-mover advantage.[63] The first-mover advantage increases with the number of users and switching costs, i.e. costs that would occur for consumers switching to another product. Accordingly, firstly a "critical mass" needs to be crossed so that one can gain the advantages of network effects.[64] If goods enjoy direct network effects and large economies of scales occur, the network constitutes a natural monopoly.[65]

Due to the influence of network effects, the market itself may settle for a specific technology so that there is a de facto standard, e.g. Microsoft office, or the Windows operating system. As a result, the undertaking obtains a monopolistic price-setting freedom. Accordingly, a dominant standard can, due to network effects, constitute a market entry barrier.[66]

By use of compatibility and interoperability, smaller firms can benefit from the installed basis of a larger undertaking. However, as long as those smaller firms only provide compatible products and nothing further apart from that, the first-mover advantage of the large undertaking remains. From this typically results a partial monopoly for network effect commodities.[67]

Concerning the Internet service provider market, demand declines with decreasing willingness to network interconnection. Consumers demand high flexibility and interoperability. Therefore, even dominant Internet service providers have a strong incentive to maintain

[62]Wied-Nebbeling, p. 288, 289.
[63]Wied-Nebbeling, p. 288-290.
[64]Maaß, Scherm, p. 8.
[65]Wied-Nebbeling, p. 291.
[66]Maaß, Scherm, p. 7-8, 13.
[67] Wied-Nebbeling, p. 291.

networks with competitors.By offering a broad product portfolio free of charge to consumers, Internet service providers try to use positive network effects to promote and capitalize other software, e.g. products of higher level or better data security.[68]

3. Relevance of the economic terms for EU antitrust law

3.1 Background

To assess the importance of efficiencies as described above within EU competition law, firstly the prevailing objectives of competition law and its purpose have to be examined. Only then, with regard to those objectives and aims, efficiencies and their importance within the EU competition law can be evaluated.

The objectives of EU competition law are as diverse as the political powers,which have been flowing through the process of forming the European Union until today. EU competition law as well as its objectives underwent a process of extensive development and change as the EU itself and the competition law arose. Being subject to political change, many influences shaped the form of EU competition law and its overall objectives, as different economic viewpoints were pushed through on the political stage. The prevailing, dominant objectives are presented in the following.

3.1.1 General objectives within competition law and EU competition law in particular

Competition law can pursue in general a number of possible objectives. Economic efficiency is recognized as one possible objective. However, it is not an end itself, but to promote other objectives of the EU. Those are e.g. the single market objective and further welfare in general. When looking at the market behaviour of an undertaking, it can be assumed that firms act rationally and try to maximise profits, or at least not to gain long-term losses. That means that in their very natural behaviour a firm acts presumably economically. When gaining e.g. productive efficiencyand being able to produce at lowest possible costs, the downward pressure on costs on other firms will increase, leading to a cost reduction which can be passed

[68]Pindyck, Rubinfeld, p. 135, 136.

on to the consumer. To the contrary, a monopoly situation with only one seller in the market leads to a price, which is likely to be higher than marginal cost and accordingly higher than a competitive price as the monopolist has price setting power. This results in a misallocation of resources and accordingly to losses in efficiency. The redistribution of benefits from the over-charged prices from producers to consumers result in a distributive inefficiency, resulting in a decrease of welfare.[69]

Thus, gaining efficiencies and converting them into benefits for the consumers and therefore achieving welfare seems to be another overall aim of competition law. Economically, welfare is a means to determine how efficient a market is performing. However, welfare again is a broad term as it can refer to social welfare as well as consumer welfare in particular. Consumer welfare equals to what is the difference to what consumers would be prepared to pay and what they do pay after all. On the contrary, social welfare is a concept that comprises on the one hand the surplus of the production side, i.e. selling goods above costs of production, and on the other hand the surplus on the demand side, i.e. what the consumer saves when purchasing the good.[70]

The difference now to be noted between those two welfare concepts is that a competition policy concerned with consumer welfare would prohibit conduct that does not transfer surplus from the production side to the consumers.[71] While that conduct might not have redistributive effects, it however increases the surplus on the production side, thereby leading to efficiencies, which accordingly maximise social welfare.[72]

For clarification, a competition policy, which proclaims social welfare, is not concerned about the redistribution of efficiencies to the consumers, but only with the loss of efficiency in the sense of a total deadweight loss.[73]Thus, the concepts of social welfare and consumer welfare themselves differ in as much as they would lead to different applications of competition law rules as respectively different market participants would benefit. The inherent conflict of efficiency gains and consumer benefits becomes apparent.

Concerning the EU in particular, there is yet still no consensus on what objectives are to be achieved. This question nevertheless remains of practical importance, as the definition of aims

[69]Jones, Sufrin, p. 4-7, 9, 10.
[70]Jones, Sufrin, p. 12.
[71] Van den Bergh, Camesasca, p. 37.
[72]Jones, Sufrin, p. 12.
[73] Ibid.

and objectives affects how competition law is to be interpreted and applied in an individual case.[74]

However, the EU Commission proclaimed within its "new economic approach" the consumer welfare standard as the overall aim of competition enforcement.[75]

3.1.2 Efficiency-oriented schools of competition analysis and concepts and the "Williamson-trade-off"

Efficiency-oriented concepts for competition view in restrictive competition policy a threat to effective market structures. Those concepts have their origin in the 1980s in the USA. Especially the Chicago School formulated economic efficiency as the overall if not the sole aim of competition policy. According to Chicago economics, people act rational and markets are self-correcting and strong. As industries benefit from e.g. economies of scale, businesses show up as constantly maximising profits. Primary motivation of mergers and other conducts would be the increase and the exploitation of efficiencies. Accordingly, governmental interference, such as a too strict merger control could prevent undertakings from reaching an efficient business size.[76]

The efficiencies described in that sense are the allocative and productive efficiencies, the latter comprising the economies of scale and scope. As Bork, a follower of the Chicago School, stated, it is the sole task of competition policy to improve allocative efficiency without impairing productive efficiency in as much as to gain net loss in (social) welfare.[77]

The foregoing indicates a conflict of objectives, i.e. the conflict of as positively assessed productive efficiencies and on the other hand, the likelihood of a strong market position stemming from those efficiencies, which depending on the market might be harmful and accordingly is to be assessed negatively. This conflict is known as the "Williamson trade-off".

Williamson showed based on a before and after approach on a horizontal merger, that on the one hand mergers are cost-cutting and efficiency-enhancing (productive efficiencies). On the other hand, merger may lead to market power, leading to allocative inefficiency as the

[74]Jones, Sufrin, p. 34.
[75]Speech of Commissioner NeelieKroes, "European Competition Policy - Delivering Better Markets and Better Choices", European Consumer and Competition Day, London, 15 September 2005, SPEECH/05/512, available athttp://ec.europa.eu/competition/speeches/index_theme_26.html.
[76]Jones, Sufrin, p. 22-24; Hovenkamp, in Michigan Law Review, p. 226-229.
[77]Bork, p. 90-91; Bork uses originally the term "consumer welfare" in the sense of the term "social" or "total" welfare as described above. This confusion is also known as the "Chicago trap".

undertakings concerned raise prices and reduce the output volume. The model illustrates the trade-off between deadweight loss through monopolisation and welfare gains due to cost-cuttings. According to Williamson, competition authorities should in case of horizontal mergers balance those two effects against each other (i.e. the "trade-off" in its very sense).[78]

The aforementioned efficiency-oriented competition concepts started to influence European competition policies in the beginning of the 1990s.[79]

Within its re-orientation and change of policy in 2004, the EU Commission proclaimed a "more economic approach" within EU competition law and enforcement. The new aim was to consider positively efficiency within all three branches of antitrust law, i.e. Art. 101 TFEU, Art. 102 TFEU and merger control.

