COMPETITION AND REGULATION

• 2020 •

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Editors

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FOREWORD

The Institute of Economics, CERS launched a new yearbook entitled *"Verseny és szabályozás"* (Competition and Regulation) in 2007. Twelve volumes have been published so far in Hungarian. The current volume is the second one in English, and it contains ten selected translations from the harvest of the last four years. It offers the reader a glimpse into the current state of research in the field of competition policy and economic regulation in Hungary.

As the title suggests, the main objective of the publications was to create a much-needed new forum for home-grown Hungarian research on the legal and economic issues of regulation in imperfectly competitive markets. The published studies have covered a very broad range of topics. Some of them were articles of general theoretical and methodological nature, which dealt with the background in the law and economics of regulated markets. Other pieces investigated current legal, economic and policy issues and cases. Others again dealt with regulation and the regulators themselves. The functions, methods, analytical tools, the institutions and the impact of regulation were discussed in those articles. Special attention was paid to regulation by the European Union, and also to recently de-monopolized key industries such as communications, energy, media, the postal sector or water and sewage. More than half of the articles dealt with the problems of key industries. The publications were designed to provide a meeting point for economists and lawyers to work together on the economic background of legal problems and the legal solutions to economic problems. They also had an educational function. In an introductory manner and by relying on timely surveys of recent developments in the analysis of imperfect markets and regulation, articles suitable for educational use have been regularly published.

Over the years, the yearbook has become a major undertaking. Its 71 contributing researchers (53 economists and 18 lawyers) appeared in it as authors or co-authors of 120 articles. 31 of them became recurring contributors, authoring or co-authoring at least two articles. A steadily growing interdisciplinary circle of dedicated researchers has formed around the publications. Interactions among the authors increased over time. Significant lawyer-economist cooperation was demonstrated by the large number of contributing lawyers and articles about legal issues (18 lawyer authors produced 34 such articles), and by the emergence of articles co-authored by economists and lawyers.

Five of the ten articles selected for publication in English in this volume deal with broad economic and legal issues of competition policy, while the remaining five discuss the state and specific problems of key industries in Hungary and, in some cases, in the EU.

The first article, by *T. Gönczöl,* presents the ongoing and constantly evolving debate between the followers of the hipster antitrust approach and their critics. The renewal of competition law enforcement has become one of the focal points of political and professional discussions in the United States. The main critics of the prevailing practice, the so-called antitrust hipsters campaign for bringing back the original goals of American competition law, demand restrictions on the activities of huge corporations of the digital era, even by regulation if needed. The author suggests that it is likely that the ever-changing high-tech industries and innovative companies will, as always, develop newer products and applications that will force law enforcement to a continuous renewal, or at least to a progressive adaptation.

The second article, by *G. Csorba*, addresses the lessons that can be drawn from the European Commission's early 2019 prohibition of the Siemens–Alstom merger and the subsequent industrial policy debate. After reviewing the assessment principles in competition policy concerning mergers and describing the specific merger in detail, it discusses industrial policy proposals for changes and institutional reforms in competition policy. The author explains that although some principles and guidelines in competition policy call for a reconsideration, the fundamental assessment framework works well. Concerning institutional changes, however, the author argues that the proposed industrial policy reforms may restrict regulatory independence and erode the values of professional competition policy assessments, which are strong determinants of long-run welfare.

The third article, by *P. Valentiny,* also deals with the changing relationship between industrial policy and competition policy interventions, but from a historical perspective. One common trait of all the periods was that the changes clearly reflected ideological and political trends and various groups' ability to protect their own interests, and the final result of interventions was often not what was originally intended. The study briefly discusses the periods when monopolies emerged, the inception of competition regulation and the coexistence of competition and industrial policies in the last hundred years and its experiences.

The fourth article, by *B.T. Dömötörfy, B.S. Kiss* and *J. Firniksz,* addresses the prohibition of anticompetitive agreements in EU competition law. Their analysis focuses on the frontier between "by object" and "by effect" restraints. After introducing the main definitions of anticompetitive agreement categories in EU and in the USA, the article provides a detailed analysis of the Opinion of Advocate General Bobek in the Budapest Bank case and the two-step test recommended there. Providing a comparison of the aforementioned two-step test with US experience, the study summarizes the author's views on the ostensible nature of the dichotomy.

The fifth article, by *C.I. Nagy,* poses the question: why is leniency policy less effective in Hungary? Although, in regional comparison, it may appear to be successful, the statistical data shows that it falls behind the European average. This paper makes a comparative snapshot of Hungarian leniency policy in order to establish whether its relative ineffectiveness can be traced back to regulatory factors or to circumstances beyond regulation.

The sixth article, by *Z. Berezvai,* examines the impact of the regulation of the retail sector on competition and consumer prices. Using OECD data, he finds correlation between changes in retail regulation and changes in food prices, which suggests that regulation has an impact on competition between companies, and in turn influences consumer prices. The author looks at two specific regulatory measures: the Sunday shopping ban and the regulation restricting the building of new stores with large floor areas (known in Hungary as the "plaza-stop" act). His findings show that the compulsory Sunday closing had no significant impact on consumer prices during the one-year period the regulation was in effect. On the other hand, while modern retail formats and the penetration of international retail chains significantly reduced consumer prices, establishing entry barriers in retail had an unfavourable effect on consumers materializing in higher prices.

The seventh article, by *Z. Pápai* and *P. Nagy,* deals with the handling of zero-rating in net neutrality regulation as demonstrated by Telenor Hungary *vs* NMHH. An overview of zero-rated offers (services that offer content at zero marginal cost to consumers) is provided: their types, the business rationale for their use and the competition issues they may pose. Through the case of Telenor Hungary *vs* NMHH, the authors assess the economic effects of this business practice on welfare and competition, as well as the questionable economic rationale for prohibiting it. The study comes to the conclusion that the justifications of the European rules on zero-rating are highly dubious, and they are based on assumptions which are not proven empirically.

The eighth article, by *V. Csonka,* deals with the integration of mobile network operators. The author offers an overview of the relevant theoretical models and case law, concluding that network sharing agreements can bring about major static efficiency gains that play a key role in the individual exemption of agreements. This also means that the arguments of merging parties on static efficiency gains might not offer adequate justification for mergers, as the static efficiency gains are not merger-specific. At the same time, from the perspective of dynamic efficiency gains, mergers – given that strong synergies may improve the level of investment – can perform better than network sharing agreements. This means that network sharing agreements can be regarded as an alternative to mergers only to a limited extent. However, the relevant case law also shows that long-term benefits have not been properly substantiated so far, and they are usually not sufficiently demonstrated by the parties for the authorities to take them into full consideration.

As privatisation and deregulation started spreading in energy industries and *ex ante* regulatory interventions decreased, attention focused on the competition policy issues of the sector. The ninth article, by *S. Kováts* and *G. Szabó,* examines the European Commission's competition interventions in energy markets between 2004 and 2019. The authors analyse antitrust and merger procedures according to the competition concerns investigated and the competition interventions applied. Antitrust investigations often focused on market foreclosure and market sharing; to address these concerns, the Commission frequently concluded cases with commitment decisions, applying both behavioural and structural remedies. In merger control, one merger was prohibited and remedies were applied in ten cases.

For years, the Regional Centre for Energy Policy Research at Corvinus University of Budapest has been modelling European regional electricity and gas markets. The last article, by *P. Kotek, A. Selei* and *B. Takácsné Tóth,* is based on the modelling carried out in 2015. This article is still timely today. The authors analyse the impact of the Nord Stream 2 gas pipeline on the wholesale prices of European countries and the European gas market competition. It is also inspected how the expected return of infrastructural projects planned in the East-Central European region is impacted by this new development. According to the results, the expansion of Nord Stream – due to the modification of the long-term contracted transmission routes – will reduce those capacities that enable the region to access liquid Western gas markets. This will increase the current spread between the Eastern and Western European prices, hindering the integration of gas markets. On balance, the welfare impacts of the expansion will be negative, and most of the drop in welfare will have to be endured by East-Central European consumers and system operators. The analysis also shows that the East–West bottlenecks that are likely to arise due to the modification of the long-term contracted routes will warrant the construction of new transmission paths, requiring almost one billion euros of supplemental investments within the East-Central European region. In September 2019 the European Court of Justice ruled that allowing the redirection of Russian flows to Nord Stream does harm European solidarity.

The editors

COMPETITION POLICY

• *Tünde Gönczöl* •

ANTITRUST HIPSTERS AND THEIR CRITICS

The renewal of competition law enforcement has become one of the focal points of political and professional debates in the United States. The main critics of the prevailing practice, the so-called antitrust hipsters campaign for bringing back the original goals of American competition law, and demand restrictions on the activities of huge corporations of the digital era, even by regulation if needed. This paper presents the ongoing and constantly evolving debate between the followers of the hipster antitrust approach and their critics.

INTRODUCTION

According to the Cambridge English dictionary, "*hipster*" means "someone who is very influenced by the most recent ideas and fashions".[1] This expression also describes the contemporary subculture formed typically by the urban youth, who would like to distance themselves from the mainstream both in fashion and their behaviour (trying to achieve this goal by combining vintage fashion with the latest trends).

In the world of antitrust law, "hipsters" are those, who criticize the currently prevailing (mainstream) approach in the enforcement of competition law, particularly in the United States, i.e., the consumer welfare paradigm related to the Chicago School of economics. These antitrust hipsters suggest that American law enforcement return to the practices of the time before the Chicago School.[2]

Antitrust hipsters claim that antitrust enforcement should not concentrate only on the effects on consumer welfare when it comes to pricing, but it should also consider those other aspects which were considered by the state men creating the first antitrust law, the so-called Sherman Act: mainly macroeconomic goals, such as eliminating the huge differences in wage levels, decreasing the level of unemployment, and raising the salaries.

[1] https://dictionary.cambridge.org/dictionary/english/hipster.

[2] The Chicago School expression refers to the American neoclassical economics doctrine represented by Richard Posner and Robert Bork. According to the Chicago School, the purpose of the enforcement of antitrust law, and thereby the maintenance of economic efficiency, is securing consumer welfare, i.e., the protection of competition instead of competitors.

According to the followers of the hipster antirust movement, these goals could be achieved if the law enforcement concentrated again on the maintenance and creation of the competitive market structures, even by using new regulatory tools. To put it simply, the more competing companies in a market, the better.

For this very reason, this approach is also called the "new anti-monopolist movement" or, even more frequently, the "new Brandeis movement" (as also the followers of the movement often refer to themselves) after Louis Dembitz Brandeis, one of the judges of the Supreme Court, who fought amongst all against the creation of trusts and monopolies. Brandeis was convinced that monopolies become inefficient and less innovative, they might abuse their power against their employees, and they might gain political power and, as a result, even threaten democracy by the means of their economic concentration (*Brandeis* [1912]).

The term "hipster" started to spread in a pejorative meaning instead of referring to the honorable name of judge Brandeis. The expression was used for the first time on Twitter by Konstantin Medvedovsky, a New York lawyer specialized in antitrust cases. Later, others also started using it, and it became widespread, thanks mainly to Senator Orrin Hatch[3] who, in 2017, despite having spoken up against high-tech monopolies at the end of the 1990s, called the new antimonopoly-movement a paranoid theory against huge corporations.[4] Meanwhile, the term *"hipster antitrust"* became widely used in conferences as well as in scientific and press articles. Therefore, in my paper, I am going to call the movement "hipster antitrust" but without any pejorative sense.

THE BACKGROUND OF THE FORMATION OF THE HIPSTER ANTITRUST MOVEMENT

Nowadays, we tend to associate the new challenges of antitrust law enforcement to the market power of leading high-tech corporations of the digital market, such as Amazon, Google, Facebook or Apple, but the professional and political debate started from a more general level in the United States, dealing not only with digital markets. Several approaches emerged, identifying different problems and partly suggesting different solutions. In this paper, I am focusing on digital markets and presenting mainly the hipster antitrust approach but, where it is deemed necessary, I am also referring to other views represented by other movements. These movements also raise objections to the use of the consumer welfare paradigm or the

[3] Orrin Grant Hatch was a Republican senator (he announced that he would not run again in 2018 and he retired in 2019). He represented the Utah State and he was one the most important supporters of Donald Trump, and participated in the implementation of Trump's tax reform in 2017 (https://www.britannica.com/biography/Orrin-Hatch).

[4] https://theintercept.com/2017/08/07/orrin-hatch-the-original-antitrust-hipster-turns-on-his-own-kind.

prevailing theory in the enforcement of antitrust law, but they are not considered as part of the hipster antitrust movement.

U.S. politicians started to focus on the renewal of antitrust law enforcement again after several studies had been published presenting the growth of concentration and the strengthening of market power in a number of industries, and concluding that the inequality of incomes had been growing in the United States.[5] Even though these studies do not blame or do not exclusively blame the enforcement of antitrust law for the negative trends described (as they do not even deal with 'relevant markets' in terms of competition law), other authors tend to refer to these researches in their publications when criticizing antitrust law enforcement. Besides, other articles were also published that identified the growth of concentration on markets defined in accordance with competition law criteria, and directly related the lessening of competition to the "weakening" of antitrust law enforcement (*Abdela–Steinbaum* [2018]).

The Democratic Party has made part of its program the enhancing of competition and the reduction of the concentration of corporations, and has been promoting the strengthening of antitrust law, urging the return to its original goals.[6] The Party established the Antitrust Caucus with the aim of fighting against trusts both by the means of legislation and enforcement, returning to the "big is bad" philosophy and the credo of judge Brandeis, assuming that the concentration of economic power might lead to the concentration of political power and, therefore, threatens democracy in the long term.[7] The Democratic Party's twitter site proves that this politics is well supported.[8]

One of the Democratic Party programs, named Better Deal, also includes fighting against monopoly and the abuse of political and economic power. The components of the antitrust program of Better Deal are the strengthening of the scrutiny of mergers, the examination of post-merger effects with the implementation of correctional measures if needed, and the creation of a competition law "ombudsman".

Concerning the scrutiny of mergers, according to the Democratic Party, investigations should be re-focused to long-term effects instead of the current practice of focusing on only short-term effects. Namely, it should be taken into account whether mergers result in lower incomes or poorer quality, restraining access to certain services, hindering innovation, reducing the competitiveness of small enterprises etc. This approach specifically refers to the role of the examination of consumer

[5] According to the critics of the hipster antitrust movement, the writings of *Furman–Orszag* [2015] and *de Loecker et al.* [2018] are the ones most frequently cited in order to prove this. See: *Wright et al.* [2018].

[6] See *Rolnik* [2016] on the blog of Pro Market.

[7] The relationship between economic and political power and the doctrine that a democracy cannot function without a free and competitive economy have always been important in the United States. This thinking also appeared early in Europe, at first in Germany in Freiburg, based on the theses of ordo-liberal economic politics (see *Tóth* [2015] pp. 24–26).

[8] https://twitter.com/antitrustcaucus.

data both from the perspective of the lessening of competition and the protection of data privacy. Those mergers that exceed a certain company size should be presumed illegal and the merging companies would have the burden of proof of the advantages of the merger.

The monitoring of post-merger effects should be introduced because, even if the merger had been presumed to have positive effects at the time of the transaction, the changing economic and market circumstances might result in a situation where the effects favorable for competition no longer occur, therefore competition decreases. In such a case, the enforcement agencies should react with corrective measures if they find evidence for the abuse of market power.[9]

Finally, the Democratic Party suggests the creation of the position of a consumer competition advocate (a kind of competition ombudsman). The duties of the competition "ombudsman" would be the continuous monitoring of the markets, conducting market surveys, and collecting the complaints of the consumers based on which the ombudsman would make suggestions to the U.S. antitrust authorities, i.e. the Federal Trade Commission (FTC) and the Department of Justice (DoJ), to launch investigations. The recommendations of the ombudsman should be published and the enforcement agencies would have to justify why they refrain from opening an investigation despite of the recommendation of the ombudsman. Besides, the ombudsman would frequently publish the data gathered on market concentration and the abuse of market power.[10]

Even though it would be interesting to elaborate further on this broader context, I will rather examine the questions more closely connected to the current mainstream enforcement of competition law. I will only cover to the extent necessary to my topic those concepts that would put antitrust law enforcement to the service of other sociopolitical goals going beyond the classical competition policy goals.

Firstly, in order to make apparent how the debate about the hipster antitrust movement evolved, I will briefly describe some of the features of the U.S. competition law enforcement. Secondly, I will present Lina Khan's[11] paper, *Amazon's*

[9] In the original: *"abusive monopolistic conditions".* Unfortunately, the meaning of this expression stays unexplained in the program. Therefore, it is not clear what kind of abuses should trigger enforcement, or if action should already be taken when the existence of market power is proven, or only if a monopoly is created.

[10] The authentic political nature of the Better Deal program is characterised by the suggestion that the reports of the competition law ombudsman would include demographical analyses that would describe the *"impact of market concentration on communities of colour"* (*Better Deal* [n. d.]).

[11] Lina Khan graduated at the Williams College in political theories, and she got her law degree at the University of Yale in 2017. She deals with the research of competition policy and law. She was engaged, among others, with the Open Market Institute. At the time of the original publication of this paper, she worked as a legal fellow for Rohit Chopra, one of the commissioners of the U.S. competition watchdog, FTC. Currently she is an associate professor of law at Columbia Law School, where she teaches and writes on antitrust law, infrastructure industries law, and the antimonopoly tradition.

Antitrust Paradox (*Khan* [2017]),[12] which is considered revolutionary by many, and which indeed brings up important questions regarding law enforcement. Then, I will briefly present the solutions for the renewal of antitrust law enforcement suggested by the followers of the hipster antitrust and other movements. Finally, I will present the main criticism that questioned the findings and conclusions of the hipster antitrust movement, and also raised doubts about the suggestions of other new trends. My goal is to summarize the current situation of the debate.[13]

SOME FEATURES OF U.S. COMPETITION LAW

The competition law of the United States has a long history, being a hundred years ahead of many European countries in the enforcement of antitrust law. It is also important to emphasize that precedents are a source of law in the Anglo-Saxon common law system, the content of law is matured during its enforcement, and the changing social and economic circumstances are tackled, instead of new legislation, by the adaptation of law enforcement.

When the legislative body of the United States, the Congress, passed the Sherman Antitrust Act in 1890, its main goal was to step up against trusts and avoid the creation of further ones. The law declared illegal the *"restraint of trade or commerce"* or, as simply called, cartels, and *"to monopolize any part of trade or commerce"*. Then the Clayton Antitrust Act in 1914, and later the Robinson-Patman Antitrust Act,[14] modifying the former in 1936, declared illegal price discrimination, exclusive agreements and tying practices if they resulted in the reduction, restraint or prevention of competition, or the development of monopoly. The Clayton Act introduced merger control in a similar spirit, prohibiting mergers that might lead to the significant lessening of competition or the creation of monopoly.

It is obvious that these laws basically focus on free trade and the protection of competition as a process and the maintenance of markets with many or at least several players. They were created in order to protect small market players possessing very little market power. Indeed, these laws do not mention consumer welfare or efficiency, but they try to prevent that any market player together with others or, if possessing sufficient market power, unilaterally conduct a behaviour or market practice that might result in the exclusion of other players, hindering the entry of new competitors, or reducing the freedom of competition.

Accordingly, U.S. courts enforcing antitrust law did not apply a standard economic approach during the first half of the 20th century. Instead, they tried to apply

[12] The paper was published in the Yale Law Journal in 2017 and it has significantly influenced the scientific debate on the competition law dilemmas raised by digital platforms.

[13] This paper was originally published in March 2019.

[14] The text of the U.S. antitrust laws can be found at DoJ's website (*DoJ* [2017]).

antitrust laws in the framework of general legal principles, such as contractual freedom, in view of the different micro- and macroeconomic goals which were followed while creating the antitrust laws.[15]As a consequence, they intended to maintain free trade and thereby protect competitors, in many cases condemning behavior that might have had only very little influence on the market.[16]

The economics of antitrust regulation started its real development from the 1950's and 1960's, first thanks to the work of the Harvard School,[17] focusing on preserving competitive market structures, then that of the Chicago School. The views of the latter, focusing on consumer welfare and efficiency, became widely accepted by the 1980's, and American courts also started to follow this approach more and more, leaving behind the approach that concentrated on market structure and the number of participants and thus often led to simplification. As a result, the economic background of U.S. antitrust law enforcement became more solid and the law enforcement itself became more predictable. The currently prevailing economic approach brought along a distancing from the "original" goals which had been formulated in the Congress during the creation of antitrust laws, for example the protection of small enterprises and employees, or the elimination of the inequality of incomes.