3.2 The prohibition of agreements restricting competition and restrictive business practices, Art. 101 TFEU

3.2.1 General

Incompatible with the common market of the EU and therefore prohibited according to Art. 101 TFEU are all agreements between undertakings, decisions by associations of undertakings and concerted practices, which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market (…).

Contrary to this clear prohibition in Art. 101 (1) TFEU, a legal exception to the prohibition is incorporated within Art. 101 (3) TFEU, reading as follows:

"*The provisions of paragraph 1 may, however, be declared inapplicable in the case of:*

- *any agreement or category of agreements between undertakings,*

- *any decision or category of decisions by associations of undertakings,*

- *any concerted practice or category of concerted practices,*

[78] Williamson, in American Economic Review, p. 18-36.
[79] Jones, Sufrin, p. 20, 22.

which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not:

(a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;

(b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question."

This legal exception allows undertakings in case of a detected infringement to exculpate themselves.Questionable is however, what requirements need to be fulfilled in order to be able to justify anti-competitive behaviour according to Art. 101 (3) TFEU. Further, it needs to be assessed how the EU Commission as the main European competition authority, applies the terms and conditions in an individual case.

3.2.2 Conditions of Art. 101 (3) TFEU

Once an anticompetitive behaviour in form of an agreement, concerted practice or a decision of an association of undertakings is established, undertakings may claim their behaviour as exempted from the prohibition of Art. 101 (1) TFEU and justified under Art. 101 (3) TFEU. Art. 101 (3) TFEU demands four requirements to be met, two of them positive, the other two negative requirements:

Firstly, the agreement[80]must contribute "to improving the production or distribution of goods or to promoting technical or economic progress" and at the same time, it must allow the consumer "a fair share of the resulting benefit".On the contrary, thereby it must not impose restrictions, which are indispensable and not eliminate competition for a substantial part of the products in questions.

The EU Commission issued guidelines developing a methodology for the application of Art. 101 (3) TFEU[81], based on the "more economic approach". According to the first condition, there have to be efficiency gains. The restriction flowing from the agreement must be

[80] In the following the term "agreement" includes concerted practices and decisions of associations of undertakings.
[81]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08.

indispensable for gaining efficiencies. Further, the consumer must participate in the efficiency gains so that negative effects of the restrictions are at least outweighed. Lastly, it must not eliminate competition in general.[82] The conditions are cumulative, whereby the undertakings bear the burden of proof.[83]The aim of those requirements is to identify the economic advantages of the agreement and their influence on the consumer.[84]

3.2.3 Assessment of efficiency gains

Art. 101 (3) TFEU differentiates between four forms of efficiencies, which are (1) the improvement of production of goods or services[85], (2) improvement of distribution of goods or services, (3) the promotion of the technical progress, and (4) the promotion of economic progress. The first two forms of efficiencies recognise productive efficiencies and therefore economies of scale and scope. The latter two forms deal with dynamic efficiencies. It is to be noted that the Commission gives equal importance to all of the aforementioned efficiencies.[86]

In their Guidelines on the application of Art. 101 (3) TFEU, the Commission states the aim of the analysis within the first condition of Art. 101 (3) TFEU, which is two-folded, as firstly to identify the objective benefits of the agreement, and secondly to identify the economic importance of such efficiencies. Thereby, the pro-competitive effects deriving from the agreement must outweigh the anti-competitive effects. Accordingly, the link between the agreement and the claimed efficiencies and their value have to be verified.[87]

Therefore, having regard to the case law of the CJEU,the assessment conducted by the Commission will presumably be as follows: Firstly, the nature of the claimed efficiencies must be substantiated. Hereby, only objective efficiencies are taken into account and not from a subjective point of view of the parties.[88] Further, the efficiencies need to be economic in

[82]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para.48 and following.
[83]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 41, 42; Commission Decision, *Mastercard I*, 19.12.2007,Case COMP/34.579 [2009] OJ C264/8, para. 690 and following.
[84]Kjølbye, in European Competition Law Review, p. 573.
[85]The provision applies by analogy to services, see Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 48.
[86]Kjølbye, in European Competition Law Review, p. 566, 573.
[87]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 50.
[88]Joined Cases 56/64 and 58/66, *Consten and Grundig*, [1966], ECLI:EU:C:1966:19, CMLR 429, p. 321, 397; Commission Decision, *Van den Bergh Foods*, 11.3.1998, Case COMP/34.073, 34.395, 35.436 [1998] OJ L 246, p. 1.

nature.[89]However, cost savings that arise from the pure exercise of market power by the parties are explicitly excluded, e.g. those deriving directly from a reduction of output, which leads to the third variant of the objective and economic nature of the efficiencies, i.e. they need to produce pro-competitive effects on the market to be relevant for an assessment under Art. 101 (3) TFEU.[90]

Having established an objective and economic nature of the claimed efficiencies, secondly the Commission demands a sufficient causal link between the agreement and the efficiencies. This means in essence, that the efficiencies are the result of the economic activity forming the very object of the agreement.[91] Naming examples as joint production and joint research and development, the Commission refers here explicitly to the productive efficiencies of economies of scope.Questionable is, whether the causal link needs to be direct. The Commission´s usual standpoint seems to demand a direct link to circumvent uncertainty deriving from indirect causal links. Only when e.g. a restrictive agreement, using economies of scale to increase their profits which enables the undertakings concerned to invest more in research and development and thereby ultimately benefitting the consumers, then indirect links might be sufficient.[92]

Lastly, the Commission sets out in their Guidelines on the application of Art. 101 (3) TFEU, that it would assess the likelihood and the magnitude of the claimed efficiency and moreover, how and when each claimed efficiency would be achieved. Accordingly, the claimed efficiencies need to be verified. The undertakings are to calculate or estimate the value of the possible efficiencies and present the method used to achieve them.[93] Thus, the Commission only assesses the abstract capacity of advantages, which may outweigh the anti-competitive effects.[94] Further, the Commission makes reference to other non-cost based efficiencies and that they may be sufficient when substantiated how and why they constitute objective economic benefits.[95] Consequently, other non-productive efficiencies as e.g. network effects are not excluded from the general assessment of Art. 101 (3) TFEU. The undertakings concerned will however have to show the objective economic nature as well as the causal link between the agreement and the claimed efficiencies.

[89]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 46.
[90]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 49.
[91]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 53.
[92]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 54.
[93]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 56.
[94]Commission Decision, *Mastercard I,* 19.12.2007, Case COMP/34.579 [2009] OJ C264/8, para.670 and the following.
[95]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 57.

With regard to the aforementioned efficiencies and economic terms described above, the Commission sets out in its Art. 101 (3) Guidelines a general statement that it is open to all forms of efficiencies claimed if however the conditions, i.e. objective, economic nature, causal link between agreement and efficiency and lastly likelihood and magnitude of claimed efficiencies, are fulfilled. For clarification however, the Commission distinguished between cost efficiencies and qualitative efficiencies.[96] The Commission hereby recognises various types of economies of scale as cost efficiencies, e.g. combined assets production or joint research and development, also resulting in economies of scope.[97] Further, the Commission points out economies of scale when using e.g. assembly line production leading to cost reduction in production. In addition, the use of synergy effects deriving from economies of scope due to joint production or joint distribution are named as examples. Hereby, the Commission expressly states the possibility of those synergy effects within vertical as well as horizontal joint production and distribution, respectively. The Commission mentions as possible efficiencies the production of one main product, leading to the production of by-products and thereby enjoying economies of scope. The possibility of economies of scale within production, logistics operations, distribution, marketing as well as research and development are as well presentedin the Guidelines on the application of Art. 101 (3) TFEU.[98]

Questionable is, whether e.g. network effects are possible efficiencies recognised by the Commission in their Art. 101 (3) Guidelines.They may be part of the qualitative efficiencies as described by the Commission. E.g. in the telecommunications sector, qualitative efficiencies deriving from agreements make new global services faster available.[99] As mentioned above, network effects increase the value of a network with its number of users. Accordingly, an undertaking being engaged in an agreement must be able to claim network effects as efficiencies as they will let the network of the respective product or service grow. In case of positive network effects, this will increase the value of the product or service, leading to a benefit for its consumer.

It is to be noted that economies of scale and scope might also constitute qualitative efficiencies as set out by the Commission, as technological advantages and joint research and development will lead to new and improved goods, thereby generally increasing the quality of the respective products.

[96]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para.59 and the following.
[97]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 61.
[98]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 59 – 67.
[99]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 71.

In the block exemption regulation for vertical agreements and concerted practices, the Commission does not introduce the specific efficiencies but rather refers to the conditions of Art. 101 (3) TFEU and accordingly to its Guidelines on the application of Art.101 (3) TFEU.[100]

3.2.4 Commission´s practice

As described above, the Commission set out in its Guidelines on the application of Art. 101 (3) TFEU a rather detailed assessment of efficiency with regard to its aim and value, resulting in a four step-test: nature of the efficiency, link between agreement and efficiency, likelihood and magnitude and lastly how and when the claimed efficiency would be achieved.

Questionable is, whether the Commission in its decision-making practice observes and adheres to its own guidelines. This is to be examined and evaluated in the following.

With regard to the improvement of the production of goods, the Commission acknowledged efficiency gains in the reduction of production costs, especially due to economies of scale and scope.[101] Further, efficiency gains are recognised when flowing from joint purchasing of materials and joint distribution.[102] Concerning the improvement of the distribution of goods or services, efficiency gains equal improvements within the sale and marketing branches, for instance by reducing the costs of distribution by use of economies of scale for orders.[103] Further, when claimed that the efficiency was the promotion of technical progress, the Commission accepted the reduction of operating costs by a joint offer to recycling within a reprocessing plant.[104] Here again, economies of scope through joint production, resulting in cost reduction, are acknowledged as efficiencies under Art. 101 (3) TFEU. In its *TEKO* decision, the Commission had to assess an agreement on cooperation in machinery loss of profits insurance. The Commission acknowledged here that the cooperation led to substantial rationalization and cost-savings in machinery loss of profits insurance. Especially the joint

[100]Commission Regulation No. 330/2010 on the application of Article 101 (3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices [2010] OJ L102/1, recital 3.
[101]Commission Decision, *Philips/Osram,* 21.12.1994, Case COMP/34.252 [1994] OJ L 378, 37, para. 42; Commission Decision, *De Laval-Stork,* 25.7.1977,Case COMP/27.093 [1977] OJ L 215, 11, para. III and following; Commission Decision, *Atlas,* 17.7.1996,Case COMP/35.337 [1996] OJ L 239, 23, para.41 and following; Commission Decision, *BNP/ Dresdner Bank,* 24.6.1996, Case COMP/34.607 [1996] OJ L 188, 37, para. 18.
[102] Commission Decision, *EBU/ Eurovisions-System,*11.6.1993,Case COMP/32.150 [1993] OJ L 179, 23, para. 59 and following.
[103]Commission Decision, *Private Steelmaking Supplies,* 17.6.1977, [1977] OJ L 173, 19, para. 7.
[104]Commission Decision, *United Reprocessor,* 23.12.1975 Case COMP/26.940/a [1975] OJ L 51, 17, para. III.1.

input of knowledge of the staff, i.e. joint production in the sense of economies of scope, would lead to significant cost reductions and therefore an improvement in the distribution of goods.[105]

Economies of scope through joint research and development were successfully claimed by the undertakings being engaged in an R&D agreement, as according to the Commission the pooling of research capacities was a decisive factor in providing a reasonable likelihood of the efficiency of technical progress.[106] The Commission even acknowledged the use of economies of scope in the nature of joint research and development by an R&D agreement to reach an optimal business size.[107] In *Ford/Volkswagen* the creation of a joint venture company for the development and manufacturing of a multi-purpose vehicle again enjoyed economies of scope in production and research and development by pooling the know-how, which was approved and individually exempted by the Commission. Also the consumer-pass on was decisive in this case as the Commission argued that as a result of the agreement due to sophisticated production technology and economies of scale, two high-quality and reasonably priced multi-purpose vehicles were made available to the consumer. The agreement would lead to new entrants into the multi-purpose vehicle market, leading to competitive pressure on the undertakings concerned so that they would have to pass-on benefits to the consumer.[108]

On the contrary, undertakings despite a substantiate reasoning of possible efficiencies, may sometimes rely on the GC or even ECJ. For instance, in *GlaxoSmithKline Services Unlimited v Commission*, the undertakings involved in a distribution agreement and having demonstrated the necessity to promote technical progress by raising the competitive pressure to innovate, could not convince the Commission. It were the GC and ultimately the ECJ to find that the Commission had erred when not taking into account certain provided evidence.[109]

In its decision in *Visa International – Multilateral Interchange Fee,* the Commission recognised network externalities as contributing to technical and economic progress, which again led to consumer benefits.[110]Likewise, in its *Uniform Eurocheques*decision, the Commission dealt with an agreement concerning the Eurochequesystem, which might have

[105]Commission Decision, *TEKO,* 20.12.1989,Case COMP/32.408 [1989] OJ L 13/34, para.3, 26.
[106] Commission Decision, *Beecham/Parke, Davis*, 9.6.1976, Case COMP/29.020 [1976] OJ L223/27.
[107]Commission Decision, *De Laval-Stork*, 25.7.1977,Case COMP/27.093 [1977] OJ L 215, 11.
[108] Commission Decision, *Ford/Volkswagen*, 23.12.1992[1993] OJ L20/14.
[109] Cases C-501, 513, 515, 519/06 P, *GlaxoSmithKline Services v Commission*, 6.10.2009 [2009], ECLI:EU:C:2009:610, CMLR I-9291.
[110]Commission Decision, *Visa International – Multilateral Interchange* Fee, 24.7.2002, Case COMP/29.373 [2002]OJ L 318/17, para. 83.

been able to use network effects as claimed efficiencies. Though not explicitly mentioned, the Commission does acknowledge an improvement of the payment system within the common market and outside of it as the system makes them more acceptable to the trading sector.[111] The uniformity of the Eurocheque system implies thereby already, that it is easier available and of use for traders as well as consumers. A system like this is growing in value by the number of its users and participants, making benefit of network effects. Therefore, even though not explicitly mentioned, the concerned undertakings could have claimed network effects as possible qualitative efficiencies.

Concerning the objective nature of an agreement, the ECJ stressed that the efficiency, e.g. the respective improvement, must "show appreciable objective advantages of such a character as to compensate" for the anti-competitive effects.[112]

3.3 The prohibition of abuse of a dominant position, Art. 102 TFEU

3.3.1 General

Further incompatible with the internal market of the EU and accordingly prohibited by Art. 102 TFEU is any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it, in so far as it may affect trade between Member States.

Unlike Art. 101 TFEU, the prohibition of abusive behaviour of a dominant position does not entail a legal exemption to the prohibition. Questionable is therefore, if and how efficiency gains are taken into account within this branch of antitrust law.