It may seem that the hipster antitrust movement rightly claims that the original legislative intention was not limited to the efficiency-based maximization of consumer welfare. It is indeed hard to imagine, or may even be excluded, that the 19th century legislators would have, in an intuitive way, applied economic theories appearing sixty years later.[18] It is more probable that they regarded free competition as a process or even a self-regulating process as being the guarantee for the proper functioning of the capitalist economy. Besides, as politicians, they naturally kept their eyes on the actual interests of their voters (for example, the protection of small enterprises against trusts).

It is the strength of U.S. legislation and law enforcement that the laws are still applicable today although they were made more than 100 years ago under completely different economic and social circumstances. This is because courts are capable of adapting the law to social changes or, in case of antitrust laws, to evolving economic theories in a way which maintains the essential purpose of the law while responding to the actual social and economic challenges.

[15] It is beyond the scope of this paper to describe the U.S. antitrust law enforcement in the 20th century and the changes in the concept of competition, and especially in the interest to be protected by competition law. In this respect, this paper refers to the essay of *Giocoli* [2018].

[16] This case law is summarized by, for example, Csongor István Nagy's English language book (*Nagy* [2013]).

[17] The economic school related to the Harvard University claims that competition law's mission is to prevent market concentration even if concentration led to a reduction in costs and prices. They claim that competition works properly if there are many, possibly small market players in the market, while market concertation motivates companies for anti-competitive cooperation or other practises restricting competition. The Harvard School invented the structure-conduct-performance model to describe this kind of operation of markets (see below).

[18] See below Tim Wu's opinion (*Wu* [2018] pp. 6–7.).

It is a feature of the common law systems that there is no need for the continuous amendment of the laws which are often formulated on a general level, written law offering only a framework for the judicial law enforcement. As a result, any goals originally pursued by the legislator will not be relevant for law enforcement if the social or economic development explodes those original goals. Nevertheless, the U.S. courts may deliver judgements that do not handle appropriately a given anti-competitive situation, but it does not mean that it would be necessary to return to the former, i.e. the original, legislative goals.

It is also characteristic for the U.S. legal system that an antitrust case will only be ruled by the court if an interested party or, in the public interest, the FTC or the DoJ bring a suit against a company. In light of this, the question may well arise whether the authorities has become too lenient and see no reason for bringing more actions, or they are not able to solve certain problems under the current legal framework and do not trust that they could be successful before the courts under the prevailing consumer welfare paradigm.

THE MAIN CRITICAL FINDINGS OF THE HIPSTER ANTITRUST MOVEMENT: LINA KHAN'S ESSAY

Maybe it is not an overstatement that the debates on the reformation of antitrust law enforcement switched towards competition law challenges generated by high-tech industries and online platforms after Lina M. Khan's essay, *Amazon's Antitrust Paradox* was published in 2017 (see *Khan* [2017]). This paper concludes, after analysing Amazon's business policy and market conduct, that certain firms, in particular those giants which operate in the digital market, are gaining ever more market power with the aim of or by means restricting competition. According to Khan, it is possible because today's consumer welfare focused competition law enforcement is unable to handle this phenomenon. The paper suggests that it is necessary to break away radically from the approach of the Chicago School[19] and return to the achievement of the original, more complex goals of antitrust law. Besides critical observations, the paper also suggests regulatory solutions.[20]

In the next sections, I will present the hipster antitrust approach based on Lina Khan's essay because the criticism Lina Khan conceived mostly covers the main tendencies of the hipster antitrust movement.

[19] The title of the essay is already an allusion. It refers to a book of great influence, *The Antitrust Paradox,* written by one of the main representatives of the Chicago School, Robert H. Bork, and published in 1978. In his book, Bork criticised the contemporary antitrust law enforcement and set the ground for the view that the original aim of antitrust law, by the means of the protection of competition, is the protection of consumer welfare and not that of competitors (*Bork* [1978]).

[20] In another paper published in 2018, Lina Khan summarized her views on the market power of high-tech companies, this time including not only Amazon but also Google, Facebook and Apple, and she further refined her recommendations (*Khan* [2018*a*]).

Starting-point: the Criticism of the Chicago School and Competition Law Enforcement with a Focus on Consumer Welfare

Even though Amazon operated with a loss of profit for years, nowadays it obviously dominates the online retail market with a nearly 50% market share in the United States, allegedly due to its loss-making pricing policy. Meanwhile, the company has also become vertically integrated with the help of acquisitions and by expanding its own activity, and thereby it was able to extend its alleged market power to markets adjacent to the retail markets. According to the hipster antitrust approach, this growth and market position is harmful in itself, and it would be necessary to prevent such market power by the means of the competition law.

In Lina Khan's view, the current U.S. law enforcement is unable to 'stop' Amazon because the authorities and the courts, following the Chicago School approach, concentrate solely on the effects on consumer welfare, and their analyses are highly price-focused. Price theory and the analysis of effects on prices have become dominant, instead of examining the question whether competition will be reduced due to the change of the market structure (both in case of mergers and anticompetitive conducts), or whether the market structure itself can lead to anti-competitive behaviour. Price-focused analysis results in dealing with market entry barriers inadequately. This tendency definitely prevails in non-merger cases.[21]

The proponents of the hipster antitrust approach strongly criticise the ruling theories regarding predatory pricing and vertical integration (*Khan* [2017] pp. 722–736). According to the Chicago School, this kind of conduct nearly never results in the loss of consumer welfare.

Although predatory pricing was considered illegal until the middle of the 20th century in the United States, it changed by the 1990's when the so-called recovery test was worked out, due to the spread of the economic approach, which increased the standard of proof for the plaintiffs bringing an action based on competition law. According to the test, predatory pricing could only have anticompetitive – foreclosing – effects if the firm using the predatory pricing policy can continue pricing below price long enough[22] to make its competitors leave the market, after which it is able to regain the losses by raising the prices, i.e., the financial sacrifice, its short-term profit loss can be recovered.

[21] Lina Khan admits that merger scrutiny is not strictly limited to the examination of price effects but also takes into account entry barriers and the effects on innovation (*Khan* [2017] pp. 721–722).

[22] According to the case law, based on the prevailing economic theory, pricing below the average variable cost should be considered as illegal, while in case of the price level being between the average variable cost and the average total cost the company has the burden to prove that its pricing does not aim at foreclosing competitors. It is noteworthy that in Europe predatory pricing is prohibited only if applied by undertakings holding a dominant position. As opposed to this, in the U.S., the emphasis is put on foreclosure, i.e. the lessening of competition, and a given conduct may be declared illegal even in the absence of market dominance.

Naturally, this summary is a simplification; the economics of predatory pricing is much more complex (see, for example, *Motta* [2004] pp. 412–441), but the main point is that the current legal practice is unacceptable for the supporters of the hipster antitrust approach. They specifically debate that, for finding a conduct illegal, it must be proven that the company will be able to raise prices immediately after the short-term loss of profit. They emphasize that the aim of predatory pricing is not only to make way for a future price raise, but also to threaten potential new entrants, especially if the company (e.g. Amazon) is able to compensate its profit loss in other markets (for example, the profit loss generated by the low retail price of books may be recovered from publishers). It is worth noting that the critical observations of the followers of the hipster antitrust movement is not without merit; in the meantime, the theory of economics also exploded the original thinking of the Chicago School, and even law enforcement tried to react to the strategies of predatory pricing in different markets (see, for example, *Valentiny* [2004] pp. 28–33).

The hipster antitrust movement criticizes the theory and case law regarding vertical integration and vertical mergers even more strongly. Vertical integration was also considered anti-competitive until the middle of the last century, but this approach has changed after the doctrines of the Chicago School had been accepted. According to the Chicago School, vertically integrated firms offering supplementary products have no interest in rising the price of one product because this would decrease the demand for the supplementary product. Therefore, it is more likely that the aim of vertical integration is the exploitation of efficiencies rather than the extension of market power to a neighbouring market. After this approach became the norm and courts started to examine vertical mergers on this basis, remedies were mostly limited to behavioural obligations or sometimes divestiture, but vertical mergers have hardly ever been prohibited.

Contrary to the above, according to the hipster antitrust approach, it is harmful to the competitive process if a firm is able to enter another market for a product complementary to its own existing products and to distract customers from the players of this other market, while those customers directly compete with the integrated firm. In Amazon's case, retailers who compete with Amazon but use Amazon's platform for their retail activity also use Amazon for deliveries, and thereby Amazon distract customers from other delivery providers.

Based on the above-mentioned considerations and mainly observing the features of digital markets, the hipster antitrust movement demands a paradigm shift, claiming that the current theoretical framework is not able to tackle today's competition law concerns. For the antitrust hipsters, it is an important aspect that originally antitrust law, instead of concentrating solely on consumer welfare effects, followed more complex socio-political goals, which shall be achieved by free competition, open markets, and more competitors. This not only guarantees a fair price level, but quality, innovation, choice and variety as well as the maintenance of wage levels and the elimination of wage inequalities, and finally the maintenance of democracy.

The followers of the hipster antitrust movement are convinced that this approach is in line with the original legislative intention in case of all three of the Sherman Act, the Clayton Act, and the Robinson-Patman Act.

In this way of thinking, it is an important factor that antitrust enforcement is necessarily an *ex post* intervention, only occurring after harm had already been done, i.e., after the firm having market power had already distorted competition. The classical U.S. antitrust – that is antimonopoly – law enforcement tried to prevent the development of market power. This approach was left behind due to the influence of the Chicago School, which was more afraid of the harmful impacts of too much intervention, the so-called *false positive,* potentially hindering efficiency, than from the so-called *false negative*, i.e., that an anticompetitive conduct could prevail in the absence of intervention.[23]

According to the hipster antitrust movement, it would be necessary to return to the original goals, and focus on the competitive process as such, instead of limiting the analyses to prices and consumer welfare effects. Hence, it would be necessary to maintain a healthy competitive structure in all markets where possible, that is, to maintain the market presence of smaller players and the continuous entry of new players because they prevent concentration. This market structure also guarantees a fairer distribution of goods.

The hipster antitrust movement does not necessarily advocate the return to the structure-conduct-performance model worked out by the Harvard School,[24] but antitrust hipsters emphasize the determining role of the market structure. They suggest that, in practice, several factors should be examined instead of the mono-focused, i.e., price-focused analysis in order to determine whether the market operates competitively, and whether it is sufficiently open.[25] These factors are entry barriers, the potential conflicts of interests,[26] the creation of bottlenecks, the disposal over big

[23] A false-positive situation is one in which we act under an assumption that later turns out to be wrong. In competition law enforcement, this means unnecessary intervention and, in many cases, the prevention of actual competitive behaviour. The current general approach is to avoid this situation, that is, better not to intervene in case of uncertainty. In contrast, in the false-negative situation, the original assumption is correct, yet we do not act accordingly, i.e., in the application of competition law, anti-competitive conduct is not prevented by the enforcement agencies.

[24] The structure-conduct-performance model was developed in the 1950s and 1960s in the United States. According to the model, the market structure determines the conduct of the market actors (for example, the firms present in a competing market make pricing decisions in a different way than those acting in a concentrated oligopolistic market, while a monopoly's pricing is likely different from both). Finally, the chosen conduct affects the performance of both the market actors and the economy.

[25] I note here that European competition law enforcement is still closer to the Harvard School than to the Chicago School. Among others, the Hungarian Competition Authority also applies a refined approach of the Harvard School (see *GVH* [2007]).

[26] Conflicts of interest are to be understood here in the context of vertically integrated companies. Namely, for a vertically integrated company, it may be more profitable to favour its own downstream business or company, and to place its own products in a more favourable position, than to implement competitive neutrality towards its downstream competitors.

data, and the dynamics of bargaining positions. This kind of analysis is considered extremely important in the case of online platforms where, according to their view, analysing only price effects could be misleading, especially considering the role of disposal over and the utilization of data.[27]

Lina Khan demonstrates through Amazon's example that, in her opinion, the currently prevailing antitrust law enforcement is unable or not properly able to react to certain anticompetitive practices or business policies, due to the features of the digital platforms.

Amazon's Example

Lina Khan assumes that Amazon became the dominant retail platform due taking huge profit losses, that is, by sacrificing its short-term profit it started to expand, and strengthened its position in several retail markets by expanding its business portfolio, hence becoming multiply vertically integrated (*Khan* [2017] pp. 746–747).

This kind of growth and the leading role resulting from it had been part of Amazon's business philosophy and strategy from the beginning.[28] In order to reach this goal, besides the aggressive expansion, Amazon also seeks to capture its consumers. Besides pricing under the market price or even below cost, one of these business policy elements was the introduction of Amazon Prime, which provides enhanced delivery and other services for its subscribers in return for an attractive annual fee so low that it generates a loss for Amazon. The level of the service fee is favourable for those subscribers who order from Amazon several times a year. This strategy is supported by the human habit of using a well known platform or the desire to minimise search costs, and it results in customers using the same platforms as a routine rather than changing to another one.[29] As a result of all this, Amazon Prime ties a significant number of consumers to the dominant platform.

Khan considers it an important element of the predatory pricing strategy that Amazon aspires to gain market power even through losses. This is particularly true on those market segments where e-products compete with physical ones, for example as on the book market. Amazon positioned itself rapidly into a dominant position in the e-book market, partly due to its heavy discount policy regarding bestsellers and newly published books in e-format, and partly by marketing the Kindle e-book reader. Purchasing a Kindle has been encouraging the consumers to buy the e-books also from Amazon. Besides, this way Amazon can collect a huge amount of

[27] It is not only the data of Amazon's consumers or the data of purchases from Amazon, but also consumer data from other merchants and purchases of products that Amazon necessarily obtains as a marketspace.

[28] In support of this, Khan cites the first letter addressed to Amazon's shareholders by Jeffrey P. Bezos, the founder of Amazon, in which Bezos talks about the goal sustainable market leadership on the long-term.

[29] Khan also cites relevant researches (*Khan* [2017] p. 753.)

data regarding consumer habits and preferences, due to which it can make tailored offers to its consumers. Although the DoJ investigated Amazon's pricing in the case of *United States versus Apple, Inc.*, it ruled that Amazon's e-book distribution is overall not loss-making, because even though Amazon sells bestsellers in e-format with loss-generating discounts (i.e., below the average market price level), the e-book business as a whole still generates profit. Therefore, the DoJ did not consider Amazon's e-book pricing as predatory by object.

As predatory pricing was ruled out in this case, it has not been analysed whether the losses could be recuperated, i.e., whether Amazon, at a later stage, would have been capable of rising its prices in the e-book market or neighbouring markets. Khan suggests that another serious concern is that Amazon's pricing is not transparent, and Amazon can attempt to apply first degree price discrimination,[30] hence consumers will hardly be able to detect price increases in other market segments (*Khan* [2017] pp. 763–764). Khan believes that, independent of this, Amazon may be capable of regaining its profit loss either with the help of the pricing of the other, less popular and not newly published e-books, or by cross-financing its loss from other markets, like from the market of traditional books. Thirdly, Amazon is even able to cross-finance the losses from the fees paid by the publishers (especially since Amazon's entry into the publishing market increased its bargaining power).

Khan claims that the above-described developments must have led to intervention before the dominance of the Chicago School. She thinks that intervention would even be justified based on the analysis of the consumer welfare loss because Amazon's business policy in the e-book market leads to the reduction of choice in e-books. The reduction of choice is caused partly by the increasing concentration of the publishing market as a response to the increasing market power of online platforms (in particular, as a response to Amazon's market power stemming from being dominant both in the e-book and traditional book markets, which makes Amazon an indispensable market actor for publishers).

According to Khan, Amazon has a well-construed business policy consisting of multiple elements in order to establish and sustain its market power on the long term. The main elements resulting together in the restriction of competition are predatory pricing, cross-financing losses caused by predatory pricing from other markets, price discrimination enabled by the use of the huge amount of consumer data, and prioritizing Amazon's own products. Naturally, all this would be impossible without vertical integration.

Khan emphasizes that Amazon tries to enter more and more neighbouring markets (that is exactly how the ominous trusts were created in the second part of the 19th century). By today, Amazon as an online marketplace has practically become an

[30] First-degree or perfect price discrimination occurs when a company is able to charge each consumer the price that the particular consumer is still willing to pay, i.e. the reservation price for each consumer.

infrastructure which provides the most important platform for the market presence of its retail rivals. Besides, Amazon has established its own delivery and logistics business, provides financial services, offers loans, operates as an auction house, publishes books, produces TV shows and films, etc.[31] One of the important elements of this business policy was that Amazon simply acquired those smaller firms that could have entered the vertically related markets as mavericks and could have posed a real challenge. The enforcement agencies were unable to hinder these acquisitions as they either not even fell under the merger notification requirements (because the targeted firms were under the critical size), or a significant lessening of competition could not be demonstrated in the relevant markets (at least on the basis of the currently prevailing law enforcement considerations and theories) (*Khan* [2017] pp. 754 and 768–774).

These acquisitions were at times rather aggressive. Khan recalls how Amazon tried to acquire Quidsi, one of the fastest increasing online retailers selling baby products. When turned out that its owners did not intend to sell Quidsi, Amazon started to sell its own baby products at such a low price that left no other choice for Quidsi's owners than to sell the firm to Amazon. This merger was scrutinized by the FTC both under the merger provisions of the *Clayton Act* and the unfair competition rules of the *FTC Act*,[32]and it found that it is not necessary to hinder the merger. In contrast, Khan views this merger case as a good example showing that the Chicago School approach is no longer capable of handling the anti-competitive conducts of online platforms. She claims that Robert Bork's theory failed which held that the firms pricing below cost were not able to acquire their competitors following the price war because this would, by definition, create a monopoly which would be prohibited by the enforcement agencies. If no entry barriers exist on the market, this strategy fails due to this because there would be potential new entrant continuously threatening the newly born monopoly (*Khan* [2017] p. 771).

Khan suggests that this theory fails in the world of online retailing because it cannot take into account the features of electronic commerce. One of these features is that the entry to the market of baby products seems to be easy, but online retailing only works successfully if it can connect many and more sellers with many and more

[31] The amazon.com website currently [*at the time of writing the original paper*] lists 35 different services/websites that Amazon offers partly to consumers, partly to other merchants, service providers, that is, to its competitors: 6pm, Abe Books, ACX, Alexa, Amazon Advertising, Amazon Business, Amazon Drive, Amazon Inspire, Amazon Music, Amazon Rapids, Amazon Second Chance, Amazon Web Services, AmazonGlobal, Audible, Book Depository, Box Office Mojo, ComiXology, CreateSpace, DPReview, East Dane, Fabric, Goodreads, Home Services, IDBbPro, IMDb, Junglee.com, Kindle Direct Publishing, PillPack, Prime Video Direct, Shopbop, Souq.com, Subscribe with Amazon, Withaoutabox, Woot!, Zappos.

[32] The law which was accepted in 1914, in addition to establishing the U.S. Competition Authority, the Federal Trade Commission, contains substantive provisions that allow intervention against unfair and deceptive commercial practices: (*"to prevent* […] *unfair methods of competition* […] *and unfair or deceptive acts or practices in or affecting commerce"*). https://uscode.house.gov/view.xhtml?req=granuleid%3AUSC-prelim-title15-chapter2-subchapter1&edition=prelim.

customers. This is where it is quite hard to compete with Amazon because it would require a huge investment to build a similarly strong brand. In the online world, the search costs are high for consumers but Amazon, to tackle this, can exploit the network effects to its advantage.

Khan analyses another interesting example about the expansion of Amazon to the delivery and logistics markets. In Khan's view, Amazon achieved to receive significant discounts due to its market power and bargaining power towards delivery and logistics firms. These delivery firms could only compensate the discounts offered to Amazon by setting higher fees for Amazon's competitors, namely the smaller independent retailers. Altogether, Amazon's costs have decreased while the costs of its competitors have increased and, obviously, those competitors must apply higher prices towards consumers. In addition to that, Amazon has launched a delivery and logistics service offered to other retailers at a price lower than those applied by the independent delivery firms. Finally, Amazon started to construct its own logistics business.[33] According to Khan, this type of expansion enables Amazon, on the one hand, to apply tying or bundling practices, i.e., to provide more favourable conditions to those retailers who also use Amazon's delivery service, and on the other hand, to apply practices driven by its presence in vertically related markets, such as the prioritizing its own products (e.g. provide a faster delivery service than the one offered to its competitors).

Finally, Amazon, as the indispensable marketplace infrastructure for online retailers, can use the data related to the sale of its competitors' products for strengthening its own market position. Similarly, it can exploit information unavoidably received from the firms having a business relationship with Amazon. One way of exploiting those data, by analysing consumer habits and preferences, is to make tailored offers and even customized prices or, seeing the success of another retailer's product, to roll out with a similar product (*Khan* [2017] pp. 780–782). That is why Khan much welcomed that the European Commission scrutinized the Facebook/WhatsApp merger in 2014 from the perspective of the exploitation of big data.[34] Another way of the exploitation of data appears on a higher level: Amazon makes investment decisions based on the information obtained from the start-up firms using its cloud services (*Khan* [2017] p. 783).

[33] See the news about that: https://www.wsj.com/articles/amazon-to-launch-delivery-service-that-would-vie-with-fedex-ups-1518175920; https://www.ttnews.com/articles/amazon-logistics-seen-way-owning-delivery-business; https://www.ttnews.com/articles/rise-amazon-logistics.

[34] The European Commission investigated the question of data concentration from two aspects. Firstly, if Facebook were able to match its own user profiles with the profiles of WhatsApp in order to exploit network effects. Secondly, from the perspective of the online advertising market, whether Facebook become able to acquire competitive advantage in the advertising market by collecting data from WhatsApp users following the merger. (Case No COMP/M.7217 – Facebook/WhatsApp) An interest aspect of this case is that the European Commission fined Facebook in 2017 because, according to the Commission, Facebook provided misleading information to the Commission about matching the user profiles. (Case 8228 – Facebook/WhatsApp)

In Khan's opinion, the above mentioned business policy of Amazon serves the purpose of generating strong network effects through which Amazon becomes indispensable as an online platform.[35] This effect is supported by the disposal over big data. It is particularly true for the online marketplaces because they operate as two sided markets. The more sellers it has, a marketplace is more attractive for the consumers, and the more customers it has, it is more attractive for the sellers. A marketplace, if disposing over nearly an unlimited amount of data, can make tailored offers to both the consumer side and the seller side, and can possibly capture both sides. When Amazon is launching products, based on the data collected from the of products, which other retailers introduced on Amazon's marketplace and which proved to be successful, Amazon is freeriding on the original risk-taking of those retailers. Khan believes that Facebook abuses its access to data similarly, when it is monitoring traffic directed towards rival social networks or other applications, and if Facebook finds that the rival threatens its position, it either tries to acquire the rival or develops a similar app that starts to compete aggressively (*Khan* [2018*a*] pp. 330–331).

At this point, it is to be noted that, beside antitrust hipsters, others also have concerns about digital platforms that gain market power through the possession and use of data. Following some European and especially the EU interventions, it was also raised in the U.S. that action should be taken against *"data-opolies".* For example, Maurice E. Stucke,[36] who is not considered to be the follower of the hipster antitrust movement, suggests that instead of the hypothetical monopolist test *(small, but significant, nontransitory increase in price, SSNIP)* a hypothetical data privacy reduction test (*small, but significant, nontransitory decrease in privacy protection, SSNDPP*) should be introduced. This test would 'measure' how digital platforms collect data on a large scale and not in line with purpose limitation, i.e. not limited to the legitimate purpose for which the data collection should be happening (*Stucke* [2018] pp. 287–288). Stucke agrees that the data could, at a later stage, be used for anti-competitive goals, for example by prioritizing the digital platform's own services, or by hindering the development of rival applications and innovations that would threaten the market position of the given digital platform (*Stucke* [2018] pp. 303–307).

According to Khan, predatory pricing is indeed a rational decision in order to conquer the whole market. Besides Amazon, Uber serves as another example for this, which became a dominant platform in its own market in a very similar way. As further evidence, Khan mentions the investors' unbroken interest in both Uber and

[35] Obviously, the issue of network effects is not novel, but it may not be an overstatement that this question is critical in the world of social media and electronic marketplaces. Here, the 'winner takes is all' scenarios happen very easily and, as a result, it becomes very difficult to reach similar network effects, which in turn results in serious market entry barriers.

[36] Maurice E. Stucke is a practicing lawyer, a professor of law at the University of Tennessee and a member of the advisory board of the American Antitrust Institute.

Amazon. No investor would be willing to suffer losses to the extent that allowed Amazon and Uber to gain market share unless investors trusted that these companies were, sooner or later, able to recoup those losses (*Khan* [2017] pp. 787–788). Khan concludes that antitrust agencies in the U.S. are unable to act against Amazon and "its companions" because, on the one hand, the currently prevailing post-Chicago School competition law enforcement is too constrained by the theory and practice of predatory pricing, i.e., the requirement to recover losses in the near future. On the other hand, the approach to vertical integration also poses a constraint, which manifest itself both in the leniency towards vertical mergers and towards market behaviour resulting from vertical integration. All this is supported, in our Internet-age, by the growing importance of data collection and the use of big data: digital giants are further strengthening their market power by controlling information. Khan suggests two possible solutions to these problems: either antitrust enforcement should be reformed and strengthened, or online platforms should be regulated.

SOLUTIONS PROPOSED FOR THE RENEWAL OF ANTITRUST LAW ENFORCEMENT

Representatives of the hipster antitrust approach and other movements advocating the renewal of American antitrust law are similar in terms of what issues and problems they raise, however, there are radical and less radical theories from the perspective of the solutions suggested.

One of Lina Khan's proposal is to strengthen antitrust law enforcement in order to be able to more efficiently intervene in case of predatory pricing and anti-competitive vertical integration (*Khan* [2017] pp. 790–797).

According to her, predatory pricing should be presumed in case of dominant platforms if they are pricing below cost, i.e., the platforms should bear the burden of proof that pricing below cost was not aimed at foreclosing a competitor, or distorting competition. Dominance should also be presumed over a certain market share threshold (Khan suggests 40% as a minimum). Although Khan acknowledges that it may be difficult for courts to determine whether a price is below cost, she believes that this would have less significance. This is because it would be possible for the dominant firm to demonstrate that the below-cost pricing had no anti-competitive objective, but were justified by legitimate interests, such as the response to a competitor's price reduction, the introductory pricing of a new product, or reflecting a reduction of costs.

According to Khan, more thorough merger scrutiny is needed in cases where a digital platform acquiring data in its own market can use the data for generating advantages in a neighbouring market. Her suggestion is that this aspect should not only be analysed in mergers that meet the mandatory notification thresholds, but new rules should be introduced to ensure that mergers that allow the exchange or integration of data are subject to merger notification irrespective of the ordinary thresholds (especially if non-U.S. companies gained access to the data of U.S. citizens). Ultimately, it may even be considered to prohibit by law the mergers that lead to such vertical integration that would result in the vertically integrated firm having an interest in favouring its own downstream business. This statutory prohibition would affect those platforms that have already achieved a certain market share in the upstream market and are attempting to acquire a company with which they compete in the downstream market (*Khan* [2017] pp. 792–793).

According to Lina Khan's other proposal, dominant platforms should be regulated similarly to the regulation of natural monopolies (*Khan* [2017] pp. 797–802).

Regulation may be justified by the fact that, in the case of online platforms, the characteristics of the operation of these markets do not allow for a competitive market structure, just as in the case of certain public services or other infrastructure that is difficult to duplicate. If we accept this conclusion, instead of preventing the creation of a dominant position, which is presumably hard to maintain on the long term, we must switch our focus to preventing *ex ante* the abuse of market power by the dominant company or companies operating in a monopolistic or, in best case, oligopolistic market structure, as opposed to the *ex post* intervention of competition law enforcement. Khan proposes such regulatory classics[37] as the principle of equal treatment, price regulation, and investment or innovation obligations, though she holds the latter two less important. In addition, she would consider structural separation in case of Amazon's business lines that provide services to downstream markets (*Khan* [2017] p. 800). Similarly, in case of Google (or its owner Alphabet), she would separate the apps from the operating system (*Khan* [2018*a*] p. 332). This solution cannot be considered revolutionary, since a similar solution had been implemented in the case of Microsoft, both with respect to search engines[38] and media players.[39]

As an alternative solution, Khan would also envisage an essential facilities type of regulation. According to her, dominant online platforms, in particular Amazon, meet the criteria required by U.S. precedent for mandatorily providing access to essential facilities, i.e., 1) the essential facility is controlled by a monopoly, 2) competitors are unable to duplicate the facility, 3) the monopoly refuses to give access to the facility, and 4) sharing of the facility is feasible in practice. She believes that

[37] In case of public services, such solutions have also been used in the United States, and sectoral regulation has been successfully applied in Europe in the telecommunications and energy industries.

[38] *United States versus Microsoft Corporation,* 253 F.3d 34 (D.C. Cir. 2001). In this case, according to the first instance decision, Microsoft should have separated the application, Internet Explorer, but finally a settlement was reached, and Microsoft facilitated access for users under the same terms to rival search engines through interoperability obligations by providing access to the so-called application programming interface. The European Commission's decision in the same subject matter contained similar obligations/commitments (COMP/C-3/39.530 – Microsoft case).

[39] COMP/C-3/37.792 – Microsoft case. The European Commission obliged Microsoft, among others, to sell its operating system without the pre-installed Media Player, and to facilitate interoperability with other applications.

there is only some uncertainty about the monopoly position but suggests that this requirement has become outworn in the age of the Internet. Today, it is not necessary for a platform to become a *de facto* monopoly but the non-discriminatory access to the platform can still become essential for competitors to be able to remain in the market (*Khan* [2017] p. 802). Khan suggests a regulation similar to the principle of net neutrality: she would oblige platforms to treat equally all commercial transactions going through the platform, thus preventing them from creating a competitive advantage for their own products and services (*Khan* [2018*a*] p. 332).

Finally, Khan added to her regulatory ideas that in case of companies whose business policy is specifically based on data collection and large-scale data use, such as Google or Facebook, it may be necessary to create data protection regulations similar to the European GDPR,[40] thus ensuring that the data collected for a certain purpose cannot be used for other purposes. Furthermore, Khan proposes the structural separation of vertically related activities, such as advertising (*Khan* [2018*a*] p. 333).

Professor Tim Wu, who presents a less radical view,[41] merely suggests that the application of antitrust law should not focus solely on consumer welfare effects when examining a particular conduct, but return to the question: "Is this merely part of the competitive process, or is it meant to '*suppress or even destroy competition?*'" (quoted by Wu from the 1918 *Chicago Board of Trade v. United States* case) (*Wu* [2018] p. 2). Recognizing that this question forms the starting point of law enforcement even now, he suggests that the most necessary change of approach should be that action be taken against any conduct that threatens the competitive process, even if no harmful effect on consumer welfare can be demonstrated. He points out that consumer welfare is an abstract concept, not to be measured accurately, hence it is not a more appropriate basis for the analysis than market structure.

According to Professor Wu, the following simplified questions should be examined in case of a complaint against a conduct: 1) Who is complaining about the conduct: the incumbent or a new entrant, or possibly an aggressively competing maverick? 2) Who is exercising the allegedly harmful conduct: a dominant firm or even a monopoly, or a market actor gradually losing market share, or a completely new entrant? 3) What type of conduct is it: actions that are an integral part of the competitive process, such as offering lower prices, or the launch of better quality

[40] When elaborating on the big data issue, Lina Khan seems to suggest that U.S. law enforcement has not yet dealt with the problem. This is obviously not the case: a discussion has been going on for years about the role of big data, also including competition law implications (see, for example, *Sokol–Comerford* [2016], *Kennedy* [2017], *Wright–Dorsey* [2016]. In the Hungarian language, Pál Belényesi published an article about the role of big data, also discussing U.S. case law, not strictly limited to competition law cases (*Belényesi* [2016]).

[41] Tim Wu is an American lawyer, Professor of the Columbian University, mainly known about his researches on net neutrality. He worked for the Federal Trade Commission. He writes for the New York Times opinion column. His website is at http://www.timwu.org. He is not considered as an antitrust hipster, however, he just as well criticised the consumer welfare paradigm of competition law enforcement.

products, or some potentially anti-competitive behaviour (such as tying, exclusivity clauses, etc.)? 4) Is there any indication of the distortion of the competitive process, for example, a foreclosure effect or other anti-competitive effects, or an increase of the cost of competitors? 5) Does the conduct have any other adverse effect outside the anti-competitive effect, in particular, on political values (*Wu* [2018] p. 9)?

It seems that professor Wu seeks to represent the middle ground between the radical approach of the hipster antitrust movement, its critics and the less radical economic approach, the so-called *post-Chicago School* economists.[42]

The post-Chicago economic school claims that we should move away from the oversimplified economic analysis postulated by the Chicago School, and the more complex economic analyses must be carried out, even if taking the risk of over-intervention *(false positive)*. Thus, the followers of the post-Chicago school – distancing themselves also from the hipster antitrust movement – suggest that neither is it necessary for competition law enforcement to return to previous paradigms, nor it is justified to consider aspects unrelated to competition, but it would indeed be necessary to strengthen law enforcement.[43]

THE VIEWS OF THE CRITICS OF THE HIPSTER ANTITRUST MOVEMENT: THE DEFENDERS OF THE CONSUMER WELFARE PARADIGM

Nearly everyone agrees that digital markets work differently from traditional markets, although many dispute the overall increase in concentration (or, at least, it is disputed that it would be linked to a weakening of antitrust law enforcement). Neither is there serious debate on the issue that online platforms raise questions that competition authorities must tackle. The debate is about whether the challenges can be met within the currently prevailing consumer welfare paradigm, or whether there is a need to move away from it in some way or the other. Followers of the hipster antitrust movement are pushing for a shift. Its critics argue that not only it is impractical, there are clear dangers of abandoning the welfare paradigm, and returning to previous law enforcement practices, or moving toward regulation.

One of the important critical observation, in general, concerns the rule of law and legal certainty. It is emphasized that the efficiency based law enforcement, which analysed consumer welfare effects, led to a matured legal practice during

[42] It is not only Wu who claims that U.S. law enforcement should use the achievements of both the Harvard and Chicago Schools, and this is not even a completely original idea. See, for example, *Piraino* [2007]. On the comparison of schools of economic theory, see *Atkinson–Audretch* [2011].

[43] It seems that one of the important representatives of American competition law, the American Antitrust Institute (AAI; a non-profit organisation promoting the protection of competition and engaged in research, education and competition advocacy) also joined this approach which they deem to be progressive (*Moss* [2018]).

the last 40 years and has increased the predictability and legal certainty that benefit the actors of the economy (see below *Dorsey et al.* [2018], *Medvedovsky* [2018]). In the past, that is, before the 1980s, when U.S. antitrust enforcement also focused on various socio-political goals beyond competition, the different court rulings often contradicted each other (see *id.*).

These critical voices also note that the debate about the goals of antitrust is not novel. They point out that this debate has been ongoing while law enforcement has been constantly developing and is far more complex than the hipster antitrust movement would like to picture it, it had not at all been "stuck" with the doctrines of the Chicago School (*Hovenkamp* [2018], *Yoo* [2018]).

Another important concern is that a shift from the now matured and predictable framework in a direction that also seeks to advance socio-political goals, leaves more room for lobbying, so it is not at all clear whether it would serve the wider public good, or, on the contrary, it would benefit big companies that could lobby more successfully. Hence, instead of consumer welfare, law enforcement would increase corporate welfare (*Dorsey et al.* [2018] pp. 10–13).

These criticisms are worth considering but, in this paper, I will deal with the criticism that addressed the specific conclusions and recommendations of the hipster antitrust movement. One of the most comprehensive critical analyses was published by Herbert J. Hovenkamp,[44] and another by co-authors Joshua D. Wright, Elyse Dorsey, Jonathan Klick and Jan M. Rybnicek (*Wright et al.* [2018]). In the following sections, I am mainly presenting the thoughts of these essays.

Whether the hypotheses of antitrust hipsters are well-grounded

According to its critics, the hipster antitrust movement and those who call for a renewal of U.S. antitrust law enforcement in general start from false hypotheses and they cannot substantiate their allegations that are based, in part, on opinions and speculation. According to Hovenkamp's somewhat sarcastic note: "So far the neo-Brandeis movement has been characterized by a great deal of ad hoc complaint of the nature that firms such as Amazon and Google are too big." (*Hovenkamp* [2018] p. 27).

According to *Wright et al.* [2018] (pp. 19–46), it is not proven that concentration has generally increased in all markets in the U.S. economy. Neither is it proven that increasing market power has led to rising prices and decreasing output. Thirdly, the allegation is unfounded that U.S. authorities have been idle in intervening against mergers that are detrimental to consumer welfare and, fourth, it is unfounded that

[44] Herbert J. Hovenkamp is a professor of the Law School at the University of Pennsylvania, one of the greatest American authority on competition law. Both the Supreme Court of the United States and lower courts quote his writings regularly.

inadequate enforcement of antitrust law leads to income inequalities (the latter issue is not addressed in this paper).

According to *Wright et al.* [2018], the studies cited in general, according to which concentration has increased in many or all of the sectors observed, should not provide a basis for conclusions regarding antitrust enforcement. One reason for this is that the research on concentration focuses on entire industries, and not on relevant markets as defined in competition law (pp. 21–23). Another reason is that the researchers dealing with concentration acknowledge themselves that the increase in concentration may not only be a result of the lessening of competition, concentration may increase in the face of intensifying competition,[45] or it could happen because of other reasons, completely independent from competition (p. 23).

According to a further critical observation, it is not supported by research or empirical facts that the increase of market power has led to an increase in prices and a decrease in output. Although research suggests that company-level margins have increased, this may also be caused by the change in the structure of the economy, i.e., the shift towards innovative sectors, services, and intellectual property-based industries. In case of activities based on research and development, the initial investment is necessarily high and higher prices may be set in order to recoup this investment (*Wright et al.* [2018] p. 25). In other cases, the increase in margins could be caused by a bigger decrease in cost due to certain efficiencies if, at the same time, prices remain at the same level or only increase slightly.

According to Wright and his co-authors, neither is it supported by sufficient evidence that the authorities had been too lenient when enforcing merger law. Although comprehensive research has been conducted to assess the price effects of mergers and the effectiveness of merger law enforcement, including the measures taken, it cannot reasonably be concluded that merger law would have failed. In this respect, Wright and co-authors make reference to John Kwoka's book *Mergers, Merger Control, and Remedies*, published in 2014 (*Kwoka* [2014]), and to the writings that critically analyse the book but, unfortunately, they neither summarize the findings of the book, nor its criticism (*Wright et al.* [2018] pp. 28-30).[46] Nonetheless, they point out that Kwoka, despite of his finding, does not recommend to move away from the analysis of consumer welfare effects, but simply calls for a more resolved law enforcement.

[45] For example, it is easy to see that market players may exit the market if they are not able to keep up with strong quality-based and innovation-driven competition that require significant investment. This increases the concentration, but it does not mean that it necessarily lessens competition.

[46] The study refers the result of Kwoka's research according to which the more than 3000 mergers that Kwoka examined resulted in a 7.22 % increase of the average price level. According to Kwoka, this means that merger law enforcement has not been aggressive enough recently, and the interventions could not prevent the price increase followed by the mergers. According to his critics, the method Kwoka used to assess price effects has been incorrect.

Criticisms of the specific conclusions and recommendations of the hipster antitrust movement

As we noticed, Lina Khan claims that Amazon's main instrument for achieving the monopolization of the market is below-cost pricing, also called predatory pricing. In proof of this, Khan refers to the hostile takeover of Quidsi. According to one of Khan's critics, this example shows why Khan's conclusions are erroneous. Namely, it is not certain whether Amazon acquired one of its critical competitors, but it is obvious that Amazon did not become a monopoly, moreover, it is not even likely that Amazon could increase its market power to such an extent, as a result of the acquisition, that it could have any harmful effect.[47] After Amazon purchased Quidsi, the founders of Quidsi switched to Walmart's platform, Jet.com. Consumer were not worse off, and not even competition decreased. Consumers benefited from Amazon's price reduction after the market entry of Quidsi, and now they benefit from the fierce competition between Jet.com and Amazon (*Eisenach* [2018]).

Hovenkamp [2018] (pp. 21–22) makes further criticism in response to the arguments of the hipster antitrust movement on predatory pricing. In his view, Amazon's pricing cannot be considered as predatory because it cannot be shown that Amazon's goal was to monopolize the market. In Hovenkamp's opinion, the pricing of Amazon just reflected the technological changes brought about by the e-book market, which resulted in the marginal cost of book manufacturing decreasing near to zero, royalty fees remaining the only cost. He also refers to the fact that both Amazon and others make available for free those books of which the copyright expired.

All in all, as Hovenkamp states, the hipster antitrust movement confuses predatory pricing with product development when a firm applies low prices in order to secure its position in the market. (It is noteworthy that not many wanted to undertake the promotion of e-books.) Hovenkamp believes that the discounts offered by Amazon were less harmful for consumers than the cartel organized by Apple and other publishers, which tried to achieve that Amazon raise its prices.[48] He suggests that if the antitrust hipsters' attack on low prices succeeded, it would harm consumers, in particular consumers with lower income, and this would be a political blunder for antitrust hipsters, but even more so for the politicians who supported the hipster antitrust movement (referring to the fact that the Democratic Party picked up the topic of antitrust reform) (*Hovenkamp* [2018] p. 29).