3.3.2 Commission´s practice

The Commission dealt in the field of abusive behaviour of a dominant position with efficiencies claimed by the concerned undertaking. Rewards as one conduct of Art. 102 TFEU had a discriminatory effect, as they were dependent on sales and accordingly would lead to a difference in treatment between competitors. A justification of efficiency gains based on

[111]Commission Decision, *European Eurocheque*, 10.12.1984, Case COMP/30.717 [1984] OJ L 35/43, para. 37.
[112] Cases 56 and 58/64, *Consten and Grundig*[1966], ECLI:EU:C:1966:19, CMLR 299, 348.

increased sales was according to the Commission not available. Art. 102 TFEU demands that awarding rebates by a dominant undertaking must be the compensation for gained efficiency and not a compensation for loyalty.[113] In *Portuguese Airports*, the Commission dealt with a discount system imposed by the Portuguese authority for landing charges at Portuguese airports, which differed depending on the origin of the flight. As a justification, the Portuguese authorities stressed inter alia the economic cohesion aspects of the system, as the Portuguese airports are in competition with the airports at Madrid and Barcelona, which employ the same type of charging mechanism. The Portuguese authorities further wished to encourage economies of scale deriving from a more intense use of the domestic airports, and to promote Portugal as a tourist destination. The Commission argued that the public undertaking was abusing its dominant position and could not justify its behaviour by efficiency gains, since the Portuguese authorities did not refer to any specific economies of scale, stating instead that the airport needed to promote greater utilisation of its facilities.[114]It is to be noted, that the discussion of the efficiency gains, in particular the claimed economies of scale, are discussed within the assessment of an abuse of a dominant position. In a similar context with charges for airport usage, the authority claimedeconomies of scale in that it costs less, in terms of administration and staff, to supply services to a national carrier with a large volume of traffic at the airport. The Commission stated that the economies of scale argument used by the airways authority could justify the system. However, in the case at hand the airways authority did not demonstrate to the Commission that handling the take-off or landing of an aircraft, which belongs to one airline instead of another airline, results in economies of scale. This task rather requires the same service per aircraft, irrespective of the owning airline. The Commission further suggests that economies of scale, if at all, might occur at the invoicing level as one invoice could cover several aircraft movements and accordingly the airways authority might be able to save input. However, those economies of scale are according to the Commission negligible.[115] Here, the efficiency discussion is again part of the assessment of an abuse of a dominant position.

[113]Commission Decision, *Virgin/British Airways*,14.7.1999, Case COMP/D-2/34.780[2000] OJ L 30/1, para.101, 109.
[114]Commission Decision, *Portuguese Airports*,10.2.1999, Case COMP/35.703 [1999] OJ L 69/31, para.30.
[115] Commission Decision, *Brussels National Airport (Zaventem)*, 28.6.1995 [1995] OJ 216/8, para. 16.

With regard to quantity discounts schemes, the Commission ruled that the discounts would need to be connected to the quantity of a single purchase order. Only then, the ordered amount leads to economies of scale as distribution and delivery costs decrease.[116]

In *United Brands v Commission* the ECJ considered economies of scale as a relevant economic factor but also recognised that economies of scale might constitute barriers to entry.[117] The Commission concluded in *BPB Industries plc.*in the same manner that large economies of scale enjoyed by BPB would foreclose competitors from entry in the relevant plasterboard market in Great Britain.[118] Here, the Commission referred to the efficiency gains within the assessment of the relevant geographic market. Further, economies of scale and scope enjoyed by the undertaking in connection with significant sunk cost for new entrants would lead to barriers to entry and indicate dominance.[119]

In addition, network effects might constitute barriers to expansion or entry. In its *Microsoft* decision, the Commission argued that positive network externalities lead to the fact that almost all application software was written to be compatible with the Microsoft operating system due to its omnipresence in the personal computer market. The positive network effects led to a self-reinforcing dynamic, i.e. the more user the more software, and the more software the more users existed, which would hinder new businesses from entering the market.[120]

3.3.3A new approach: Efficiency defence?

While missing a clear legal exemption corresponding to the one found in Art. 101 (3) TFEU, it is questionable still if and how efficiencies are recognised within the application of Art. 102 TFEU. As seen above, the Commission in its decisional practice tended to discuss the claimed efficiencies within the assessment of the abuse of a dominant position. Thereby, it usually arrived to a negative conclusion and did not consider the claimed efficienciesfurther.

However, a look at the jurisdiction of the EU courts might give a different impression. When assessing rebates and premium schemes, the ECJ found them to be abusive when they go beyond what is necessary to achieve efficiencies or when they do not benefit to the

[116]Commission Decision, *Virgin/British Airways*,14.7.1999, Case COMP/D-2/34.780[2000] OJ L 30/1, para. 101.
[117] Case C-27/76, *United Brands v Commission*[1978], ECLI:EU:C:1978:22, CMLR 207, para. 122.
[118] Commission Decision, *BPB Industries plc.*, 5.12.1988, Case COMP/31.900 [1989] OJ L 10/50, para. 116.
[119] Commission Decision, *Telefónica*, 4.7.2007, CaseCOMP/38.784 [2011] 4 CMLR 414, para. 224 – 226.
[120]Commission Decision, *Microsoft*, 24.3.2004, Case COMP/C-3/37.792[2007] OJ L 32/3, para. 448-459.

consumer.[121]This is essentially a neutral statement towards the involvement of efficiencies, as they can be taken into account when the conduct was necessary to achieve the efficiencies. In *Irish Sugar,*the GC found nevertheless, that also a dominant undertaking might have the right to pursue business interests as long as the protection of the competitive position is based on criteria of economic efficiency and of interest for the consumer.[122]Here, efficiency is used as a criterion for a valid justification. Partially, the ECJ affirmed in case of a violation of Art. 102 TFEU a limited application of Art.101 (3) TFEU.[123]Using Art. 101 (3) TFEU for the purposes of a justification claim within Art. 102 TFEU would mean at least to open the strict nature of the provision of Art. 102 TFEU. This approach, however, has been discarded by the EU courts.[124]

The preparatory works of Art. 82 EC suggest efficiency to be one of the main concerns when drafting the provision.[125]According to them, efficiency was to be incorporated into the concept of "abuse" and to be assessed jointly.[126]

In context of the more economic approach movement, the Commission issued a Discussion Paper on the application of Art. 102 TFEU to exclusionary abuses.[127] Therein, the Commission relies on an effects-based approach within the application of Art. 102 TFEU and expresses its will to take efficiency within the application of Art. 102 TFEU into consideration.[128] Accordingly, in its discussion paper the Commission presents a system when and how possible efficiency defences are available.