A number of critics also addressed the thinking of the hipster antitrust movement on vertical integration. According to *Hovenkamp* [2018] (pp. 22–23), the services Amazon offers to other retailers, such as delivery and logistics services, expressly

[47] See Jeffrey Eisenach's post of November 5 (Eisenach [2018]). Eisenach is an American economist, one of the leaders of NERA Economic Consulting, adjunct professor at the George Mason University, and visiting scholar at the American Enterprise Institute.

[48] See case *United States versus Apple, Inc. et al.,* 952 F. Supp. 2d 638 (S.D.N.Y. 2013).

benefit smaller retailers and do not cause them any competitive disadvantage. Moreover, the use of these services is voluntary and retailers can sell their products on Amazon's platform without using Amazon's delivery and logistics services.

Wright and co-authors also took the view that it would not be justified to disregard the often-tested assumption that vertical integration usually benefits consumers; though it cannot be debated that harmful vertical effects do exist. Beyond that, they do not elaborate on this topic, unfortunately (*Wright et al.* [2018] pp. 49–50.).

Both Hovenkamp and Wright and co-authors stand up for the consumer welfare paradigm not only because of the settled legal practice I discussed above, but because they are convinced that the questions raised by the spread of big online platforms can be answered within the current legal and theoretical framework.

These authors and others criticise the views represented by Tim Wu for the same reason and in a similar way. According to professor Wu's critics, Wu misunderstands the nature of the analysis of consumer welfare effects (*Melamed–Petit* [2018]). Within the consumer welfare paradigm, enforcement agencies necessarily conduct an economic analysis, which cannot be influenced by other political and social goals, while the consumer welfare paradigm provides clear criteria for the case-by-case application of the regulatory framework of competition law.

Wu claims that the welfare effects or values are difficult to measure hence the outcome is uncertain which makes law enforcement unpredictable. Consumer welfare is in fact measurable only with difficulty, however, the hipster antitrust movement criticises the consumer welfare effect analysis on the basis of Bork's views, but Bork's views have been exceeded by the current economic theory and practice (see in more details *Hovenkamp* [2018] pp. 3–8). Therefore, Wu's critics debate that the analysis of consumer welfare effects would be price-focused and more static rather than dynamic. They refer to the factors considered by the enforcement agencies, primarily but not exclusively in merger cases, such as entry barriers, market foreclosing practices, dynamic competition, innovation, quality and choice. They refer to several cases which did not concern a price issue (p. 4). Furthermore, they find it incomprehensible, from the perspective of antitrust law enforcement, why professor Wu proposes the question if "the conduct have any other adverse effect outside the anti-competitive effect, in particular, on political values". They point out that including an aspect into the analysis that is beyond competition and is certainly unmeasurable will definitely not increase but rather reduce predictability (p. 9).

Professor Wu's proposed framework of analysis, namely that the analysis should concentrate, instead of welfare effects, on the protection of the competitive process and the maintenance of a competing market structure, has also been criticised. Firstly, it is not clear how this approach would be different from the consumer welfare paradigm. Some elements mentioned by Wu, such as "actions that are an integral part of the competitive process", or "increasing the cost of the competitors" or "anti-competitive effects" (part of Professor Wu's questions 3 and 4) also form the central part of the analysis of the consumer welfare effects. The basic questions Wu proposed have as well been the starting point of all antitrust cases before (pp. 8–9).

Secondly, it seems that Wu would not require that the existence of market power or dominance be proven. However, it is exactly the link between the creation of dominance or the abuse of market power and the competition law intervention that guarantees that public law intervention only occurs if it is presumed that the absence of intervention would cause harmful effects. If such an extensive market power does not exist, the operation of the market and the competitive process will correct any inefficient practice. Intervention triggered by the degree of market power is exactly the guarantee for antitrust law enforcement focusing on the protection of the competitive process (as opposed to action against commercial practices that are considered undesirable for reasons whatsoever) (p. 9).

Many accept or even support (the supporters are mainly members of those groups which are less radical but still urge the reform of antitrust enforcement) that, in case of certain conducts, *per se* prohibitions or presumptions should be introduced in order to shift the burden of proof on dominant firms to demonstrate that a practice, presumed to be anti-competitive, in reality, has no anti-competitive object or effect.[49]

However, the more radical suggestions, mainly proposed by Lina Khan, were criticised by many, especially the ones recommending regulation. Part of the criticism claims that the regulatory proposals are vague and cannot be treated as a well-prepared alternative (*Hovenkamp* [2018] p. 20).

It appears as a general issue that it is not clear, if the proposed regulatory solution would tackle real problems and if so, how.[50] The access obligation used in case of natural monopolies and recommended by Khan seems unnecessary since Amazon does not refuse to grant access. The obligations on investment and innovation is similarly futile. Khan herself accused Amazon of creating new solutions with continuous investments, entering new markets and offering new services (as experience shows, well received by both consumers and retailers) which, as she alleges, help the strengthening of its market power.

Regarding the pricing issue, it should be noted that it is unclear why a price cap is proposed for Amazon's consumer prices when Amazon applies expressly low prices. It is not even proven that Amazon would apply excessive fees towards retailers or publishers, or which exact fees would be excessive. Before introducing any kind of non-discriminatory mandatory access and the related price regulation, it would be critical to determine which of Amazon's services may qualify as essential facilities.

[49] One such group is the American Antitrust Institute.

[50] Philip Mardsen, Inquiry Chair of the Competition and Market Authority in the United Kingdom, formulated a similar criticism. According to him, it is important to persist to Hippocrates principle: intervention should not be harmful. Hence, according to Mardsen, the current duty of the authorities is observing and analysing, and only taking action if they have firm evidence but, if it is necessary, by using progressive tools with the help of state-of--the-art technology. This would be real "hipster" (*Mardsen* [2018]).

Another significant and more specific criticism points out that the pricing elements, which form the central part of the regulatory model, raise a number of problems.[51] The most important of all is that in case of high-tech industries, and so for Amazon and other similar firms, the initial investment and fixed costs are high, while the marginal cost, being traditionally the basis for price regulation, is near zero. Besides, calculating the invested capital and fixed costs is not easy.[52] Khan herself admits that Amazon invested to such an extent and in so many different business areas, that it would not be easy to determine what kind of costs should be considered in order to set a reasonable price, also taking into account legitimate return expectations. She also sees the bizarre situation that her starting point was that Amazon's investments have so far generated losses due to the below-cost pricing (*Khan* [2017). Though Khan has not expressed it, a regulated price in such a situation, taking into account return and investments, would likely lead to a significant price increase. This conclusion is in line with Hovenkamp's afore-mentioned observations (*Hovenkamp* [2018] p. 29).

WHAT IS NEXT?

It is hard to predict what the near future brings regarding the changes of American antitrust law enforcement, whether competition law would be strengthened by presumptions, more robust economic analyses or additional, more detailed regulatory proposals in order to prevent possible abuses of digital platforms or vertically integrated firms in general.

Representatives of the different approaches, academics, research institutes and practicing professionals, as well as the American Antitrust Institute, continuously publish their arguments and counter-arguments, and those proposed solutions that partly deal with the potential directions of strictly interpreted antitrust enforcement. Partly, they are more farsighted, and also seek solutions to problems such as strengthening employees' bargaining power against large corporations, reducing income inequalities or strengthening the protection of personal data. Charles River Associates organized its annual conference *Economic Developments in Competition Policy* in 2018 around these topics.[53]

It was beyond the scope of this paper to describe all approaches and arguments, but striving for completeness would anyhow be impossible because the discussion is expanding by the day, both in professional fora and in the press.

[51] See the interview by Allison Schrager with Jean Tirole (*Schrager* [2018]).

[52] (Schrager [2018]). However, these problems have been tackled by economists and alternative pricing models have been worked out. *Valentiny* [2018] provides a good summary of economic debate on the marginal cost-based pricing of firms with high fixed costs.

[53] The conference on 15 December 2018 featured the following sessions, among others: *Do We Have a Market Power Problem After All?; Do We Need a Radical Antitrust Answer to Populist Antitrust?; Regulating Big Tech…;* and *Issues in Merger Control: Killer Acquisitions, Platform Mergers, Attention Markets and Bargaining in Media Deals* (*CRA* [2018]).

The hipster antitrust movement can thus record at least one victory, as the future of antitrust law enforcement and the possibilities for renewal have come to the forefront of both political and professional debates.[54] So much so, that the FTC announced public hearings on "Competition and Consumer Protection in the 21st Century" in June 2018 (*FTC* [2018*a*]). The series of hearings invited comments on issues (partly described in the present paper but exceeding it by far both in quantity and detail) such as whether the consumer welfare paradigm provides an appropriate framework for competition law enforcement in the 21st century; how platforms operate as two- or multi-sided markets, and whether a different competition law approach is needed for them, e.g. what market definition issues are raised by such platforms, and what the role of direct and indirect network effects are; whether a guidance on vertical mergers is needed, and in which cases a vertical merger should be presumed to have adverse effects, and how this presumption could be rebutted; what big data is, and how to evaluate mergers which involve the assessment of access to consumer data or other big data. In parallel, the United States House Judiciary Subcommittee on Antitrust, Commercial and Administrative Law held hearings in 2017 and 2018 on the direction of competition law enforcement and the strengthening of competition authorities.[55]

Meanwhile, in Europe, debates have focused on digital markets,[56] and European competition authorities have not been reluctant to take action against large American high-tech companies, to the delight of the hipster antitrust movement. As it is well known, the European Commission has taken action against Google in several cases,[57] and even imposed a substantial fine on Google.[58] It has also investigated Amazon's terms and conditions for e-book publishers and this case ended with a commitment decision.[59] In 2016, the German competition authority launched proceedings against Facebook to investigate whether Facebook abused its dominant position by making the use of the Facebook social network conditional on

[54] Lina Khan put it this way in her article published in the Journal of European Competition Law and Practice: *"…the very fact that antitrust is again at the centre of political debates shows that the New-Brandeisians have already made a big mark."* (*Khan* [2018b]).

[55] https://judiciary.house.gov/legislation/hearings.

[56] Good examples are the German Federal Cartel Office's (Bundeskartellamt) new series of papers on "Competition and Consumer Protection in the Digital Economy" (*Bundeskartellamt* [2107/2018]), or the mid-term strategy paper of digital consumer protection published by the Hungarian Competition Authority (*GVH* [2018]).

[57] Case AT.40099 – Google Android; Case AT.39740 – Google Search (Shopping).

[58] Case AT.40411 – Google (AdSense). On the 19th of March 2019, the Commission fine Google 1.49 million euros, *"for illegal misuse of its dominant position in the market for the brokering of online search adverts. Google has cemented its dominance in online search adverts and shielded itself from competitive pressure by imposing anti-competitive contractual restrictions on third-party websites"* as Commissioner Verstager explained in the Commission's press release (https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1770).

[59] Case AT.40153 – E-book MFNs and related matters (Amazon).

the consent of users to practically unlimited use of their data.[60] The German and Austrian authorities investigated together the agreement between Google and the German company Eyeo, in which Google restricted the use of Eyeo's ad-blocking service and its product development activities. The authorities achieved that parties amend the agreement, and the proceedings were finally closed without finding an infringement.[61]

In Europe, competition authorities do not seem to be struggling with the dilemma of how to take action against high-tech giants. However, it should be noted that most competition authorities globally, including the European ones, do not focus solely on the consumer welfare paradigm: a 2011 survey by the Dutch Competition Authority *(Nederlandse Mededingingsautoriteit, NMa)* showed that although consumer welfare is important or even crucial for most competition authorities, the vast majority of respondents also mentioned other welfare goals.[62]

While I may have suggested that the debate in the United States about the renewal of antitrust law enforcement in general and the hipster antitrust movement in particular are very "American phenomena," it is certain that they do not go unnoticed in the rest of the world, including Europe, and *vice versa*, the American antitrust society is also monitoring the European developments. Good examples for this are the aforementioned FTC and congressional hearings that have raised the questions whether there are differences between the American and other competition law enforcement systems, and how these differences affect U.S. companies (*FTC* [2018*b*]). In addition, ideas originated in Europe are becoming part of the American debate. Such an idea is the "*participative antitrust*" concept of Nobel Prize winner Jean Tirole. According to this concept, competition authorities offer opinions on the proposals of market players of an industry and other stakeholders in order to promote predictability and legal certainty, without these opinions actually becoming regulations.

The debates are not over yet, and are unlikely to be over in the near future. Rather, it is likely that the ever-changing high-tech industries and innovative companies will, as always, develop newer products and applications that will force law enforcement to a continuous renewal, or at least to a progressive adaptation.

[60] Since this paper has first been published, the German authority issued its final decision prohibiting Facebook to link the data collected from different sources (https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Entscheidungen/Missbrauchsaufsicht/2019/B6-22-16.html).

[61] The Bundeskartellamt published its related press release on the 21th of January 2019 (*Bundeskartellamt* [2019]).

[62] See the annual report of the NMa about its yearly activities in 2011 (NMa [2012]). The results of the survey are summarized in more details in *Muraközy–Valentiny* [2015] pp. 180–182.

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SHOULD EUROPEAN COMPETITION POLICY CHANGE IN REACTION TO GLOBAL CHALLENGES?

Lessons from the Siemens–Alstom merger and its impact*

The paper deals with the lessons from the European Commission's early 2019 prohibition of the Siemens–Alstom merger and the subsequent industrial policy debate. After reviewing the assessment principles in competition policy concerning mergers and describing the specific merger in detail, it discusses industrial policy's proposals for changes to practice and institutional reform in competition policy . Concerning policy proposals, while some principles and guidelines in competition policy need review, there is an ongoing professional discourse concerning these issues, and the fundamental assessment framework works well. Concerning institutions' suggestions, however, the proposed industrial policy reforms may restrict regulatory independence and erode the values of professional competition policy assessments, which are strong determinants of welfare in the long run.

INTRODUCTION

This paper deals with perhaps the most momentous event in European competition policy in 2019, the prohibition of the Siemens–Alstom merger and the subsequent wide-reaching policy debate. The European Commission reached its final decision and issued its short reasoning for the prohibition on February 6, 2019. Competition commissioner Margrethe Verstager summed up the case thus:[1]

- „Siemens and Alstom are both champions in the rail industry. Without sufficient remedies, this merger would have resulted in higher prices for the signalling systems that keep passengers safe and for the next generations of very high-speed trains. The Commission prohibited the merger because the companies were not willing to address our serious competition concerns."

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[1] The European Commission's press release, February 6, 2019. https://ec.europa.eu/commission/presscorner/detail/en/IP_19_881.

Preceding the decision, both the French and the German government lobbied intensely for the Commission to approve the merger. German chancellor Angela Merkel and French president Emmanuel Macron both publicly stated that Europe needs “super champions”[2] and “industrial giants”[3] that can succeed in global competition – especially against Asian, and specifically state-sponsored Chinese competitors –, and can protect European jobs.[4] According to the politicians, competition policy should support such European industrial policy endeavours. Criticism mounted after the prohibition, and culminated in the French and the German economic ministries issuing the document known in competition circles simply as the Manifesto, which briefly outlines how European industrial policy should change to successfully face the challenges of the 21st century (*Manifesto* [2019]). This likely intentionally provocative proposal makes several recommendations for the major overhaul of the institutional framework of European competition policy. A couple of months later, in the framework of the Weimar Triangle, the Polish economics ministry joined its German and French counterparts, and they issued their proposals for the modernisation of competition policy together.[5]

The conflict in Europe between competition policy and other policies relating to given industries (industrial policy, regulation, trade policy) did not begin with this case – this paper will give several examples of mergers where the European Commission’s competition decisions received serious criticism for evaluating firms’ behaviour from the point of view of consumer welfare. However, the Siemens–Alstom merger seems special, because it is this case where it was first explicitly discussed how competitive pressure (possibly) exerted by Asian firms should be evaluated on the global market. While these firms have not yet arrived on many markets,

2 See the Politico article *Trains put Merkel and Macron on collision course with Brussels* (November 14, 2018). https://www.politico.eu/article/siemens-alstom-merger-trains-pit-merkel-and-macron-against-brussels.

3 See the Reuters article Explainer: *Why Siemens-Alstom rail merger is creating European tensions* (January 17, 2019). https://www.reuters.com/article/us-alstom-m-a-siemens-politics/explainer-why-siemens-alstom-rail-merger-is-creating-european-tensions-idUSKCN1PB216.

4 It is interesting to note that in 2016, according to certain sources, Siemens and the Canadian Bombardier were considering a possible merger of their rail businesses, but that these discussions didn’t pan out. See for example the Reuters article *Bombardier, Siemens rail merger de-railed by control issues: sources* (September 28, 2017). https://www.reuters.com/article/us-bombardier-siemens/bombardier-siemens-rail-merger-de-railed-by-control-issues-sources-idUSKCN1C33AB.

Furthermore, right after the prohibition of the Siemens–Alstom merger, the idea emerged that an Alstom–Bombardier merger could be the next possibility to consolidate the industry, see the Reuters article *Siemens deal collapse fuels Alstom-Bombardier tie-up talk, shares rally* (February 6, 2019). https://www.reuters.com/article/us-alstom-m-a-siemens-stocks/siemens-deal-collapse-fuels-alstom-bombardier-tie-up-talk-shares-rally-idUSKCN1PV1K9. Up until this article was finalised at the end of 2019, there were no further developments, but it is likely that further restructuring will take place in the industry.

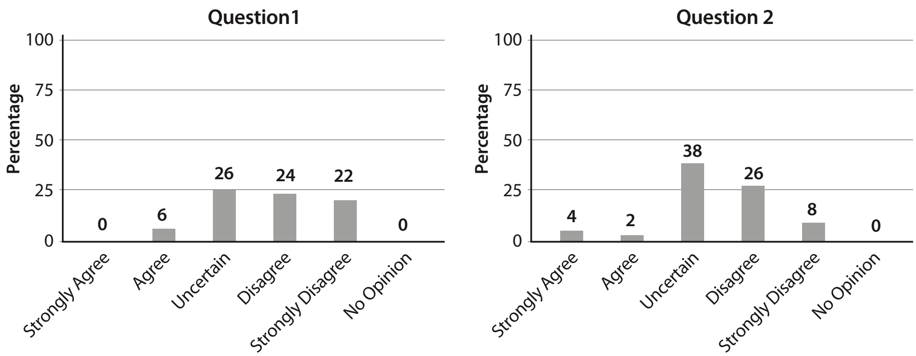
5 See *Weimar Triangle* [2019]. The Weimar Triangle *(Weimarer Dreieck)* is a forum for discussion between these three countries, established in 1991.

but their eventual entry is typically expected by the industries' market players, and causes them to worry.

The Chicago Initiative on Global Markets (IGM) maintains a European IGM Economic Experts Panel, where one can find an interesting illustrative result concerning how much the presence of Asian international firms influences or changes the opinions even of independent academic economists.[6] Panellists were given two statements to evaluate in mid-February 2019, following the merger decision:

> Question 1: The average European is better off if Europe's competition authorities let firms merge into European champions in their sectors, even it weakens competition.
> Question 2: If China and other countries use policies that create giant international firms, then the average European is better off if Europe's competition authorities let firms merge into European champions in their sectors, even it weakens competition.

Figure 1 shows the unweighted results from the answers received.



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Sources: European IGM Economic Experts Panel (www.igmchicago.org/european-economic-experts-panel).

FIGURE 1 • **Answers of the IGM European Economic Experts Panel**

The results are as expected for the first question: only 6 percent of respondents agreed with the statement, 26 percent were uncertain, and 46 percent disagreed or strongly disagreed – in similar proportions. However, when the presence of giant

[6] The panel consists of 50-60 internationally acclaimed academic economists working in various areas. They are regularly sent policy statements concerning current affairs, and asked to briefly express their opinion. Answers are in a scale of five (from strongly disagree to strongly agree), and panelists also give a weight between 1-10 to show how definite their opinion is; results are then shown both weighted and unweighted. The panel can be found here: http://www.igmchicago.org/surveys/european-champions.

international firms was added to the question, the results were somewhat different: while still only 6 percent of respondents agreed, a significantly increased proportion, 38 percent were uncertain, and while the proportion of respondents who disagreed was largely unchanged at 26 percent, the number of respondents who strongly disagreed decreased significantly to 8 percent.

After the first reactions to the merger prohibition, more sober expert analyses began to appear which considered the questions posed by the merger and the Manifesto's recommendations from different angles. Since the parties did not appeal the decision, the Commission published its preliminary decision relatively quickly, in August 2019, which increased clarity in the case. This in-depth, detailed document makes it much easier to interpret events.

The paper is structured as follows. The next section discusses the implicit conflicts behind the debate on how competition policy's objectives differ from those of other policy areas, and the institution economic explanations for them. Then, I briefly summarise the main institutional framework of European merger control, and the parts of the assessment of the Siemens–Alstom merger that we need to be familiar with in order to understand the main points of the debate. I describe in more detail the facts that were taken into account in the assessment, and the arguments of the merging parties and the Commission. I then review the main points made by the Manifesto and the Weimer Triangle, focusing on the parts concerning competition policy. Finally, I discuss the arguments that have arisen in the debate, which mainly are against the recommendations for competition policy and institutional reform outlined in the Manifesto. The final section concludes.

THE CONSEQUENCES OF COMPETITION POLICY HAVING A DIFFERENT OBJECTIVE TO OTHER POLICY AREAS

Firstly, it is important to establish that European competition policy, and with that, merger control only considers the change in consumer welfare when making an assessment, and referring to the restriction of competition. While this principle is not explicitly included in any regulations or guidelines,[7] the practice of authorities and courts has been consistent in applying it for decades. This welfare standard differs fundamentally from the standard used by other policy areas (regulation, industrial policy, trade policy), where the objective is to maximise some weighted average of consumer and producer surplus.[8] As a natural consequence, if competition policy

[7] This approach based on consumer surplus is often not enshrined in national competition law. The Dutch competition policy conducted an international survey on the topic in 2011 (see *ICN* [2011] page 15, figure 1.4.2): of 56 respondent countries only 48 percent mention consumer surplus explicitly, while a further 28 percent refer to it some indirect way.

[8] This is often stated in the form that competition policy focuses on allocative efficiency, while other areas also consider productive efficiency to some extent.

is consistently and correctly applying the assessment principle assigned to it, then it will reach a different conclusion than would be optimal for other policy areas' approach.

Several articles in economic theory and institutional economics discuss the issue of what the optimal welfare standard should be for regulatory institutions. The result of *Neven–Röller*'s [2005] classic model states that in an institutional environment where strong industrial lobbying can influence policy decisions it may be optimal to divert the regulatory institution's objective function to favour consumer welfare only – as a consequence, final societal welfare will be closer to its maximum. It is also a well-known result that if there is a real danger of regulatory capture, it is better if more than one regulatory agency has the power to make decisions.[9] All this means that if the decisions in one policy area do not seem optimal from the point of view of another one, that does not necessarily signal a problem, but could be the natural results of a competing regulatory environment.

The debate concerning the different objectives of competition policy and other policy areas re-emerges occasionally in the context of a given large case. The Commission has blocked the creation of large national or European champions several times before, such as in the ATR–de Havilland merger in 1991 (despite the fact that another European directorate, DG Industry and the president of the Commission were both in favour of it), the Volvo–Scania merger in 2000 and the Deutsche Börse–NYSE merger in 2012.[10] There are also several examples of the opposite, when national industrial policy wished to block, on protectionist grounds, large European firms from being taken over by non-EU or non-national firms, and were vocal in their opinions [Mittal–Arcelor (2006), E.ON–Endesa (2006), GE–Alstom gas turbines business (2016)], but the Commission approved these large transactions, since – with sufficient commitments – they did not significantly lessen competition. There are also examples of two policy areas reaching different conclusions from the practice of the European Court of Justice: at the beginning of the 2000s, in the Deutsche Telekom case, the Commission condemned the German firm for abuse of a dominant position for market behaviour whose framework had been approved by the German telecommunications regulator, and this approach was explicitly investigated and approved by the court.[11]

If some policy reform aims to change the basic welfare approach of competition policy, it would have far-reaching consequences not only for merger control, but for all competition policy areas.

9 See for example *Laffont–Martimort* [1999].

10 See *Levy et al.* [2019] for a more detailed discussion of these transactions and the debates surrounding them.

11 The case number is 37.451 at the Commission and T-271/03 at the European Court of Justice.

THE RELEVANT PARTS OF EUROPEAN MERGER CONTROL FOR DISCUSSING THE SIEMENS–ALSTOM CASE

The European Union has had licence to review large mergers with an EU dimension since 1989. The current regulatory framework is given by council regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation, ECMR). The in-depth review of mergers is undertaken in a two-phase process by the Commission's directorate specialised in competition, the Directorate General for Competition (DG Comp). In the first, shorter phase DG Comp may determine that the merger does not significantly lessen competition on any relevant market, and approve the transaction, or, if there are doubts, it can refer it to the second phase to be investigated more thoroughly. If DG Comp presumes, based on the uncovered facts and detailed analyses, that the merger would significantly decrease competition, it discloses this to the parties in a so-called statement of objections, who can then make detailed comments. Subsequently, DG Comp develops its final assessment, presents it to the Commission, and the Commission makes a decision about the merger.

The Commission issues several guidelines between 2004 and 2008 concerning the assessment principles it follows when evaluating mergers. The main method is the so-called SIEC- or SLC test (which stand for significant impediment to effective competition and substantial lessening of competition respectively), where the Commission investigates whether a merger substantially decreases competition on the relevant markets or markets.[12] Depending on the specificities of the given merger, various factors may have larger or smaller significance. In the Siemens–Alstom case, we highlight three factors which were key to the Commission's assessment.

The first factor is the issue of entry.[13] Entry is one of the so-called countervailing factors to be considered during the assessment, as it can counteract the possible harmful effects (most often related to price increases) that a merger may cause. For a potential entrant to exert sufficient competitive pressure on market players post-merger, three cumulative conditions must be satisfied: 1) entry should be a sufficiently likely, 2) entry should occur in a timely manner, and 3) entry should be significant enough to counteract the harmful effects of the merger. While the merger guidelines do state that the appropriate time period depends on the characteristics and dynamics of the market, but the baseline is that "entry is normally only considered timely if it occurs within two years" (*EC* [2004*a*] para. 74). The burden of proof concerning entry lies with the competition authority.

The second factor is the question of efficiencies (*EC* [2004*a*] para. 76–88). If the merger creates significant efficiency benefits to the firms involved, then the this, via a price drop, for example, can counteract the potential detrimental effects

[12] For a detailed discussion of the SLC test in Hungarian, see *Csorba* [2008].

[13] See the so-called Horizontal Merger Guidelines at *EC* [2004*a*] paragraphs 68–75.

on competition, and the possible price increase these may cause. There are also cumulative conditions to be satisfied in order to prove the existence of efficiencies, and the burden of proof lies with the parties: 1) the efficiencies must benefit consumers, 2) they must be substantial enough to countervail the potential harm, 3) they must be verifiable and quantifiable, and 4) they must be merger-specific, that is, they must be a direct consequence of the merger and could not be achieved by less anticompetitive means. It is an important principle of European competition policy that efficiency gains and consumer benefits must be shown on the market where the harm was identified: efficiencies on other markets can typically not be used to counteract harmful effects.

The final factor concerns remedies. Separate guidelines are available about this topic (*EC* [2008]). If the Commission is not convinced that the countervailing factors can indeed counteract the harm, the transaction could be modified to achieve this. Remedies must be devised by the parties for the Commission to consider, but it the Commission's role to decide whether or not they are adequate. If they are not, the Commission itself cannot alter the transaction, and has no other recourse than to prohibit the merger. Remedies must also satisfy several conditions to make a transaction permissible: 1) they must be clear enough that their effects can be assessed, 2) they must eliminate the competition concerns entirely and effectively, 3) they must be be capable of being implemented effectively within a short period of time. While each decision must be made on a case-by-case basis, in general the Commission prefers structural commitments, divestitures, especially for horizontal mergers. The divested business must be a viable entity, capable of operating independently of the merging parties (in particular with the respect to inputs and technology).

THE DETAILS OF THE SIEMENS–ALSTOM MERGER

In view of the assessment framework presented above – and based on the Commission's detailed public decision – this section will summarise the main characteristics of the Siemens–Alstom merger. For the sake of brevity, I describe only the reasoning concerning the market for high speed trains, especially since the arguments for the markets for signalling were very similar, but require more technical detail to understand.

The principal overlap between the merging parties is on the market for high speed trains, which are capable of speeds over 250 km/h. The Commission found convincing evidence that the market for high speed trains is a separate relevant market. A further important question was whether the segment of very high-speed trains was a separate relevant market as well. While there was evidence for very high-speed trains to be considered a separate relevant market, this question could finally be left open, as the Commission's assessment was the same for both possible market definitions (*EC* [2019*a*] Decision M.8677, para. 105–106).

Concerning the relevant geographical market, the Commission concluded that it is at least EEA-wide and includes Switzerland. There were several indications that the market for high speed trains may be world-wide, excepting China, Japan and South Korea, where the entry of foreign firms is significantly administratively restricted. However, similarly to the case of the relevant product market, the Commission's conclusions did not depend on the specific geographical market chosen, and the question could be left open (*EC* [2019*a*] Decision M.8677, para. 133.).

A total of eight significant firms won commissions to produce high speed trains on the open part of the worldwide market. Commissions are rare and very high in value, and therefore are placed via tenders. Consequently, it makes little sense to calculate market shares year by year, since it is quite possible that only a single tender was issued in a given year in the entire world. Hence, the Commission considered that summing up the revenues stemming from tenders over a ten-year period (2008–2018) to be the best representation of the parties' and their competitors' market position. The results are shown below in *Table 1* (*EC* [2019*a*] Decision M.8677, para. 165).

The combined share of the parties is over 60 percent in each combination of relevant product and geographic market. Siemens is an especially large player in the segment of high-speed trains capable of speeds between 250–300 km/h, with a market share between 40 and 50 percent, and Alstom is one of three competitors with shares over 10 percent. The situation is similar in the very high-speed segment, except that there, Alstom is the larger player. Looking at the high-speed market together, the parties are strong first and second largest players, each with shares over 30 percent, and there is only one competitor with a share over 10 percent – even considering a worldwide market (excluding the three closed Asian countries).[14]

The Commission evaluated the role of each competitor separately, and concluded that the competitive pressure they exert is limited.[15] The revenue of the European competitors stems mainly from tenders won in their home countries where they were the only contestants, or from tenders won in consortium with another competitor. Furthermore, the Chinese CRRC, whose increasing competitive pressure the parties especially emphasised, achieved its revenue via a single, Indonesian commission, which it received not through a tender, but through an international agreement. CRRC does not have the TSI qualification of the European Railway Standard, which would enable to participate in European tenders. The South Korean manufacturer Hyundai-Roten hardly participated in tenders outside its home country in the past

[14] The parties criticised the calculation of the market shares in several ways, especially that the events after 2012 are more important for the merger, and that for the tenders, the revenues should only be considered when there was an explicit call for tender and competition took place, and the significant revenues from aftermarkets ("non-contestable tenders") should not. While the Commission did not agree with these propositions, it did show market shares for these cases, too (see *EC* [2019] paragraphs 187 and 222): the combined shares of the parties were still never lower than 50-60 percent, and were even higher in certain markets than with the original method.

[15] See *EC* [2019*a*] Case M.8677, from paragraph 248, and from paragraph 272 for CRRC specifically.

TABLE 1 • **Market shares on the market for high-speed trains (percent)**

Competitor	EEA and CH 2008–2018			Worldwide (excluding China, Japan, Korea) 2008–2018		
	High-speed (between 250 and 299 km/h)	Very high-speed (from 300 km/h)	High and very high-speed	High-speed (between 250 and 299 km/h)	Very high-speed (from 300 km/h)	High and very high-speed
Alstom	10–20	50–60	30–40	10–20	50–60	30–40
Siemens	40–50	10–20	30–40	40–50	10–20	20–30
Combined	*60–70*	*70–80*	*70–80*	*60–70*	*60–70*	*60–70*
Bombardier	10–20	5–10	10–20	10–20	5–10	10–20
Hitachi–Ansaldo	0–5	10–20	5–10	0–5	5–10	5–10
Stadler	10–20	0–5	5–10	10–20	0–5	0–5
Talgo	0–5	5–10	0–5	0–5	10–20	5–10
CAF	0–5	0–5	0–5	0–5	0–5	0–5
CRRC	0–5	0–5	0–5	0–5	0–5	0–5

Source: EC [2019*a*] Decision M.8677, p. 40.

10 years, while the Japanese Kawasaki never entered European tenders and only won one foreign commission, in Taiwan.

The Commission also analysed tenders and their results in detail, making use of several methods.[16] While the quantitative results constitute business secrets and cannot be made public, but we do know that in an overwhelming majority of tenders taking place between 2008 and 2018 there were fewer than three serious applicants (despite typically at least four firms having been invited). Siemens and Alstom hold the first two places in both rates for participation and winning, for any relevant product or geographical market. Furthermore, the presence of the one has the greatest effect on the probability of winning for the other on any given tender. Based on these findings, the Commission concluded that the parties are each other's closest competitors, especially in the very high-speed segment, and therefore the merger would result in a significant lessening of competition.

The decision then discusses in detail the possibilities for entry and the countervailing effect it may have, especially on the part of Asian competitors – this being the central argument of the parties against the competitive concerns (*EC* [2019*a*] Decision M.8677, para. 462 onwards). One of the main arguments made by the parties is that if the Commission considers market shares and tenders going back 10 years to assess market dynamics, it should also look ahead at least 5-10 years when evaluating potential entry. While the Commission does not explicitly accept this argument, it does make the assessment for this time horizon as well, and still does not consider the entry of Chinese firms sufficiently likely, thus dismissing the parties' arguments. The Commission also makes the comment that Alstom was

[16] See *EC* [2019*a*] Case M.8677, from paragraph 292. For a brief overview of methods for analysing tenders and an application in a Hungarian merger case, see *Csorba* [2008].

already arguing that Chinese firms may enter the market at any time during the 2010 Alstom–Areva merger (*EC* [2010] Decision M.5754, see para. 495.), and this has not happened since.

There is very little information concerning efficiencies (*EC* [2019*a*] Decision M.8677, para. 1262.). The main reason is that according the Commission, parties only submitted a short, verbal argument on this topic when notifying the merger, but did not give sufficient details and did not prove their statements. The Commission therefore did not consider their efficiency defence sufficient: the efficiencies were not verifiable and quantified, and it was also not proven how the claimed decreases in costs and increase in portfolio would benefit consumers.

The decision does, however, discuss possible remedies in great detail. The parties put forward such remedies for both high-speed trains and signalling systems.[17] However, even after multiple modifications, the Commission did not deem these remedies sufficient to eliminate competition concerns. The main problem was the same in each case: the remedies proposed by the parties did go further than offering certain technologies and licences to certain, non-specified potential buyers (according to such potential buyers, under rather unclear conditions), and some quite restricted access to production (mainly only engineering) capacity, or access to their own assets. The Commission therefore was not convinced that a competitor could build a viable business model and exert the significant competitive pressure that the merger would eliminate, based on this offer.

The ex-post assessment of the merger in view of the public decision

Based on the first Commission press releases and the heated reactions from the other side following the prohibition, one could have thought that the Commission prohibited the merger of two large European firms mainly due to its harmful effects on European markets and the two firms face significantly stronger competition outside of Europe. One of the main critiques was namely that due to the prohibition decision, Siemens and Alstom would weaken on the global market, due to the expansion of Asian firms; and this may have repercussions on European markets as well. Reading the detailed decision, however, it is clear that this is not the case: the parties are leaders on the worldwide market, too, and Asian competitors are not nearly as threatening outside their home countries.

It is also clear from the decision that the evidence uncovered by the Commission overwhelmingly point in one direction. In addition, a large portion of this evidence, such as the data for the tender analysis, the internal documents, and the market analyses were actually supplied by the parties. This means that the parties' own competition law and competition economics experts most probably had enough

[17] See *EC* [2019*a*] Case M.8677, starting at paragraph 1285 and continuing for close to 100 pages.

information in-house to wave the red flag, and signal that based on prevailing competition policy standards, the Commission will most likely prohibit the merger. It is suggestive that in the 400-page decision and its annex containing the Commission's economic analysis there is no reference to any economic analysis submitted by the parties and conducted by an outside consulting firm that would have needed comment – presumably because no such supportive analysis could be given, which is quite unusual for a significant, second phase merger. It is also rare that there was no real attempt on the part of the parties to present an efficiency defence in addition to the verbal arguments presented during notification (or that they were not worth mentioning by the Commission), while the parties would have had several months to work out such a defence after the detailed investigation (the second phase) began and the first concerns were made clear.

Finally, it is also difficult to make sense of the not especially helpful attitude the parties displayed – as evidenced by the decision – during the remedies phase. The disputed and unclear conditions of the technology transfer did not change significantly even after feedback about them was received, and the Commission could therefore not conclude that they would eliminate the competition concerns with sufficient certainty. No significant divestitures were offered either, not even for signalling systems, even though that would likely have been more warmly received by the Commission. While there is no information about this in the decision, this market is likely smaller than the market for high-speed trains with its massive tenders, and therefore it may have made sense to make a sacrifice there to improve the chances of the merger being approved.

Overall, my opinion is that there seems to be no other rational reason for the notification of this merger and the parties' behaviour during the process than that the parties expected that some factor outside of competition policy may sway the Commission's final decision in their favour. The Commission, however, was consistent in using the legal, analytical and institutional framework that applies to it, and prohibited the merger. In the end, the parties themselves did not appeal the Commission's decision.

THE PROPOSALS OF THE MANIFESTO AND THE WEIMAR TRIANGLE

A few weeks after the prohibition of the Siemens–Alstom merger the French and German economics ministries issued the short document knows as the Manifesto, which outlines the strategic course for European industrial policy for the next decade (*Manifesto* [2019]). The document was issued in the name of France and Germany, but came out following consultations with several other countries, and proposed significant reforms.

According to the Manifesto, the basis of common industrial policy is pooling Europe's resources, since this is the only way to ensure success in the global market.

The document outlines three pillars for achieving this strategic goal, addressing each in a separate section:

1) a common innovation policy, to significantly increase growth in innovative investments;
2) adapting the regulatory framework to the challenges posed by global competition; and
3) taking effective – essentially, trade policy – measures to enable Europe to protect its markets and firms.

The reform of the institutional framework of competition policy appears in the second pillar, and this is therefore the part detailed in this paper. The Manifesto acknowledges that competition rules are essential, but states that they need to be adapted to industrial policy objectives so that European firms can successfully compete on the global stage. Three proposals are then made specifically concerning merger control.

The first two proposals concern changing the assessment framework for mergers, and suggest changing the wording of the merger regulation and the guidelines – we will later refer to these as *competition policy reforms*. The first one is that the state-control of and subsidies for firms should be given greater consideration during assessment. While this point is not elaborated upon any further, but the introductory parts of the document allude to "some" Asian countries which heavily subsidise their own companies, and that these firms therefore have a competitive advantage, while European firms have a competitive disadvantage that should be compensated for.

The second proposal contains specific modifications for the merger guidelines: according to the Manifesto, competition at the global level should be given greater consideration, and the time frame for assessing the countervailing effect of potential competition should be increased.

The third proposal concerns changing the decision-making process for mergers. We will refer to this proposal as an *institutional reform*. The proposal is merely that the Council of the European Union should have veto power over Commission decisions "in well-defined cases, subject to strict conditions". Neither the Manifesto, not later statements discussed what these cases and conditions should be. At this point it is worth mentioning that the Council of the European Union is largely a political body, while the Commission is more a professional body; the Council is made up of the political leaders (ministers) of the member states, and in certain votes, the populations of the member states is taken into account.

While the Manifesto, with its less detailed proposals, gained more attention and responses, it's important to mention that in March 2019, the French, German and Polish economics ministries also issued a list of proposals to modernise European competition policy, under the framework of the Weimar Triangle (*Weimar Triangle* [2019]). This document contains all the competition policy proposals in the Manifesto, but contains further elements as well.

One important new element is the proposal to create guidelines for evaluating efficiency benefits. The document further urges the more consistent application of the method to define the relevant geographical market, but the desired changes are not described in more detail. Finally, there is a proposal that the Commission should give greater attention to the possible application of behavioural remedies, because in their opinion such remedies have the advantage over structural remedies of being more flexible. Concerning institutional proposals, while the Council's veto does not appear explicitly, but several smaller proposals are made about how industrial policy considerations could be better channelled into the Commission's decisions. At the political level, the role of the Competitiveness Council should be increased in creating merger policy, while for some cases the document calls for an increase in the role of the Advisory Committees, which ask the opinion of member states, to take into account competitiveness considerations.

A DISCUSSION OF THE COMPETITION POLICY REFORMS PROPOSED BY INDUSTRIAL POLICY

The first proposal in the Manifesto – that merger control should give greater consideration to the state-control of and subsidies for undertakings – appears neither very precisely formulated nor especially well-founded. While the competitive assessment will generally reveal the background and motivations of a market player, but ultimately it analyses the firm's actual effect on competition (the outcomes on the market), and these are not derived from the firm's specific characteristics. Simply because a firm is not entirely motivated by maximising profit does not mean it exerts greater competitive pressure. There have been several important competition policy cases in the past twenty years where the Commission seriously investigated the competitive pressure exerted by firms offering their services for free, and it was sometimes significant (see for example the Facebook–WhatsApp merger – Case M.7217), sometimes not (see for example the Microsoft interoperability case, Case C-3/37792 – *EC* [2004*b*]).