Thus, exclusionary conduct may escape the prohibition of Art. 102 TFEU, if the dominant undertaking can demonstrate the fulfilment of the following conditions: i) the efficiencies are realised or likely to be realised with the conduct in question, ii) the conduct is indispensable to realise those efficiencies, iii) the efficiencies benefit the consumer, and lastly iv) that competition is not eliminated for a substantial part of the products concerned. The Commission assumes that when all four conditions are met, the conduct will promote the competitive process, namely an improvement of products, better prices etc..[129] The Commission goes on by claiming that "[T]he dominant undertaking must thus in the first

[121] Case C-95/04, *British Airways*, 15.3.2007[2007], ECLI:EU:C:2007:166, OJ C 95/2, para. 87.
[122] Case T-228/97, *Irish* Sugar, 22.8.1997 [1997],ECLI:EU:T:1999:246, para. 189.
[123] Case C-85/76, *Hoffmann-La Roche/Vitamins*, 13.2.1979 [1979], ECLI:EU:C:1979:36,para. 90, 120.
[124]Case T-191/98, *Atlantic Container Line*,30.9.2003 [2003], ECLI:EU:T:2003:245,para. 1456.
[125]Whish, Bailey, p. 196.
[126]Akman, p. 6.
[127] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005).
[128]Albors-Llorens, in Common Market Law Review,p. 1727, 1729.
[129] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 84.

place be able to show that the conduct to contribute to improving the production or distribution of products or to promote technical or economic progress (…)". Hereby, the Commission refers to the wording of Art. 101 (3) TFEU and the efficiencies named therein. When further explaining the second condition, it is clear that the Commission has in mind a proportionalitytest, in the meaning of finding out whether there are less restrictive means to achieve the claimed efficiencies.[130] The third condition is based on the judgment in *Irish Sugar* and is an expression of the overall aim of consumer welfare. In order to be taken into account for this purpose, the Commission, unlike in its Guidelines on the application of Art. 101 (3) TFEU, points out that efficiencies need to be timely.[131] However, the Commission already here evaluates that it considers the protection of rivalry and the competitive process more important than possible pro-competitive efficiency gains. It is even "highly unlikely" that an undertaking enjoying dominance close to a monopoly-level will be able to justify its conduct with efficiency gains.[132] This reveals a clear standpoint towards a negative outcome of efficiency claims.

In the context of assessing predatory pricing, the Commission states that it will not consider an efficiency defence. Referring to the conditions set out above for exclusionary abuses, the Commission considers each point unlikely to be fulfilled.[133] Accordingly, it will beequally unlikely for the undertaking concerned to convince the Commission of positive outcomes of efficiencies.

Nevertheless, single branding obligations and rebates systems might be justified according to the discussion paper when meeting the four conditions set out above for exclusionary abuses.[134] By providing in the following examples for indispensable rebate schemes, the Commission gives however the impression that an efficiency defence here is more likely to be successful as compared to the in essence denial of an efficiency defence for predatory pricing.

When assessing tying and bundling conducts, the Commission points out that the market distorting foreclosure effect is stronger when inter alia significant economies of scale and network effects are present in the tied market. The Commission refers to its *Microsoft*decision

[130] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 86.
[131] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 87 - 89.
[132] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 91.
[133] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 133.
[134] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 172.

where it already pointed out that the tying can deprive competitors of the chance to use network externalities through the tied costumer, leading to the dominant undertaking being able to tip the tied market by use of network effects, stating that "the stronger the network effects, the higher the likelihood of foreclosure".[135] However, the undertakings are able to raise an efficiency defence, when again the four conditions set out above for exclusionary abuses are met. The Commission points out that cost efficiencies in production and distribution are likely. Especially, when forming a new integrated product, leading to efficiencies, so that the two products are no longer distinct, is claimed to be a possible and promising defence.[136]

Anti-competitive refusal to supply and refusal to start supply can be justified by an efficiency defence when the dominant undertaking, which e.g. wants to integrate in downstream markets, proves that the consumer benefits from the termination of supply relationship.[137] Here, the Commission gives no further reference or example how efficiency might be taken into account. This suggests the application of the four conditions as set out for exclusionary abuses.

With respect to aftermarkets, an undertaking may claim an efficiency defence. The Commission provides examples, such as savings in production and distribution.[138] In general, it is to be noted, that the Commission in its discussion paper suggests possible justifications and the efficiency defence to be assessed as a last point of the assessment and not as part of the test of an abusive behaviour.

Other than the above mentioned Discussion Paper on the application of Art. 102 TFEU, the Commission furthermore formulated a Guidance Paper on the Commission´s enforcement priorities for the application of Art. 102 TFEU to abusive exclusive conduct by dominant undertakings according to which justifications are available.[139]However, the Commission first stresses that economies of scale and scope as well as network effects may form barriers to entry or expansion or lead to market foreclosure, e.g. costs resulting from network effects that

[135] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 199.
[136] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 205.
[137] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 224, 234.
[138] Commission, Discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (2005), para. 265.
[139]Commission, Guidance on the Commission´s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009), OJ C 45/7.

consumers face when switching to another supplier might constitute barriers to entry.[140] Despite that, the Commission announces in its Guidance Paper that it will examine claims of the undertaking concerned that the conduct is justified. For an efficiency defence, the Commission here explicitly refers to its Guidelines on the application of Art. 101 (3) TFEU. It accordingly demands that the following four cumulative conditions are fulfilled:

i) "*the efficiencies have been or are likely to be realised as a result of the conduct*";

ii) "*the conduct is indispensable to the realisation of those efficiencies (...)*";

iii) "*the likely efficiencies brought about by the conduct outweigh any likely negative effects on competition and consumer welfare in the affected markets*";

iv) "*the conduct does not eliminate effective competition*".[141]

When referring explicitly to the conditions set out for the consideration of efficiencies within the application of Art. 101 (3) TFEU, the Commission presumably seeks to avoid different perceptions of the efficiencies within EU antitrust law.

The de-facto denial of an efficiency defence for predatory pricing is in accordance with the GC´s decision in *France Télécom*. There, the undertaking concerned claimed a justification due to economies of scale and learn effects resulting from an increased production.[142] However, the Commission will examine if the prices in question would lead to economies of scale or other efficiencies, provided that all of the four conditions are fulfilled.[143]

3.4 Merger control

3.4.1 General

Efficiency is likely to be the main motive for mergers, as economies of scale and scope can be enjoyed in production as well as in the distribution of products. Further, economies of scope within the operation of the business and marketing or as a result to a pooling of research and

[140]Commission, Guidance on the Commission´s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009), OJ C 45/7, para. 17, 20.
[141]Commission, Guidance on the Commission´s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009), OJ C 45/7, para. 30.
[142] Case T-340/03, *France Télécom,* 30.1.2007 [2007], ECLI:EU:T:2007:22,para. 217.
[143]Commission, Guidance on the Commission´s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009), OJ C 45/7, para. 74.

development skills are likely.[144]Questionable is however, whether and how efficiency is taken into account under the EUMR.[145]

3.4.2 Assessment of efficiency gains

The undertakings concerned may claim efficiencies, which will be assessed by the Commission within a substantial test, set out in Art. 2 of the EUMR. Art. 2 (1)(b) EUMR provides that:

"[…] *and the development of technical and economic progress provided that it is to consumers´ advantage and does not form an obstacle to competition."*

Accordingly, two forms of efficiencies, i.e. the technical progress and the economic progress, can be taken into account. However, it must be of an advantage to the consumer and it must "not form an obstacle to competition". This indicates the possibility for an efficiency defence, even though Art. 2 (1) (b) EUMR does not explicitly mention such a defence.