The other proposal in the Manifesto, connected to entry, is in fact not new: these issues have been under discussion in professional forums for several years. Over the past few years, especially in response to developments on digital markets and the debates surrounding them, there is an increasingly widespread opinion (see *Crémer et al.* [2019]) that the time horizon for potential entry is too short, and this is especially problematic when assessing the acquisitions of start-ups. Since 2015, in several cases the Commission has analysed the expected effects of mergers for periods longer than two years, mainly in the case of pharmaceutical mergers, to investigate the increasingly prominent innovation concern (that post-merger the parties may significantly restrict their innovation activity).[18] These developments

[18] *Motta–Peitz* [2019] reviews these mergers in more detail.

mean that a significant shift has already taken place, and further adjustments can be expected regarding the timeline for evaluating entry/potential competition. It is worth noting, however, that a longer time horizon necessarily increases the uncertainty of the assessment, since it's much harder to predict market developments five or ten years ahead, especially in a fast-changing market environment. Therefore, if the competitive assessment starts working with a longer time horizon, this will probably be matched with a more conservative approach, that is, for a merger to be approved, it may be required that no competition concerns arise in the next five to ten year even assuming a pessimistic market forecast.

The Weimar Triangle proposals concerning the "modernisation" of the geographical market is also a long-standing topic of discussion in professional circles. The basic principles of market definition were laid down in 1997 in the Commission Notice on the definition of the relevant market (*EC* [1997]), therefore it is high time for the Commission to issue an updated version, which could, firstly, empirical methods that been refined over the past decades, and secondly, reference the many important precedents that have since established. However, the Commission is in fact consistent in evaluating competitive pressure coming from foreign countries when defining the relevant market,[19] as analysed in detail in a paper ordered by the Commission and written by two competition policy experts (*Fletcher–Lyons* [2016]). The newest development in this issue is that in late 2019, the DG Comp's re-elected commissioner announced and justified in detail that in the next cycle, the Market Definition Notice would indeed be updated.[20]

The most welcome proposal of the Weimar Triangle is the one calling for guidelines on evaluating efficiencies. While the Commission previously issued detailed guidelines about the exemption rules in the assessment of agreements based on efficiency in 2004,[21] this mainly contains theoretical principles, and there is little information about what the expectations for the economic modelling of efficiencies are. Nor do the in-depth merger decisions of the past 15 years provide any real guidance: firstly, because there were very few attempts to mount a serious efficiency defence, and secondly, when that did happen, the Commission discussed and dismissed these rather briefly.[22] Unfortunately, due to the low number of public decisions with efficiency analyses it is quite difficult to formulate what the guidelines should contain; however, in the absence of such guidelines there continues to be great uncertainty as to what an efficiency defence should look like in practice, beyond the theoretical principles.

[19] See *EC* [2015] for a summary.

[20] See Margrethe Verstager's presentation on December 9, 2019 (https://eur-lex.europa.eu/legal-content/HU/TXT/HTML/?uri=CELEX:52016XC1012(03)&from=HU).

[21] See *EC* [2004*c*].

[22] The only exception known to me is the UPS–TNT merger (Case M.6570, *EC* [2013]), in which efficiencies are discussed in great detail. But even in this case, efficiencies were not sufficient to dispel the competition concerns.

It would furthermore be important to start the debate on whether out-of-market efficiencies could be taken into account as countervailing factors in a merger. The Commission has so far been rather dismissive of this possibility.[23] The issue already came up twenty years ago when the Volvo–Scania merger was prohibited (and similarly garnered criticism on industrial policy grounds). In that case, the main reason for the prohibition was that the merger would have resulted in a dominant position in Scandinavian countries, but it was not possible to weigh this harm against efficiency gains in other European countries.[24]

THE INDUSTRIAL POLICY-BASED PROPOSALS FOR REFORM

It is important to note at the outset that it is possible under the current European merger regulation that the Commission approve a merger on competition policy grounds, but a member state can prohibit it or get involved in other ways based on other policy objectives; this is in line with Community law (*Council of the EU* [2004] Article 21, para. 4). These are the so-called public interest tests in merger control. Several European countries have created such an institutional framework over the past 20 years, typically for the given industry's regulatory body, to be able to take into account media pluralism or energy security, for example, to voice concerns about mergers under their jurisdiction.[25] As we discussed before, it can be rational from an institutional economics perspective for a given industry to be analysed by more than one authority, using slightly different points of view, and that in a given case each body's approval should be needed for a merger to go forward.

However, there is very little theoretical basis or practical example of a political institution overruling a regulatory institution's decision to intervene.[26] This is exactly the provocative proposal that the Manifesto made, concerning giving the Council

[23] It is possible in US regulatory practice to take efficiencies on other markets into account as countervailing factors. See for example the methods of the Department of Transport in assessing the cooperation agreements (essentially close to mergers) of airline companies. This is part of the reason why the US authorities unconditionally approved certain agreements where the European Commission found significant competition concerns. See *EC–DOT* [2010] for a detailed discussion of these differences in approach.

[24] See *Wik–Hugmark* [2019] for a more detailed comparison of the Siemens–Alstom and the Volvo–Scania mergers.

[25] A general overview of these institutions, as well as the experiences of several countries were discussed in detail at the OECD roundtable. The documents are available at the OECD website: https://www.oecd.org/daf/competition/public-interest-considerations-in-merger-control.htm.

[26] *Buhart–Henry* [2019] mentions such cases. Such ministerial authority has existed for the longest time in Germany, where the ministry can veto the German competition authority's intervention. However, since its introduction 45 years ago, only 22 such requests were made and only 9 were granted. In comparison, in Hungary, the government can designate a merger as being of national strategic importance since 2013, in which case the Hungarian Competition Authority does not need to investigate it. Up to the end of 2018, 21 such governmental decisions were made (although

of the EU veto power in specific and special cases. Several arguments can be made against such a move, and I summarise them here.[27] Many of these arguments are also relevant in the case of the other institutional proposals for reform.

In any case where the Council vetoed a Commission merger prohibition, the most evident loss of welfare would be the significant decrease in consumer welfare, an expectation formed after a long (often 9–12 month) investigation by the Commission, based on the detailed questioning of consumers, industry players, market data and economic modelling. Theoretically one could argue that, looking at societal welfare as a whole, this decrease in consumer welfare could be counteracted by an increase in producer surplus, due to increased competitiveness or some other consideration, but there is no well-formulated or widely debated and accepted framework for such "wide-spectrum" analyses. Furthermore, there is no regulatory body to conduct such a "wide" investigation, which could help the Council or any other political body in making a decision. Without such an analysis, it is unlikely that decisions would not be influenced by short term interests, and there would not be a greater opportunity for decisions to be influenced – which would probably also cause further welfare losses in a given case.

Merger control is currently the fastest and most professionally well-accepted institution of EU competition policy. Compared with the other areas, the merger decisions made by the Commission and other European competition authorities are perhaps among the most predictable and transparent. Since the 2004 reform to merger regulation, the significant majority of the Commission's merger decisions have stood up in court (although very few decisions are appealed). These factors have contributed to the reputation of merger policy, which also has significant welfare-enhancing effects because several problematic mergers never take place, due to preliminary assessments by the parties or their advisors. That is, the difficult-to-measure deterrent effect of merger policy is likely quite strong. If a less professionally minded institution were to be added to the system, this long-standing reputation could be severely shaken.

If this credibility were eroded, it could also mean that parties will be less motivated to offer really effective remedies in order for the merger to be approved. While we can only make assumptions in evaluating the Siemens–Alstom case, maybe if there had been fewer supportive political messages made public during the investigation, the parties in this merger may have accepted earlier that the Commission would stick to its own assessment framework, and especially, will insist on structural commitments.

It is also unclear how this political veto would fit into the practice of court appeal: firstly, would the veto replace court review, and secondly, could the veto itself be

some of these may not have given rise to competition concerns). For a more detailed assessment and analysis of the Hungarian situation, see *Papp* [2019].

[27] *Levy et al.* [2019] criticised this proposal in detail, discussing all the points mentioned here. Additional arguments can be found in *Buhart–Henry* [2019], *Motta–Peitz* [2019], and *Lianos* [2019].

subject to appeal (and if yes, based on what considerations)? There are no established answers to these questions, and consequently, such an institutional intervention would undermine the hard-won predictability and reputation of merger control.

Finally, it is worth considering that if the Council of the EU were to play a larger role in competition policy, the weight of political entities is different there than in the European Commission. The population of the member states plays an important role in the Council, and therefore larger countries may have a greater say in voting on the more important questions. Unsurprisingly, the Manifesto was submitted by Germany and France, the most populous EU member states: the combined weight of their votes in the Council is close to 20 percent, and over 25 percent including Poland (and these numbers will further increase with the third most populous member state, the United Kingdom, leaving the Union).

CLOSING THOUGHTS

The paper discusses the lessons from the Siemens–Alstom merger, and the subsequent industrial policy debates and proposals concerning merger regulation. The main conclusion – slightly biased in favour of competition policy institutions – is that while certain principles of the competitive assessment (but not the basic legal framework) could stand to be reviewed,[28] but these are exactly the proposals that, in a wider context, are already being widely debated in professional circles. The really new proposals brought up in the 2019 industrial policy debate, in my opinion, challenge the basic institutional values of regulatory independence and professional assessment, while these factors greatly determine the welfare of a country or community in the long run.

As a further interesting addition, the Commission prohibited the merger between certain European steel activities of Tata Steel and ThyssenKrupp – see case M.8713 (*EC* [2019*b*]). The transaction would have resulted in the merger of the second and third largest steel manufacturers in Europe, but the Commission's in-depth investigation revealed that this would have led to a significant decrease in competition and price increases. The commitments offered by the parties proved insufficient to address the competitive concerns. While there is no public decision yet, the role of imports from Asian countries was key in this case as well. According to the parties, the Commission's approach was fundamentally flawed in this respect, and they appealed the decision to the European Court of Justice (see case T-584/19).[29] While the court's decision may take 2 to 3 years, hopefully it will provide some much-needed reassurance or guidance on how to assess these debated factors.

[28] These are changing the timeframe of evaluating entry, the need for guidelines on efficiencies, and updating the Commission notice on market definition (*EC* [1997]).

[29] See http://curia.europa.eu/juris/document/document.jsf?text=&docid=219388&pageIndex=0&doclang=HU&mode=lst&dir=&occ=first&part=1&cid=4496017

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• *Pál Valentiny* •

MARKET AND GOVERNMENT FAILURES

The changing relationship between industrial policy and competition policy interventions

Among the public policy instruments, the study seeks to follow past changes in competition policy and industrial policy. In various periods, one was preferred over the other; the pendulum swung one way, then the other. One common trait of all the periods was that the changes clearly reflected ideological and political trends and various groups' ability to protect their own interests, and the end result of interventions was often not what was originally intended. The study briefly discusses the periods when monopolies emerged, the inception of competition regulation and the coexistence of competition and industrial policy in the last hundred years and its experiences.

INTRODUCTION

Over the past decade, the practice of competition regulation – and sometimes its principles – has been the subject of constant debate. The intensity of the debate and the central issues have been different in the United States and Europe. With regard to mergers, the focus has been on restrictions in America and on the relaxation of rules in Europe, but opinions were sometimes the same when it comes to specific sectors or implemented or planned mergers. Company size – specifically, the limit of what is considered large company has been a central issue on both continents. The school of thinking that demands the complete renewal of competition regulation – sometimes called 'hipster antitrust' due to some exaggerated positions – was analysed by Tünde Gönczöl (*Gönczöl* [2019]). The most heavily discussed EU decision blocking a merger (*Alstom-Siemens* case) and its background, including member state interests, was analysed by Gergely Csorba (printed in the present volume). Zombor Berezvai's study undertook the task of describing the interrelationships, argumentation and contradictions of competition law and various areas of public policy, most notably industrial policy, and sketching out the resolution of these contradictions (*Berezvai* [2020]).

The immediate triggers for the disputes were economic developments that were considered unfavorable – or of concern. In the United States, for example, the share of profit in GDP rose from 7.5 percent in 1985 to 11 percent in 2016, the price-cost ratio increased, industrial concentration, especially in information technology, increased, "superstar" companies emerged, wages as a share of GDP declined, and income inequality increased (*Shapiro* [2019] pp. 70–72). Many considered the reform of competition regulation to be the most appropriate to address the "problems", while for others it was clear that these issues affected a much wider range of public policy. Most of these economic processes were generally also characteristic of developed economies, but no increase in concentration was observed for the largest economies in the European Union as a whole (*Valletti* [2018]). Therefore, some EU member states started voicing increasingly strong concerns about the sustainability of competition with large corporations outside Europe. The proposals and manifestos demanding the reform of competition regulation, issued primarily by France and Germany and supported by a varying group of other member states, were analysed in detail by *Heim* [2019], and, in this volume by *Csorba* [2020].

The renewal and reform of competition regulation is mostly understood as the increase of the intensity and number of interventions, the more consistent enforcement of the existing rules, but in some places also the redefinition of its goals. However, all this is not a new phenomenon. Competition regulation is one of the tools the state uses in order to achieve its public policy objectives, just like monetary or budgetary policy, or even industrial policy (a term which has many interpretations itself). From the intertwined ensemble of economy and society, the set of tools (legal frameworks, regulations) that reflects the acceptable, established compromise at the given moment is applied in accordance with the current ideological, political and special interest situation. The embodiment of the state, of the government and of the political power constantly intervene in issues affecting the economy and society, even if they do not do so, as this also creates an opportunity for a certain action by other parties.[1] The least that could be expected is Coase's requirement for governments/representatives to at least consider all the advantages and drawbacks of their interventions before making decisions (*Coase* [1955] p. 437).

In the study, competition policy refers to the intention of governments or authorities to protect competition from anti-competitive business conduct in the interests of consumers. A simplified definition of industrial policy could be that it covers all government intervention that only affects industry, or at least intends to affect it. In terms of its tools, competition policy has the potential to enforce, advocate and promote competition. The instruments of industrial policy are more numerous than this, they can be subsidies, tax breaks, lending, customs duties, coercion of mergers, prevention of foreign acquisitions, etc. As a common feature of both, we would like to emphasize that they are an intervention in the functioning of the economy, the markets, and at the same time they provide a choice for the actors who want to intervene. In this sense, the study deals with market and government failures: all interventions – both competition and industrial policy – are about the correction of

[1] Debates about the separation or coexistence of the economy and society, discourses of the state or market that seem somewhat outdated, views promoting the primacy of planning or market spontaneity, issues of efficiency versus equality can all be seen as about the manner and extent of public intervention.

a perceived market failure, just as the failure of an intervention (government failure) triggers another intervention.

The study first provides an overview of the competition landscape as it was before competition laws emerged, followed by a discussion of the role of various interest groups in the creation of competition laws. The third part analyses the attempts made to suspend competition in critical periods, during economic crises, and the fourth part examines the ways in which competition and industrial policy can coexist. Finally, we make an attempt at providing a summary.

MONOPOLIES BEFORE COMPETITION LAWS

Trade, whether long-distance or local, can only ever operate if certain rules were followed. The rules can protect merchants or customers. In Roman law, very early (probably in the 2nd century BC), sanctions were formulated to penalize those who tried to create a monopoly through acquisitions and thus sought to raise prices by artificial shortages. Over time, the sanctions became more severe, ranging from confiscation to revoking trading rights, deportation and even capital punishment – illustrating the difficulties of enforcement. The range of products involved also expanded: initially the grain trade was the most "endangered" area, but subsequently, most foodstuffs, and finally all products fell into this range (*Cowen* [1950] pp. 126–128).

Thus, achieving a monopoly by business machinations was seen as illegal; however if the "supreme power", e.g. the emperor himself gave permission to do the same thing, it was seen as rightful activity. From the 3rd century AD – especially in periods of financial instability – emperors started giving out special privileges and monopolies in order to increase the revenues of the treasury. By this time, the most important areas of industry and trade were organised into personal monopolies guaranteed by the state. Naturally, the disquiet caused by price hikes made it necessary to issue price control decrees, but this only made the dual nature of public authority more perceptible.

The best-known decree (edict) was issued by Eastern Roman emperor Zeno in 483 AD. He abolished the distinction between legal and illegal monopolies, and, in a move that was repeated later by others, nullified previously awarded monopoly rights and even abolished the emperor's right to award such privileges. The edict banned and penalised all price fixing agreements made between individuals, including what we now call cartels, as well as agreements on retail price (*Cowen* [1950] p. 128., *Szilágyi–Tóth* [2017] p. 59).

The revision of Roman law made under Justinian included all these elements. The difference between law as written and law as enforced is clearly illustrated by the fact that both Justinian himself and subsequent emperors found a way to issue monopoly rights despite the formal ban. State monopolies were not awarded to private persons anymore, but to public servants, allowing the state's agent to "lawfully" carry out the activity.

In modern history, similar events took place in the Low Countries and England (*Miller* [1907], *Cowen* [1950], *Letwin* [1954]). Rulers often resorted to handing out monopoly rights in order to finance wars, or to solidify their power as the rents from monopolies enriched the treasury. In England, this practice peaked under Queen Elizabeth I. Her royal permissions ranged from growing and selling currant to making iron, steel, glass, beer, sulphur etc. and even to aqua-vitae (*Miller* [1907] p. 2). These activities benefited the treasury and the select few, but they were disliked by many and hurt the purses of many more.

After an unsuccessful protest against the practice in Parliament in 1597, a long list was compiled in 1601 on monopolies and exclusive rights to be abolished. Although the sovereign had the power to determine the general principles of trade policy and issue decisions on the minting of money, on weights and measures, on holding fairs and on ports, but the line of demarcation between royal and parliamentary powers was unclear, and there was great temptation to cross the boundary. Due to the myriad of grants given out by the sovereign, there was hardly any family in the country that did not suffer their burden. After the chief minister's carriage was attacked, Elizabeth, with a sudden about-face, became the leader of those demanding reform, thus deflating the protest movement (*Macaulay* [1848/1906] pp. 47–48).

However, real changes took more time. Some monopolies were left intact despite the reform, and many saw the Queen's reversal as no more than a publicity stunt; thus, the conflict between the monarch and Parliament ended up as a court case over the legality of the granting of monopolies. The 1603 *Darcy versus Allin* lawsuit became known as the *Case of Monopolies* (*Miller* [1907], *Letwin* [1954], *Calabresi–Price* [2012]). The plaintiff, Edward Darcy, a Groom of the Chamber received exclusive rights from the Queen for the manufacturing, importing and sale of playing cards, for which he paid a yearly fee. Haberdasher Thomas Allein felt that the monopoly was injurious, and started selling playing cards himself. The Mayor of London supported (and perhaps even encouraged) this move, and promised to pay any legal fees (a promise that was only fulfilled after Allein took legal action against the mayor) (*Letwin* [1954] p. 366).

In the Darcy lawsuit, the justification given for the monopoly was that playing cards are not necessities, but rather a means of idle time-wasting, and their moderate and appropriate use must be overseen by the Queen. The law placed matters of leisure and entertainment under the Queen's oversight, as people are prone to excess in these areas. Thus, the lawsuit was not focused on fact of the monopoly, but rather on proving the noble intentions behind it. Allein argued that this exclusivity was a monopoly in conflict with common law, and it was in fact banned by several Acts of Parliament.

In the end, the judges at the Court of Queen's Bench unanimously decided that the monopoly was invalid. They cited four main justifications. 1) Every trade that prevents idleness and helps workers and their families support themselves promotes the public good; therefore, exclusivity is in conflict with common law and the freedom of subjects. 2) Grant of a monopoly may cause the prices to be raised and the quality to deteriorate, and those who had been involved with the trade may become impoverished. 3) The Queen intended to permit this monopoly for the public good, but she must have been deceived because such a monopoly can be used only for the private gain of the monopolist. 4) Allowing a trade to be monopolized would have set a dangerous precedent, and it lacked any legal basis, as it gave special rights to a person (and his family) who had no expertise in the manufacturing of playing cards (*Miller* [1907] pp. 6–7, *Letwin* [1954] p. 363).

The court separated the issue of the manufacturing of playing cards from the issue of their use; thus, so the aspects of trade and business, the maintenance of the possibility of competition were the main focus of the decision. The flaw in our account of the case is that it is not based on any court documents (the keeping of which was not yet regular practice at the time), but on the descriptions of notable contemporary lawyer Sir Edward Coke. Coke represented the Queen and the granted monopoly in the lawsuit, even though his account, written after the fact, indicates that he personally sympathised more with the opposing side's position (*Calabresi–Price* [2012] pp. 12–14). After Elizabeth's death, James I rose to power. He openly stated that he saw himself as being above the law, and he reinstated monopolies for a time. In the ensuing debates, a temporary compromise was reached in 1610, and Parliament voted an annuity for the king in exchange for giving up the granting of monopolies (and the income they generated).