Following the wording of Art. 101 (3) TFEU, Art. 2 (1) (b) EUMR provides for a trade-offbetween the maintenance and development of effective competition on the one hand, and technical and economic progress on the other hand. This would lead to a two-step assessment under Art. 2 (1) (b) EUMR, first assessing the creation or strengthening of a dominant position, and secondly, weighing the efficiencies with possible anti-competitive effects of the merger.[146]In its Guidelines on the assessment on horizontal mergers, the Commission takes account of efficiencies within its assessment of a proposed merger. Accordingly, substantiated efficiencies claimed by the undertakings are considered if the following cumulative conditions are fulfilled:

i) benefit to consumers;

ii) merger specificity;

[144]Jones, Sufrin, p. 1130.
[145]Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation).
[146]Cseres, p. 140.

iii) verifiability[147]

When those requirements are fulfilled, the Commission will take the claimed efficiencies positively into account and will declare the merger to be compatible with the common market.[148]

3.4.3 Commission´s practice: Efficiency offence?

Within the framework of the former merger regulation[149],the market positioning of the undertakings concerned was the prevailing evaluation criterion despite the wording only slightly differing from the current merger regulation. Efficiencies implied an anti-competitive gain in market power.[150]If accordingly the result were the creation of a dominant position, efficiencies in the form of cost savings would constitute only performance gains, which would not benefit the consumer and therefore could not be taken into account.[151]At the beginning of the merger control, the Commission left open whether efficiencies could be decisive for the evaluation of mergers.[152]In *Accor/Wagons-Lits*, the Commission refused to take claimed economies of scale into account, while holding that there might even be diseconomies of scale. The cost reductions were however not merger-specific and a pass-on to consumers was unlikely as it was missing an incentive.[153]In its earlier decisional practice, the Commission also refused to justify mergers, which constituted a dominant position, with effects of rationalisation.[154] Accordingly, efficiencies could not be taken into consideration within technical key industries, as they would establish a dominant position, which would even

[147]Commission, Guidelines on the assessment of horizontal mergers (2004), OJ C 31/5, para. 79 – 88.
[148]Commission, Guidelines on the assessment of horizontal mergers (2004), OJ C 31/5, para. 78.
[149]Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings, OJ L 257/90 P 13.
[150]Commission Decision, *British Telecom/MCI (II)*, 14.5.1997, Case COMP/M.856 [1997]OJ L 336/1, para. 65; Commission, Decision, *Nordic Satellite Distribution*,19.7.1995, Case COMP/M.490 [1996] OJ L 53/20, para. 133.
[151]Commission Decision, *Danish Crown/VestjyskeSlagterier*, 9.3.1999, Case COMP/M.1313 [2000] OJ L 20/1, para. 198.
[152]Commission Decision, *AT&T/*NCR, 18.1.1991, Case COMP/M.050 [1991] OJ L 310/29, para. 29; Commission Decision, *Aerospatiale-Alenia/de Havilland*, 2.10.1991, Case COMP/M.053 [1991] OJ L 334/42, para. 65; Commission Decision, *Accor/Wagons-Lits*, 28.4.1992, Case COMP/M.126 [1992] OJ L 204/01, para. 26; Commission Decision, *MSG Media Service*, 9.11.1994, Case COMP/M.053 [1994] OJ L 364/1, para. 100 and following.
[153]Commission Decision, *Accor/Wagons-Lits*, 28.4.1992, Case COMP/M.126 [1992] OJ L 204/01, para. 26.
[154]Commission Decision, *Aerospatiale-Alenia/de Havilland*, 2.10.1991, Case COMP/M.053 [1991] OJ L 334/42, para. 68, 69; Commission Decision, *Danish Crown/VestjyskeSlagterier*, 9.3.1999, Case COMP/M.1313 [2000] OJ L 20/1, para. 198.

impede the technical and economic progress.[155]This has often been critized as an "efficiency offence".[156]

However, the eligibility of efficiencies was not fundamentally rejected. The Commission nevertheless used the competitive advantages to find an establishment or strengthening of a dominant position and thus to prohibit the merger.[157]Also, synergy effects have been positively discussed by the Commission in its *Saint Gobain/Wacker-Chemie/NOM* decision. The Commission doubted here nevertheless a possible benefit for the consumer.[158]

In addition, efficiencies have been evaluated as barriers to entry.[159] Art. 2 (1) (b) EUMR distinguishes between practical and legal barriers to entry. Forms of practical impediments are thereby economies of scale and scope. When established businesses benefit from economies of scale, a newcomer must be able to achieve those, which will make the market entry more difficult and risky.[160] Economies of scope due to joint marketing are also likely to become economic barriers to entry.[161]Economies of scale as well as network effects can further make market entry unprofitable. Thus, a merger is anti-competitive when new entrants will not be able to gain sufficient market shares.[162] Main concerns with conglomerate mergers are possible market foreclosure effects due to use of the strong market position.[163] Those foreclosure effects are stronger in economic sectors where usually economies of scales are achieved. Network effects can intensify the foreclosure effect deriving e.g. from tying or bundling practices.[164]

In *General Electric/Honeywell*, the Commission found a bundling of complementary products would lead to a dominant position and therefore price benefits would occur, which in turn would tie the costumer to General Electric/Honeywell.[165] The GC confirmed this finding and recognised the general risk connected to economies of scope. The pure abstract possibility to use efficiency gains to the detriment of competitors is however not sufficient to prohibit a

[155]Commission Decision, *MSG Media Service*, 9.11.1994, Case COMP/M.053 [1994] OJ L 364/1, para.100, 101.
[156]Jones, Sufrin, p. 1214.
[157]Commission Decision, *Aerospatiale-Alenia/de Havilland*, 2.10.1991, Case COMP/M.053 [1991] OJ L 334/42, para. 70.
[158] Commission Decision,*Saint Gobain/WackerChemie/NOM*, 4.12.1996, Case COMP/M.774 [1997] OJ L 247/1, para. 244-246.
[159]Commission Decision, *Sanitec/Sphinx*, 1.12.1999, Case COMP/M.1578 [2000] OJ L 294/1, para.109, 114.
[160] Albers, Hacker, in Schröter/Jakob/Klotz/Mederer, Art. 2 EUMR, para.116, 232.
[161] Commission Decision, *Nestlé/Perrier*, 22.7.1992, Case COMP/M.190 [1992] OJ L 356/1.
[162]Commission, Guidelines on the assessment of horizontal mergers (2004), OJ C 31/5, para.72; Commission Decision, *Sanitec/Sphinx*, 1.12.1999, Case COMP/M.1578 [2000] OJ L 294/1, para.109, 114.
[163]Commission, Guidelines on the assessment of non-horizontal mergers (2008), OJ C 265,para.93.
[164]Commission, Guidelines on the assessment of non-horizontal mergers (2008), OJ C 265,para.62, 101.
[165]Commission Decision, *General Electric/Honeywell*, 3.7.2001, Case COMP/M.2220 [2004] OJ C 46/03, para. 376.

merger. Rather, it is for the Commission to prove that those bundling practices lead to an exclusion of competitors from the market.[166]

In its decision in *Procter & Gamble/Gillette*, the Commission concluded that with regard to the bundling rebates scheme at issue that those were predominantly granted by the parties due to enjoyed economies of scale. Procter & Gamble awarded those firms the highest discounts, which enabled Procter & Gamble to re-transfer the scale economies. This was done by purchasing from the most profitable businesses at lowest possible transport costs. This is however harmless.[167]

The last two decision already seem to indicate a shift in as much as efficiencies are evaluated in a specific economic context as neutral instead of negative.

3.4.4 A new approach: Efficiency defence?

In the context of the discussions on a new merger regulation, an explicit efficiency criterion was given some consideration, following the US Merger Guidelines. This should lead to the approval of mergers, which were threatening to impede effective competition due to a dominant position, but where the efficiencies would compensate the expected loss.[168] However, Art. 2 (1) (b) EUMR has not been amended as it constitutes according to the Commission a sufficient legal basis for the consideration of efficiencies.[169]

According to recital 29 of the current EUMR, substantiated and likely efficiencies are to be taken into account as they might compensate the anti-competitive effects of a merger.[170] Questionable is, if this proclaimed policy change has been applied in practice. In *BASF/Eurodiol/Pantochim,*the merger led to a dominant position. Nevertheless, the Commission considered possible efficiency advantages, which would arise for the market.[171]In addition, in *Körsnäs/AssiDomnänCartonboard*, the Commission reasoned its clearance decision with the synergy effects resulting from economies of scope, which were

[166] Case T-210/01, *General Electric v Commission*, 14.12.2005 [2006], ECLI:EU:T:2005:456,para. 469 and following.
[167]Commission Decision, *Procter & Gamble/Gillette*, 15.7.2005, Case COMP/M.3732 [2005] OJ C 139, para.118, 131.
[168]Jones, Sufrin, p. 1214.
[169] Commission Green Paper, Proposal for a Council Regulation on the control of concentrations between undertakings (11.12.2002), para. 60.
[170]Recital 29 to Council Regulation (EC) No. 139/2004 of 20 January 2004 on the control of concentrations between undertakings (EC Merger Regulation).
[171]Commission Decision, *BASF/Eurodiol/Pantochim*, 11.7.2001, Case COMP/M.2314 [2002] OJ C 54/04, para.134, 160.

likely to be enjoyed after the merger. However, in this case, also countervailing buyer power as well as the effective competition in and outside the here relevant carton packaging board market were decisive.[172] Accordingly, doubts about the actual importance of efficiencies remain. Likewise, in *Ryanair/Aer Lingus*, the Commission considered the claimed efficiencies resulting from the merger. The parties concerned argued with cost reductions of Aer Lingus´s operating costs. The Commission dismissed the claim as a general assertion and neglected that the merger would be of sufficient benefit to the consumer.[173] As the merger in fact would have led to a monopoly situation on some routes, this in turn confirms the Commission´s view as set out in its Horizontal Merger Guidelines, that a merger leading to a monopoly market position is "highly unlikely" to be declared compatible with the common market.[174]

In its earlier decisional practice, the Commission was with regard to conglomerate mergers worried about market dominance due to portfolio effects, i.e. gains in market power due to complementary goods or brands, resulting in barriers to entry.[175] However, the Commission now finds an extensive product range completely harmless. On the contrary, this may even be pro-competitive and efficiency enhancing.[176]

4. Conclusion

4.1 Efficiency within Art. 101 TFEU

It can be discussed whether the requirements and conditions to enjoy the exemption of Art. 101 (3) TFEU impose a too high burden of proof on the undertakings concerned. However, it is hard to challenge the Commission´s approach to assess efficiency as the GC will only assess whether the evidence used by the Commission is reliable, accurate and contains all necessary information. Otherwise, the GC will not substitute the economic assessment of the Commission with its own assessment as it consider the complex economic assessment to be

[172]Commission Decision, *Korsnäs/AssiDomnänCartonboard*, 12.5.2006, Case COMP/M.4057 [2006] OJ C 85, para. 57-64.
[173]Commission Decision, *Ryanair/Aer Lingus*, 27.6.2007, Case COMP/M.4439 [2008] OJ C 47,para. 1151.
[174]Commission, Guidelines on the assessment of horizontal mergers (2004), OJ C 31/5, para.84; Jones, Sufrin, p. 1216.
[175]Commission Decision, *Coca-Cola/Carlsberg*, 11.9.1997, Case COMP/M.833 [1998] OJ L 145/41, para.98; Commission Decision, *Guinness/Grand Metropolitan*, 15.10.1997, Case COMP/M.938 [1998] OJ L 228/24, para. 38 and following.
[176]Commission, Guidelines on the assessment of non-horizontal mergers (2008), OJ C 265, para. 104.

the task of the Commission.[177] Accordingly, the Commission enjoys a wide margin of appreciation within its assessment.

The presentation of the above-mentioned decisional practice of the Commission implies a positive picture of the recognition of efficiency gains, in particular by use of economies of scale and scope or network effects. It has to be noted however, that by use of the second criterion, i.e. allowing the consumer a fair share of the efficiency gains, the Commission has a powerful tool to defeat efficiency claims. Accordingly, when presumably not quite convinced, the Commission may neglect not the existence of efficiency gains, but the necessary pass-on to the consumer. The second condition under Art. 101 (3) TFEU suggests a balancing of the positive and the negative effects of the agreement for the consumer so that the benefits at least outweigh the actual or potential negative impact.[178] When or how the pass-on needs to occur is not specified and therefore again leaves a significant margin of discretion to the Commission.

However, economies of scale and scope seem to be widely acknowledged in the decisional practice of the Commission, even though the specific economic terms are not often explicitly used. That does not harm as long as the Commission carries out the underlying economic assessment of the efficiencies. Nevertheless, it might be questionable if a missing proper economic language as used in their Guidelines on the application of Art. 101 (3) TFEU might derive from a missing proper economic assessment.

The more economic approach proclaimed by the Commission nevertheless led to a change in the assessment: Older case law shows a formalistic approach to Art. 101 (1) TFEU and a broad role of Art. 101 (3) TFEU, meaning that a balancing of positive and negative effects was likely conducted under Art. 101 (1) TFEU. This reflects an integrated approach as efficiency partly already was taken into account within the assessment of Art. 101 (1) TFEU. Contrary, in its more recent decisions the Commission seems to conduct the weighing of pro- and anti-competitive effects under Art. 101 (3) TFEU. This reflects the structure of Art. 101 TFEU, stating first the prohibited behaviour and then in Art. 101 (3) TFEU a legal exception, quasi an "efficiency defence". Further, it suggests a broader recognition of efficiencies under an extended assessment within Art. 101 (3) TFEU.

4.2 Efficiency within Art. 102 TFEU

[177]Case T-111/08, *MasterCard Inc. v. Commission*, 24.5.2012 [2012], ECLI:EU:T:2012:260para. 202.
[178]Commission, Guidelines on the application of Article 81 (3) of the Treaty, OJ 2004/C 101/08, para. 85.

The Discussion Paper on the application of Art. 102 TFEU as well as the Guidance Paper on the Commission´s enforcement priorities in applying Art. 102 TFEU suggest that the Commission is trying to apply the more economic approach also within the control of abuses of dominant positions. Problematic is however, that the wording of Art. 102 TFEU does not provide for a base for an efficiency defence. Accordingly, the concept of Art. 102 TFEU allows only for a one-step assessment. This means in turn that possible advantages such as efficiencies would have to be assessed by the Commission directly within the usual assessment of Art. 102 TFEU.[179]

Both the Discussion Paper and the Guidance Paper however seem to indicate an economisation of the assessment as efficiency is to be considered. Yet, the decisional practice and case law does not suggest a positive evaluation of an abusive behaviour under an overall economic analysis. Likewise, a rule of reason approach has not been established. The quasi exclusion of an efficiency defence for predatory pricing shows the narrow limits of a possible justification. Dominant undertakings will be unlikely to fulfil the four cumulative requirements set out, which again raises doubts about the practical importance of the efficiency defence. Also, the justification through efficiency provided in Art. 101 (3) TFEU represents a major impediment for dominant undertakings. Therefore, it is questionable if those narrow possibilities of efficiency defence are compatible with the aim of a more economic approach.[180]

Nevertheless, this already suggests the existence of an emerging concept of objective justification within Art. 102 TFEU. Still, a clear theoretical framework is missing as the language used by the EU courts seems vague. The ECJ nevertheless seems to accept a justification of abusive behaviour following the approach in Art. 101 (3) TFEU.[181] In *Post Danmark* the ECJ stated that the conduct of price discrimination might be justified by efficiency gains. Therefore, those efficiency gains must be likely to counteract anti-competitive effects. They must be brought about as a result of the conduct in question, the conduct must further be necessary for the achievement of those efficiency gains and lastly, it must not eliminate effective competition.[182] This assessment is adopted from the conditions set out in the Commission´s Discussion Paper and Guidance Paper on Art. 102 TFEU, albeit in a different order.

[179] Albors-Llorens, in Common Market Law Review, p. 1727, 1747.
[180] Albors-Llorens, in Common Market Law Review, p. 1727, 1759 – 1761.
[181] Case C-95/04, *British Airways v Commission*, 15.3.2007 [2007], ECLI:EU:C:2007:166,para. 86.
[182] Case C-209/10, *Post Danmark*, 27.3.2012 [2012], ECLI:EU:C:2012:172, para. 42.