However, some monopolies survived until very recently, such as the postal monopoly. The first *Master of the Posts* was awarded a monopoly to organise postal activities in 1516. Subsequently, the title became *Postmaster General.* The monopoly was later reinforced several times, most recently in 1953 (*Groenewegen–Vries* [2016] p. 250). Local officers were required to investigate those who infringed the monopoly in order to be able to uncover any treason or sedition in time. This means that the monopoly allowed for letters to be intercepted or censored (*Hemmeon* [1912] pp. 189–190).

Apart from serving the royal court, the post also became available to the general public in 1635, and it was placed under direct state control after the civil war. Previously, the Government had tried to prevent communication between its adversaries; from this point on, it focused on gaining access to the information they were sending – it is no accident that the British called Cromwell's Postmaster General the *Spymaster General*. The importance of the post office is clearly illustrated by the fact that after the fall of the republican government, during the restoration, a good portion of the staff at the postal service was replaced and Republicans were removed (*Marshall* [1994] pp. 79–80). The arguments for maintaining the monopoly changed over the centuries, from tracking sedition and treason to generating revenue and promoting social goals. From the 17^{th} century on, there were multiple attempts at breaking the monopoly and opening up access to the market. New entrants generally improved or would have improved the level of service available. The monopolist took over these ideas and companies, or, more often – and worse – put up barriers to entry and repressed them, reducing consumer welfare (*Coase* [1961], *Groenewegen–Vries* [2016]).

The twists and turns of the British economic history of the 17th and 18th centuries provide numerous other instances of intentions to limit monopolies (and ways to get around those limitations) (*Madarász* [2011], *North–Weingast* [1989]). On the continent, a ban on cartels issued during the French Revolution in 1791 was even entered into Napoleon's *Code Civil*, although the statute was not applied through most of the 19th century (*Lyons* [2009]). These illustrative examples show that monopolies emerged by abusing the laws of the market, or through the state's arbitrary decision. Initially, monopoly – in keeping with the original meaning of the word – meant an exclusive seller of a product, but later, when rulers started handing out exclusive rights, those also covered manufacturing. But what about self-organised market entities, economic operators and institutions – such as guilds – that sought to foreclose competitors in local communities, supported by local authorities? For a long time, the literature considered guilds to be a form of monopoly, but more thorough examination of the increasing number of original documents found revealed that guilds rarely got to the point of regulating wholesale trade; guilds from other cities making the same products were allowed to sell at local markets, and product stockpiling and quantity and price manipulation were punishable offences everywhere (*Richardson* [2001] pp. 218–219). Guilds operated as monopsonist player more on the local labour market.

The meaning of the word 'monopoly' changed a lot over time. For Adam Smith, it included a range of political, legal and economic restrictions, and was not necessarily considered a harmful phenomenon. Temporary monopolies related to patents and copyrights allowed the emergence of novelties. Smith also held that certain organisational innovations and more audacious moves by companies – such as the case of the new trading companies involved in trade in the colonies – also deserved temporary exclusive rights (*Richardson* [2001] pp. 221–222). The term 'monopoly' subsequently came to mean the polar opposite of perfect competition; i.e. a situation when a single person or organisation can determine either the price or the quantity of a product sold on a market. Still, monopolies could take many shapes; Marshall called them protean (*Marshall* [1890] p. 456). Monopolies could be seen as good or bad; good because of their innovative activities and the idea – proposed later – that competition inevitably leads to the growth of the best, most effective competitors, and thus concentration is proof of strong competition. The only problem is that – apart from some extreme cases – these two market behaviours and their outcomes are difficult to tell apart. The first competition laws were made in the second half of the 19th century – when companies grew to a large size extremely quickly – specifically in order to decide this matter.

THE BIRTH OF COMPETITION LAWS

By the last quarter of the 19th century, markets grew gradually, but, considering historical time scales, very quickly, due to infrastructure service providers (railway, telegraph, and, from the turn of the century, electricity). In the sectors that had the appropriate technology, this allowed for mass production, exploiting the economies of scale, mass trade and previously unseen company sizes. In good part due to this, the prices fell constantly, and economies – both in Europe and in America – had to endure quite significant price fluctuations. These changes became complete along with innovations in the organisational structure of companies (*Chandler* [1962], [1977], [1990], *Landes* [1969]).

While the fundamental characteristics of economic processes and the birth of large companies were similar in Europe and America, there were significant differences in terms of the legal system and the methods of corporate governance. In the United States, corporations run by managers setting up new organisational structures were the dominant force, in Great Britain, family businesses grew large, and in Germany, large companies formed cross-ownership networks with banks and each other. There were also differences between the two countries within the Anglo-Saxon legal system, and the continental German legal system provided a different legal framework for the interpretation of industrial concentration. (*Motta* [2004], *Freyer* [1992], *Fohlin* [2005], *Webb* [1982], *Haucap et al.* [2010] and *Kühn* [1997]).

The seeking of compromise and the possibility of bargaining was more deeply rooted in the development of British law than in American law, where inter-company agreements restricting competition were more stringently banned. At the same time, in Germany, the protection of the freedom of contract even allowed for the enforcement of competition-limiting contracts. Although the British courts tended not to penalise the anti-competitive agreements, they did not provide an arena for enforcing them. In order to protect themselves from ever stronger competition and price drops, large British companies made deals with suppliers and retailers; at the same time, in the United States, large companies tried to expand vertically in both directions, eliminating intermediary links from the chain and integrating these market elements into the corporate structure. One form of horizontal agreement was the "trust", which set up an inter-company association with a central governing body. Participants maintained the appearance of independence, but in practice, they gave up by entrusting their shares to the management organisation as the trusted asset manager. The goals of such associations included reducing competition between members and consolidating prices (*Motta* [2004] pp. 1–2).

Self-regulation, a popular concept in Britain, was applied to manufacturing, various professions (doctors, lawyers, engineers, auditors) and finance as well. A whole suite of laws opened up the opportunity for self-regulation. These only laid down the general regulatory framework, and relied extensively on the cooperation, mutual agreement and mutual oversight of those subject to the regulations. Thus, weak cartel agreements became widespread in Great Britain, while American managers preferred to centralise and assimilate smaller companies whenever possible.

These differences already indicate that attitudes toward large corporations may have varied from country to country, but a number of other factors also contributed to the fact that the first competition laws were enacted not in Britain but in America. Even in the 1920s, the majority of the US population still lived in rural areas, whereas the situation was the reverse in Great Britain by the time large companies appeared. American rural voters had an interest in keeping small businesses going, and large companies appeared in and around cities. This division created regional tensions between states as well. The majority of voters saw large companies as hotbeds of corruption, resulting in lawsuits started by various states in the 1880s. Due to the differences in state-level laws on large companies, the managers always moved the headquarters of public companies to the location that offered the best conditions, while production was left at the original location. The protection of internal market positions is reflected in the continuous raising of American import duties; while the British economy, at least in its international relations, has operated on the principles of free trade. In Britain, family firms themselves managed the transition into large companies, and managers were more part of the "establishment"; thus, few interest groups advocated for state intervention (*Freyer* [1992] pp. 15–23).

The railways, despite their vital role in connecting local and regional markets, could also be a hindrance to market access due to their fare system. The populist Grange movement of the agricultural areas of America became the main campaigner against the railway fare structure, but they were also dissatisfied with the way public companies operated in general. On their initiative, various states introduced fare regulation, and later on, the Grange movement also played a role in the birth of antitrust laws. The movement became a (short-lived) party with the fight against political corruption as its central policy goal, and its leader published a weekly newspaper called The Anti-Monopolist (*Phillips Sawyer* [2019] pp. 4–6). By the 1890s, a coalition emerged in America made up of various groups, as dictated by the differences between the states: the supporters of small businesses, those hoping to increase their voter base and those who were harmed by large companies. With their support, the Sherman Act was submitted. The national parties were also dissatisfied with inefficient and unpredictable state regulation (more than a dozen states had some kind of competition laws by this point), and they wanted to make sure that the cross-border large companies, which were becoming active in more and more fields and in some instances attempted to obtain monopoly position, would not be able to use anti-competitive methods.

The proposed text – as a compromise – contained the general rules on interstate commerce that had based on common law; thus, Congress approved the bill almost unanimously. However, the fact that bills on raising tariffs were awaiting debate also contributed to this broad support. The first section of the Act bans trusts and all other forms of conspiracy aimed at restraining trade or commerce among several states, while the second considers monopolizing (or trying to monopolize) interstate trade or commerce to be illegal. This Act made it possible for the Department of Justice to bring charges against offenders, and to claim damages. The same was also possible through private enforcement. The practical meaning of the general wording, as in the case of other laws, has been revealed in court practice.

What was on the minds of the representatives and senators when they voted for the law can be guessed from some sporadic account, but the debates have not subsided since then about what the main intent was when the law was drafted. Was increasing consumer welfare the primary objective at the time of adoption? Or was it the protection of small businesses? Perhaps increasing economic efficiency, or maybe stopping the flow of wealth from consumers to large businesses? All sorts of positions and combinations of positions were voiced in the course of economic and legal debates (*Hovenkamp* [1989]), prompting future Fed chairman Alan Greenspan to compare the world of antitrust regulations to Alice's Wonderland, where everything seemingly exist, yet apparently doesn't, simultaneously. It is a world in which competition is lauded as the basic axiom and guiding principle, yet "too much" competition is condemned as "cut-throat." It is a world in which actions designed to restricting competition is a crime unless the government does it, and the businessman learns that one of his actions was illegal only when the judge convicted him (*Greenspan* [1967]).

Initially, the courts interpreted the text of the Act literally, and, in the 1895 *E. C. Knight* case, they did not scrutinise the company that controlled 90% of the country's sugar refining capacity, stating that the Act only covers interstate trade, not the processing industry. Law enforcers were mainly interested in the contractual or tacit agreements between companies, and thus it was a natural reaction for companies to "flee" into horizontal and vertical mergers, in part in reaction to the law, kicking off what is called the Great Merger Movement (1895–1904). In this wave of mergers, 1800 companies merged into 160, a third of which ended up with over 70% market share – and half of them with over 40% (*Lamoreaux* [2019] p. 98).

There were areas of the economy where local or state concessions were awarded for introducing a specific type of service (e.g. railway, telephone, electricity, gas supply and water services). In addition to the technical parameters of the service, concessions also had an effect on the competitive landscape. Local concession regulation matured into state-level regulation in the United States in the early 20th century. At the time when the state-level regulation of network services was introduced, it was common for a long-established railway regulator to receive the task of overseeing other services as well – in some cases, without even changing the regulator's name. Elsewhere, the new regulatory body (commission) was responsible for overseeing all network service providers, including the railways.

The idea of a permanent supervisory body soon came up with regard to competition issues as well. During Theodore Roosevelt's presidency, in 1903, the *Bureau of Corporations* was set up as part of the *United States Department of Commerce and*

Labor, tasked with examining the situation of industry and especially monopolistic practices. Although the Department of Justice was responsible for filing formal charges, it was not until 1919 that a special competition unit, the *Antitrust Division* was established within the Department. During subsequent lawsuits, it emerged that the Sherman Act can also be applied to mergers, and in the 1911 *Standard Oil* lawsuit, the Supreme Court, finding that various methods had been used to restrict competition, decided to break up the company. Actions in competition cases, until more recent legislative acts in 1914, could be seen more as a broadly agitated antitrust movement, not characterized by a professional procedure according to developed principles (*Winerman* [2003]).

The 1912 presidential election was a watershed event in antitrust regulation, with each candidate advocating for different antitrust policies. For instance, the eventual winner, Woodraw Wilson proposed a programme of getting competition "under control" and punishing monopolies. Theodor Roosevelt was a supporter of regulated monopolies operating under oversight. Wilson's campaign was heavily influenced by the views of his advisor, Boston lawyer Louis D. Brandeis, who stressed the "curse of bigness", advocating the breaking up of monopolies and decentralising economic power. As a compromise between Wilson's and Roosevelt's approach, the Clayton Act was finally adopted in 1914, setting up a new authority, the Federal Trade Commission (FTC). In order to ensure efficient operation, the *Bureau of Corporations* was merged into the FTC (*Phillips Sawyer* [2019] pp. 10–11, *Winerman* [2003] p. 4).

When the FTC was set up, debates centred around whether to issue detailed legal provisions in order to suppress monopolistic, anti-competitive tendencies, or to set up an independent agency with broad powers, with only the general principles laid down in legislation. Eventually, a compromise was reached again, and the legal provisions included specific wording on some types of anti-competitive practices (price discrimination, exclusive agreements, tying, mergers that significantly reduce competition etc.) and the real power of the agency had to be supported by court decisions. The FTC started up when World War I broke out. Initially, it only did fact-finding work, but it shifted to full investigations by 1918. The FTC's findings were met with resistance from members of the business community and Republican members of Congress, as well as unfavourable court decisions. The courts held that defining the concept of anti-competitive practices was up to them, and they felt that the definition should be much narrower, than that of the FTC, thus overturning many of the FTC's decisions (*Davis* [1962] pp. 440–441).

The 1924 presidential election marked another turning point in the history of the FTC, as the winner was Calvin Coolidge, a Republican who stood for increased efficiency and against hamstringing businesses. He appointed as an FTC member William E. Humphrey, a former representative who had been one of the most vocal critics of the FTC, and, according to the press of the time, the greatest defender and friend of large corporations. This and other appointments transformed the FTC's operation; changing its rules of procedure made its work less transparent, it was allowed to enter into informal agreements with companies, public access to documents under examination became more restricted, the cases of large companies that failed to comply with previous FTC decisions were not re-opened, and a new department was set up within the FTC designed to encourage industry self-regulation. As the FTC's own report said in 1927, its new task was "Helping business to help itself" (*FTC* [1927] p. 1). The business world agreed to this change of direction, but the forces that previously had supported setting up the FTC now advocated abolishing it. They felt that the scenario they had seen with the railways was about to be repeated: the regulator might end up serving the interests of those it is supposed to be regulated, and not the public interest. Those who were dissatisfied with the FTC's work proposed setting up parallel inquiry committees (*Davis* [1962] pp. 451–455, *Winerman–Kovacic* [2011] pp. 713–715). The 1929 economic crisis, however, suddenly put the emphasis on rescuing companies.

COMPETITION AND CRISIS MANAGEMENT

Governments' reaction to crises – apart from direct aid – has been to suspend to some extent the principles and practice of competition regulation.[2] This happened in the US in 1933, in the fourth year of the crisis, as the market had still not spontaneously sorted itself. After the election of Franklin D. Roosevelt (1933), Congress adopted a series of laws in order to implement the *New Deal* programme. In addition to labour, social security, banking, financial and other reforms, the National Industrial Recovery Act (NIRA) was also adopted. The *National Recovery Administration* (NRA) was set up to implement the Act.

The idea for such an organisation was not without precedent: the FTC's role had also shifted towards making deals with members of the business community and organising conferences on business practices with broad participation. By this point, public services were overseen by committees everywhere, and the experience gained by control bodies set up during World War I was also there to draw on. The idea of the central planning of economic processes was becoming more and more popular; some even proposed organising American industry into very large monopolistic trusts run under strong government regulation. Many saw the Depression and its length as evidence of the destructive nature of excessive competition (*Lyon et al.* [1935] pp. 4–6).

Subject to presidential approval, the NRA was allowed to exempt from antitrust laws the sectors that adopted the *Codes for Fair Competition*. Among other things,

[2] During the 2020 coronavirus pandemic, partial price controls were introduced covering certain products of which there were shortages. Additionally, in some countries, such as the United Kingdom, some sectors (e.g. retail) requested a suspension of competition laws in order to allow them to cooperate. Contrary opinions were soon voiced too: fixed prices undermine meeting the excess demand, as eliminating price signals weakens profit motivations.

the Codes included sectoral wage rules (minimum wage, working hours) and price controls (minimum price, cost-dependent minimum price, other price fixing mechanisms). Over the course of a year and a half, more than 500 Codes were drawn up, overseen by sectoral "code authorities". Both the approval process of Codes and the torrent of complaints about compliance proved to be a heavy burden for the new organisation. The NRA was supposed to protect small businesses, but Codes, which supported the emergence of cartels, did nothing to promote that objective. The NRA was seen as a temporary institution, set up only for crisis management, estimated to last two years (June 1933 to June 1935). However, shortly before the two-year deadline, the Supreme Court declared the operation of the NRA illegal in a decision issued regarding the interpretation of one of the Codes, finding that the issuing of Codes was an unconstitutional delegation of legislative powers. The organisation was dissolved, and by the late 1930s, the FTC returned to taking a more forceful approach to tackling anti-competitive behaviours (*Alexander* [2001]).

The Brookings Institute, which monitored and documented the operation of the NRA from its inception, drew up a detailed report on its activities in 1935. The Brookings Institute analysts found that the costs and prices, which were influenced by the NRA, were determined in an arbitrary and random manner, and the results were often the opposite of what was desired; there were serious doubts as to whether any overall positive effect could be shown (*Lyon et al.* [1935] pp. 881–887). Subsequent analyses also questioned whether the intervention helped resolve the economic crisis; some even felt that introducing anticompetitive governmental measures contributed to slowing down the economic recovery (*Lőrincz* [2014] pp. 41–42, *Cole–Ohanian* [2004]).

In addition to legislation and institutions affecting the entire economy, there were also attempts to save large groups of struggling businesses. For instance, in Italy, the Institute for Industrial Reconstruction *(Istituto per la Ricostruzione Industriale, IRI)* was set up in early 1933. The state-owned holding company took over industrial stocks with the plan to gradually return them to the private sector later. The financial resources made available to banks, which held many industrial shares, amounted to 10% of GNP in 1933 (*Ciocca–Toniolo* [1984] p. 134). The IRI, like the NRA, was meant to be a temporary institution, but it soon became clear that the state of the economy was not congruent with the declared IRI plans, and it was made permanent in 1937.[3] The model was copied by others later: Spain's *Instituto Nacional de Industria* (INI) was set up in 1941, and Italy created the *Ente Nazionale Idrocarburi* (ENI) to support the energy industry in 1953.[4]

[3] By the 1950s, IRI controlled 80 percent of shipbuilding, 40 percent of railway rolling stock manufacturing, 60 percent of raw iron production and more than 40 percent of steel production (*Foreman-Peck* [2006] p. 42).

[4] War can also push the economy away from the ideal of competition-based operation. During World War I, several countries nationalised companies, generally temporarily. For instance, the US nationalised AT&T, the telecommunications company.

During the great 1930s reshuffling of the banking system and industrial financing, most European countries adopted new banking laws (*Cassesse* [1984]). One thing these new laws had in common was excluding the activities of banks from the scope of commercial law in many respects, thus allowing direct forms of state control and, when necessary, intervention. Forms of credit flow were regulated, short- and long-term lending were regulated separately, new requirements were introduced in order to ensure liquidity, limits were put on the amount of industrial stocks banks could hold etc. State control over banks also meant that the state was forced to make decisions on the fate of lots of companies.

In December 1931, a new institution was set up in the United States as well: the *Reconstruction Finance Corporation* (RFC). The RFC provided loans to banks, railways and state and local governments, and later on – as deposit insurance had not yet been introduced – also participated in the compensation of bank deposit holders. After 1941, the RFC participated in the financing of large military investments. It was abolished in 1957. As the above shows, similar crisis management mechanisms were used in various countries, but the differences in their economic environment significantly affected their lifespan (*Kindleberger* [1984]).

Crisis cartels were strengthened as part of the crisis response in the United States, Italy and other countries, including Germany[5]. Market structures were clearly shifting, but there were other measures pointing in the direction of cartel growth, too. In Italy, a ban on setting up new factories and expanding existing ones was put into place, and corporatist trade unions were set up by the state with the power to sign regional wage agreements. In Germany, wages were frozen in the year Hitler took power, and the number of cartels was raised with an eye towards the state taking control (*Cole–Ohanian* [p. 2013]).

The dividing line between bank bailouts and corporate bailouts was fuzzy during the 1929–1933 crisis, partly due to the characteristics of banking systems. During the 2008 crisis, strong attempts were made to apply the methods used in the banking bailouts to the corporate sector, but they met great resistance. Attempts were also made during the 2008 crisis in the United States to set up a new institutional framework for corporate bailouts. After the adoption of the law aimed at rescuing the finance sector (*Emergency Economic Stabilization Act of 2008*), partly inspired by that Act, proposals have been made on how to make troubled companies more viable in the long run by supplementing the Bankruptcy Act (*Pearl* [2008]). However, the consolidation of the banking sector itself also required a series of decisions that distorted competition.