Akin suggests a modern approach to the assessment of Art. 102 TFEU, being thereby fully in line with the more economic approach.Accordingly, the cumulative conditions necessary to find an abuse of a dominant position under Art. 102 TFEU would be: i) exploitation, ii) exclusion and iii) lack of increase in efficiency. Thereby, the application of Art. 102 TFEU would come closer to its actual nature and intended use in the preparatory works, as well as with one of the proposed aims of EU competition law, i.e. economic efficiency.[183]

Critics of the Commission claim that the Commission still adopts a formalistic-approach to the application of Art. 102 TFEU instead of one being based on economics despite the intentions. Consequently, there might have been business practices prohibited which did not or even could not have a negative effect on the consumer welfare.[184] For a fact, there is yet to be an Art. 102 TFEU case in which the conduct has been justified on efficiency grounds.[185]

After all, a change has to be noted. Even though Art. 102 TFEU does not entail an exemption, the Commission and the EU courts tried and presumably continuously try to make the application of Art. 102 TFEU more flexible on an ad-hoc basis by use of objective justifications and the efficiency defence.

4.3 Efficiency within the EUMR

Yet, efficiencies have not been given particular importance within the competitive assessment of a merger nor have they been a decisive reason for clearance. Therefore, it remains doubtful whether an efficiency defence will ever be successfully invoked under the EUMR.[186] However, under the old merger regulation No. 4064/89, efficiencies have most likely been used by the Commission as a reason to prohibit the merger in the sense of an efficiency offence. They would only strengthen the market position of the respective undertakings and due to missing competitive pressure there would be no incentive to pass-on any efficiency to the consumer.

The new EUMR and the Horizontal Merger Guidelines however do not resolve this problem. Especially the proof and verification of efficiency gains as well as of the consumer pass-on will remain a difficult task for the undertakings concerned in the future. No merger has been

[183]Akman, p. 8.
[184]Whish, Bailey, p. 175.
[185]Jones, Sufrin, p. 390, 391.
[186]Jones, Sufrin, p. 1214, 1216.

cleared due to an efficiency defence.[187] The introduction of the Guidelines on the assessment of non-horizontal mergers in 2008 provides a slightly more positive picture. The Commission herein states that vertical mergers are less likely to impede effective competition than horizontal mergers. Moreover, vertical and conglomerate mergers would even be able to lead to significant efficiencies, which may be pro-competitive.[188] This implies a positive approach for the recognition of efficiencies and provides a margin for the undertakings concerned to claim an efficiency defence. Nevertheless, as seen above, recital 29 of the EUMR demands the recognition of efficiency also within the assessment of horizontal mergers. The Commission´s concerns formulated in both its guidelines with regard to efficiencies being likely to form market entry barriers, however, indicate still the practice of an efficiency offence within the merger control.

4.4 Overall conclusion and outlook

The foregoing research shows that the use of economies of scale, economies of scope and network effects can involve significant cost savings. They can lead to lower prices, new and improved goods and accordingly to a benefit for the consumer. Therefore, efficiencies are able to increase the consumer welfare standard. The Commission tries to take this into account within its new economic approach. This new approach, set down in various guidelines and guidance papers, enables undertakings to claim efficiencies within the assessment of mergers, abuses of a dominant position as well as in the assessment of competition restrictions within Art. 101 TFEU. The general approach towards a consideration of efficiency leads to the possibility of a case-by-case analysis of the respective relevance of efficiency.

The Commission names productive efficiencies such as the economies of scale and scope in various decisions. Thereby, it can be noted that the assessment of efficiencies within the prohibition on cartels, Art. 101 TFEU, and within the merger control are very similar. The Discussion Paper on Art.102 TFEU and ultimately the Guidance Paper on Art. 102 TFEU enable the recognition of efficiency also within the control of abusive behaviour. The intention towards a stronger consideration of efficiencies is recognisable. Within the merger control, more recent decisions show a positive development concerning the recognition of productive efficiencies. Within the context of the cartel prohibition, also older cases show

[187]Colley, in European Competition Law Review, p. 342 and following.
[188]Commission, Guidelines on the assessment of non-horizontal mergers (2008), OJ C 265, para.11-13.

already that efficiency were of influence. This, however, derives from the legal exemption within Art. 101 (3) TFEU.The discussion of a possible efficiency defence for abusive behaviour according to Art. 102 TFEU is however new. Especially here, it remains to be seen to what extent efficiency will be actually of influence and if the Commission will meet its aim of the more economic approach.

In general it can be concluded, that efficiencies were partly positively taken into account within the assessment of Art. 101 (1), (3) TFEU.The role of efficiency within Art. 102 TFEU is yet not clear as the Guidance Paper formulated by the Commission is relatively new and only further case law will provide some clarity. With regard to mergers, efficiencies are taken into account within an integrated approach as part of the overall assessment of the proposed merger. The Commission nevertheless tends to evaluate efficiencies negatively, thereby using them as a reason to prohibit the merger.The reluctance however to take efficiencies in general positively into account will also result from the difficulty to quantify the claimed efficiencies. Economic models are able to a certain extent to foresee possible outcomes; the actual possible amount of efficiency is nonetheless not precisely ascertainable. In particular, efficiency gains resulting from R&D are especially hard to identify, as innovations often involve a long period until reaching market maturity and they bear the risk of not meeting consumer demands. It has been shown that the Commission enjoys a wide margin of discretion when assessing efficiency. However, as the GC´s judgment in General *Electric/Honeywell* shows, the pure abstract possibility to use efficiency gains to the detriment of competitors is not sufficient to prohibit a merger. It was for the Commission to prove that those bundling practices lead to an exclusion of competitors from the market. Accordingly, also the Commission is restricted in a way that it will have to reason its decision carefully.

This leads to another consideration with respect to the capability of examining the economic background of a conduct. The research study shows that efficiencies require a certain economic understanding of the theory and the respective market situation. Again, as the Commission only sometimes uses economic language, this suggests that a fully proper understanding of the relevant theory is missing.

Further, due to the implementation of Regulation 1/2003 and the therewith-introduced "decentralisation" of EU competition law will involve the risk, that national competition authorities, being now also able to assess cases in certain circumstances, will as well have to apply the more economic approach. However, presumably, also those authorities miss a proper understanding of the economic theory. They will be depended on a more detailed

guideline set out by the Commission. Until then they will most likely be orientated towards the Commission´s decisional practice.

Nonetheless, it is for the undertakings concerned to verify the claimed efficiency. The requirements imposed on them by the various guidelines and guidance papers are enormous. Therefore, it is actually highly unlikely that undertakings, especially within the merger control but also within the control of abusive behaviour, will be able to convince the Commission.

The above considerations therefore lead to the conclusion, that it remains questionable if a certain conduct or merger will be justified by efficiencies. By setting such high requirements however the Commission might not sufficiently consider the economic theory. It is after all competition, which is the long-term driver of efficiency and innovation. Again, not only welfare but also economic efficiency should accordingly be of influence for the applied competition policy.

However, the Commission made its point of view rather clear when it said in its *Mastercard I* decision, that it will not be persuaded "by economic theory alone"[189].

Nevertheless, with regard to the promotion of efficiency and consumer welfare as well as competition within the common market, and the interrelation between those terms just mentioned, a more improved consideration of efficiency, based on sound knowledge, and accordingly a lowering of the high assessment criteria are favourable.

[189]Commission Decision, *Mastercard I*, 19.12.2007, Case COMP/34.579 [2009] OJ C264/8, para. 690.

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