[5] The highest court of the German Empire held in 1897 that business freedom and the freedom of contract meant that cartels did not violate the business interests of other market operators. This kicked off a period of fast cartel growth, with 385 cartels by 1905, 550-600 by 1911 and 1500 by 1923. Although the Government tried to curb abuses of economic power, the only measure they managed to put into place was cartel registration. By 1933 – the time of the Great Depression – there were 3000 to 4000 cartels in Germany (*Kühn* [1997] pp. 116–117).

Between 2008 and 2010, € 1.5 trillion was spent in the European Union on bank bailouts (state guarantees, recapitalisation, asset impairment, liquidity support), which amounted to 12.5% of GDP at the time (*Lannoo–Napoli* [2010] pp. 10–12). The European Commission did make an attempt to avoid competition-distorting aid (for instance, aid could not be used for acquisitions), and it gradually shaped the support approval system through its decisions, but even so, various member states took some measures that were seen as distorting competition, and which ended up before the European Court of Justice.[6] Some bank bailouts took the shape of nationalisation. Where such ownership shares stayed in the state's hands for longer periods, the distortion to competition was assessed to be greater. (*Igan et al.* [2019] p. 9).

The "too big to fail" principle[7] was an important argument for the bailout of the banking sector, and some wanted to apply it to other sectors as well. Bankruptcy and liquidation organisations applied this principle to large American auto makers, and demanded an amendment of the Bankruptcy Code. Other experts, while admitting that the crisis of the motor industry could lead to widespread losses due to the central role of the industry in the economy (massive supplier network, large dealership and service network), felt that it did not have the potential to cause systemic collapse. If companies are not eliminated in accordance with bankruptcy law, then the market-cleaning power of competition cannot be realised, and companies with poor management or a poor business model are not allowed to fail (*Committee on Banking...* [2009] pp. 80–94). In the end, the American auto industry bailout did not follow the "too big to fail" principle; in some cases, troubled companies were given support using a special version of bankruptcy proceedings (Chrysler, General Motors). The state acquired ownership, manufacturer warranties were supported by the state, demand support measures were enacted, the financing issues of distribution networks were treated and new company managers were appointed (*Tracking...* [2011]).

Car makers were given support outside of the United States as well. Although previous British experience, after the failure to rescue British Leyland several times, was not very promising and none of the companies came close to bankruptcy, car makers in France, Italy and Spain were given significant amounts of support aimed at propping up demand, supporting research and development and maintaining their distribution network. The European Commission threatened to take action against the elements of the French bailout measures that aimed to protect French jobs and suppliers only. The competition commissioner at the time, Neelie Kroes stressed that state aid measures must comply with both competition policy and free movement of capital rules.

Although crises require immediate intervention, and experience from previous crises can provide some guidance in choosing intervention methods, crisis man-

[6] On the competition-distorting effects of the measures taken in the Hungarian banking system during the crisis, see *Várhegyi* [2012].

[7] For detailed analysis, see *Mérő* [2013].

agement measures that can be removed from the regulatory palette in a short time should be applied once the crisis has stopped spreading (*OECD* [2009*a*]). One common reason why crises drag on is that extraordinary measures are kept in force in the hope that their cost will eventually be recouped. This is borne out by the above-mentioned experiences of the 1930s crises. At the same time, economic analyses did not question the importance of the role of competition in the economy. The banking sector's "too big to fail" principle was eventually replaced by the consideration of systemic risk, and strong objections were voiced against using the principle in the real economy. In fact, the American Congress declared, at least in principle, that the "too big to fail" principle would not be applied any more.

Relatively few analyses of the results of the measures have been published. Without these, recovery from the crisis can prove to be a success for all instruments, creating a lower level of acceptability for state intervention. Corporate behaviour is also affected by state intervention seen during a crisis: it may pay to exaggerate the dangers. The 2008 crisis and the following sovereign debt crisis siphoned available funds away from industry support (*Delgado* [2011] p. 8). When the 2008 financial crisis was over, further active state participation in various industrial support programmes was announced. In the United States, Barack Obama announced the creation of 15 manufacturing industry innovation centres. In the United Kingdom, Prime Minister David Cameron, citing the market's inability to generate the industrial capacities needed by the country, announced in November 2012 an industrial strategy designed to meet this objective. In Japan, Prime Minister Abe Shinzo set up a new government body aimed at promoting economic growth, which included a new industrial competitiveness council that draws up an economic growth strategy (*Stiglitz et al.* [2013] pp. 2–3).

The crisis generated renewed interest in the manufacturing industry. 70 percent of world trade is made up of products of the manufacturing industry, and 85 percent of research and development subsidies goes to manufacturing. The European Union's goals include increasing the share of the manufacturing industry. Industry 4.0, the digital structural reform that is also called the new industrial revolution – the emergence of new types of consumption and trade – has posed a new challenge to competition and sectoral regulation. On the public policy palette, the crisis of 2008 and its afterlife pointed to a new balance of industrial and competition policy instruments.

SEESAW: THE COEXISTENCE OF COMPETITION AND INDUSTRIAL POLICY

The imperfect operation of markets motivates governments to intervene. They appear to have two types of intervention options, but some authors consider competition policy to be a type of industrial policy. According to *Armentano* [2007], most American antitrust regulation is essentially a type of government planning. Merger guidelines determine which companies may merge and how, and they can even require certain parts of a company to be sold. The history of antitrust regulation is full of decisions involving market restructuring, such as the case of *Standard Oil* and *AT&T*, when it was decided to break up entire industries (p. 25).

The court issued its decision on the telecommunications monopoly of AT&T in 1984, and until the new telecommunications law was adopted in 1996, the judge essentially became responsible for implementing telecommunications policy. In the case of Microsoft's antitrust lawsuit, breaking up the company was again one of the options; in the end, an agreement was reached setting out behavioural remedies, which had to be constantly monitored. We quoted the opinion of *Greenspan* [1967] on the Sherman Act, which, in Greenspan's opinion, kicked off a series of erroneous decisions. *Armentano* [2007] believes that antitrust regulation cannot be reformed, and the Act and the authorities should be abolished. There was a time when Ronald Coase, seeing the long-standing problems with the operation of the communication regulatory authority, the *Federal Communications Commission*, also felt that perhaps it would be best to abolish it (*Coase–Johnson* [1979]).

Court decisions can be based on a mix of industrial and competition policy considerations; quite often, decisions made in antitrust cases appear to be based on industrial policy considerations. If consumer welfare is not what is considered, then attention is often focused on competitors and not competition, resulting in decisions with industrial policy implications. When competition policy is used to achieve multiple goals, industrial policy considerations may come to the fore. Court decisions lag behind public policy changes, and they are influenced by prior decisions, which can create a "path dependency" in courts. American jurisprudence is a good example of this. Daniel Sokol describes the 1950s and 1960s as follows: big was still considered bad, merger efficiencies were ignored, vertical restraints were per se illegal, intellectual property was subject to the nine no-nos. From the 1970s, decisions based on these principles were increasingly seen as aid provided to inefficient competitors (*Sokol* [2015] pp. 1251–1252).

However, the scope of competition law has always been rather limited. In regulated industries (banking, railways, telecommunication, energy industry etc.) in the period before deregulation, competition authorities did not have much control over the industry. After market liberalisations, the sectoral regulators had more limited powers, but their approval is still required for mergers, for instance. Nevertheless, there are numerous other economic sectors that are legally – fully or partially – exempt from competition regulation. Agriculture, fisheries and insurance enjoy exemptions in most places; the United States has more than 30 such exemptions (*White* [2008] pp. 7–10).

The provisions of other laws often conflict with antitrust. These include regulations on tariffs and quotas, agricultural subsidies, state procurements that prioritise the purchasing of domestic products, taxes or subsidies that selectively affect specific sectors, or even prioritising domestic companies when it comes to commissioning military research or production. In the United States, state rules could also result in reducing competition. In regulated industries, the number of bank branches, road transport companies or long-distance telephone service providers within a state could be capped. In 1943, the Supreme Court held that such limitations are only valid if they are clearly part of state policy, and the state itself oversees their enforcement (e.g. taxis).

Exemption from competition rules is often justified by citing market failures. Well-intentioned efforts to fix these problems are often mixed with various forms of lobby activities, which several models of rent-seeking behaviour have sought to explore (*Dal Bó* [2006]). The history of the FTC, described above, illustrates how quickly an authority set up with the best intentions can be captured by diverse interest groups. Occasionally there are efforts to reduce the interplay between politics and the economy; the United States Congress passed several laws on campaign financing, such as the Tillman Act of 1907 or the Federal Corrupt Practices Act of 1925. However, a 2010 Supreme Court decision dismantled the restrictions on political contributions, giving rise to even stronger suspicions among those who protest against intertwining (*Lamoreaux* [2019] p. 113).

Up to the early 90s, certain types of public procurements were seen as especially important in Europe. In most countries, certain services (water, natural gas, electricity, telecommunications, mail, transport) were provided by state-owned companies. The ratio of state purchases was quite high in developed market economies (up to 10–20 percent of GDP), and in some sectors, there was essentially no trade between the countries of the Common Market. In these markets, a state buyer in a monopoly position was facing a monopolistic or oligopolistic private supplier, manufacturer, which made the buyer-seller relationship interdependent.

Buyers, who were operating large technological systems, infrastructures, primarily needed technologically reliable suppliers who could meet special needs and were able to ship quickly in all circumstances. In return for meeting these requirements, domestic suppliers demanded relatively continuous orders, partial payment of the development costs – which are extremely high for these products – and the most powerful restriction of import competition. In markets like this, prices were of course largely secondary to other conditions (technical parameters, reliability, delivery deadlines). The European Commission analysed a situation of this type – the special relationship between a supplier and its state- or municipally-owned customer – in connection with the merger of the rolling stock manufacturing units of *Asea Brown Boveri* and *Daimler Benz* (*Motta* [2004] pp. 286–292). The 2019 *Siemens–Alstom* case was part of the wave of rolling stock manufacturing mergers that followed suit.

The justifications brought up for the exclusivity of domestic orders, apart from the mutual dependence, have included strategic interests and employment policy considerations. Mutual dependence was conserved by differing country standards (e.g. in railways, in telecommunications and in electricity production), direct subsidies and research and development contributions. In the late 1980s, a study done for the Commission showed that all countries had manufacturing capacity for most product types purchased by the state, but they did not sell to each other. Eliminating restrictions could generate significant savings (*Cost of Non-Europe…* [1988] pp. 3–15, 44). This is a special type of restriction of competition, in which a state buyer with exclusive rights prevents foreign competitors from entering the market through its purchasing policy.[8] By the late 1990s, when exclusive arrangements ended and most suppliers were privatised, the tight constraints on suppliers were loosened, and a powerful shift started among manufacturing industry suppliers.[9]

There were examples of competition-distorting state aid of dubious value in every era. Part of the problem is that subsidies were already targeted at declining sectors. There was rarely any attention paid to the issue of how much these subsidised companies – the survival of which was desirable for the employment they provided or for other reasons (winning votes, for instance) – reduced the otherwise efficiency-increasing effects of competition. The German economic miracle happened with significant state aid.[10] While state aid only amounted to half a percent of net domestic product in the 1930s, they rose to 2 percent during the post-war boom. However, the bulk of the money was spent in declining industries, such as coal mining, steel manufacturing, the textile industry and shipbuilding.

German reunification once again consumed massive amounts of state aid, and the distribution of funds among federal, state and local levels of government meant that the lower the level of decision-making, the more likely the funds were to end up in declining sectors. In some member states of the European Union, the share of state aid in the manufacturing industry became extremely high by the 1980s: close to 10 percent in Italy and 13 percent in Greece, compared to 3-4 percent in Germany and the UK (*Foreman-Peck* [2006] pp. 47–48).

Regarding political influences, we should note that analysis by the European Community on state aid and politics in ten countries in the 1980s showed that a more fragmented party structure generally correlated with higher state aid ratios.

[8] Ericsson is often brought up as an exception: it did not get domestic orders, so it had to find export markets and became a successful company through that.

[9] In the United States, high tech sectors were prioritised when it came to state purchases. In the 1970s, 80 percent of the output of the aeronautical industry, 50 percent of telecommunications equipment manufacturing and 40 percent of electronic device component manufacturing was for state buyers, directly or indirectly. The largest buyer was the military (*Wescott* [1983] p. 145). State subsidies was also handed out in emerging projects on an ad hoc basis, often unsuccessfully. The Anglo-French Concorde airplane project was carried out with significant state support, as was the development of British AGR nuclear reactors.

[10] An increasing number of authors question whether state policies really had as much of a role in Japan's similarly successful post-war growth as was previously thought. There are especially strong doubts around the role of Japan's Ministry for International Trade and Industry (MITI). Truly successful, growth-generating, efficiency-increasing industries grew to a large size without state support (Sony, Honda, Panasonic); what is more, state aid, due to its powerful political aspects, did more to slow growth than to spur it (*Hatta* [2017]).

When companies were in a stronger lobbying position and a right-wing government was in power, state aid was higher. However, the time to the next elections was not shown to have any influence on state aid (*Neven* [1994]).

The spectrum of industrial policy interventions includes creating national champions as well as keeping foreign companies out of the national market. Naturally, national champions can now be international (European) like *Airbus*, or as supporters of the *Siemens–Alstom* merger thought. The "creation" of national champions became popular in the 1960s (although companies may have been given support with the same justification at other times too), when it was felt in France that the right answer to the "American challenge" was to create internationally competitive companies through mergers and state aid.

Similar processes took place in Britain too: the job of the Industrial Reorganisation Corporation (IRC), established in 1966 and operating for four years, was to merge other companies into what was considered to be the best company of the sector. This was the case, among others in the automotive industry, the electrical engineering industry. This is also how the steel giant British Steel was created out of 14 companies, despite the fact that the British competition authority of the time (the Monopolies and Mergers Commission) opposed the mergers (*Bollino* [1983] p. 52, *OECD* [2009*a*] p. 27). In the early 2000s, the German competition authority also opposed the merger of E.ON and Ruhrgas; however, the competent ministry supported it, and eventually a deal was reached, allowing E.ON to buy out Ruhrgas' shareholders.

During the period of privatisations, there was an especially strong drive to stop companies and service providers from ending up in the ownership of foreign stockholders, or at least delay that process. This was made possible by the introduction of "golden shares". This special share type was introduced in part to appease the opponents of privatisation, and in part to keep out foreign capital, which was felt to be justified in some cases. There was also an intention to protect newly privatised companies from unexpected mergers and acquisitions, and to control market concentration processes. Out of the 18 stock market privatisations in Great Britain, special shares were used in 15 cases. In the European Union, a review of this special share type started in 1997, and it was found to be contrary to the operation of the European Union. By 2004, member states largely ended their use. Mergers of domestic companies also provided opportunities for keeping foreigners out. One example is the merger of GdF and Suez in France in 2008, when the Italian ENEL's bid to obtain Suez was blocked. The Government backed the GdF-Suez merger, and the European Commission didn't block it, only requiring company divestiture remedies.

While large corporations were being created in Europe – which doesn't necessary mean a general increase in industrial concentration – attention was paid repeatedly to concerns about size in the United States. In the late 1930s, President Franklin Roosevelt created a special committee (Temporary National Economic Committee), which spent three years examining the issue of the concentration of economic power. First, the committee examined the patent issues of some specific sectors (glass, automotive), then it made proposals for the reform of the patent system. The study commissioned by the committee described how large companies used patents as barriers to entry, and how licensing agreements in reality functioned as market sharing arrangements. The committee recommended making licence handovers compulsory, so that anyone could purchase licenses for a fee. Although Congress did not adopt the proposal, the committee chairman, who was also the head of the DoJ's antitrust department, applied it in his day-to-day work. 136 such licence agreements were signed until 1975 (*Lamoreaux* [2019] pp. 107–108).

In the 1950s and 1960s, company size was the main consideration in American competition regulation; market structure was seen to be the main source of problems. Inquiries were based not around companies, but industries or sectors, the structure of which fundamentally determines the decisions and behaviour of companies, which is reflected in their performance. The structure–conduct–performance (SCP) paradigm is essentially this method of analysis as applied to competition regulation. By the 1970s, the validity of this paradigm was questioned as the number of available economic analysis tools grew: such as game theory models allowed for more refined analyses of corporate behaviour than before.[11] However, better analysis failed to bring about an immediate paradigm shift in the practice of American antitrust law. Courts were slow to accept new economic arguments, and the authorities – although they reached their conclusions using the new toolbox – often based the arguments they made in court on market share and market structures (*Shapiro* [2019] pp. 74–75).

The change is well illustrated by the work of two successive committees of two consecutive presidents. While preparing for the 1968 election, Lyndon Johnson asked Phil C. Neal, law professor and Dean of the University of Chicago to set up a committee to prepare a report on competition in the American economy, and make proposals for the reform of antitrust. The report was completed four months before the election (see *Hovenkamp* [2009]), but Johnson did not use it in his campaign, as he withdrew from the candidacy.

The report proposed fundamental reforms, including a new law on concentrated industries, based on which inquiries could have been launched against oligopolies. The proposal was not to allow a company to have more than 12 percent market share in the sector if oligopolies are broken up. Furthermore, a ban on mergers was proposed if the combined market share of the four largest companies exceeded 50 percent, or if the market share of the company wishing to merge exceeded 10 percent. The report suggested indiscriminate licensing agreements once again, i.e. if a single licence sale was made, all other licence agreements should be required to have the same terms. The report was not adopted unanimously, and none of its

[11] On the changes of the use of economic analysis in competition policy and a detailed analysis of this process, see *Valentiny* [2019].

recommendations were implemented. The election was won by Richard Nixon, who set up a committee of his own, led by professor of economics George Stigler, also from the University of Chicago. The committee rejected any assumed correlation between market concentration, profit size and constraints of competition, and made numerous technical proposals to amend the competition rules. The recommendations of this committee were not implemented, either (*Hovenkamp* [2009] pp. 1–3).

In the structure–conduct–performance framework, they focused on the sector, and sought to interpret the relationship between market structure and performance through cross-sectoral comparisons. Through this process, the problem of endogeneity became clear; thus, causality was not determined with any degree of confidence. Therefore, the focus shifted to the behaviour of companies: new inquiries – stressing the differences between sectors and the importance of details – were launched taking into account the institutional specificities of each sector. A more thorough consideration of efficiency, the theory of contestable markets and empirical studies based on these ideas started to chip away at the validity of the structure–conduct–performance model, and eventually the use of game theory models brought about its complete rejection. It was proven that size and profit are of course correlated, as the most efficient companies are the most likely both to grow big and to be profitable. In the 1980s and 1990s, instead of size, the focus was on the effects of corporate behaviour on competition and on the harm done to consumers.

Hosts of empirical studies confirmed that competition contributes to achieving industrial policy objectives. Productivity growth, which is a prerequisite for economic growth, is ensured by selection between companies and the elimination of inefficient companies. The most effective tool against inflation and excessively high prices is competition and effective competition enforcement. Competition can spur innovation, encourage new companies to enter the market and promote the rise of emerging industries (*OECD* [2009*b*] pp. 41–44).[12]

The process of deregulation, privatisation and market liberalisation, which started in the United States in the late 1970s and spread to Europe in the 1980s and especially in the 1990s, strengthened competition, even though it was based on "classical" industrial policy considerations: top-down transformation of certain sectors, often for budgetary reasons. These moves can also be seen as the result of a series of government failures, as the previous regulation of these sectors had proven insufficient in the United States. In Europe, it became clear that the state had been unable to provide management and investment financing to state-owned companies and service providers for decades. The end result – and partly, the intention – was the strengthening and stimulating of competition in numerous areas of the economy that had been free of competition in the last decades. The new sit-

[12] On the links between innovation and competition, and on innovation and research and development support as central issues of industrial policy, see *Aghion et al.* [2005], *Halpern–Muraközy* [2012], and *Lőrincz* [2014].

uation also brought changes to the relationship of sectoral authorities and competition authorities: sectoral regulation gradually started to use the analytical criteria of competition regulation when selecting markets that needed intervention, and, what is more, inter-institution connections grew stronger as well: the two operated as if they were one body (Germany) or were actually merged (Netherlands).

However, the analysis of the issues of American antitrust and its hundred-year history mask the fact that competition authorities are themselves quite new institutions, even if various other institutions and the courts had worked to promote the principles of competition before they were set up. In many cases, the creation of sectoral regulation predated the adoption of a competition law, for instance. More than 120 countries around the world have a competition law, but about 90 of them only adopted one after 1990 (*Hyman–Kovacic* [2012] p. 1). This applies to the countries that joined the EU in 2004, but it is also true of some older member states (e.g. Italy, Ireland, Netherlands). The growing acceptance of competition policy over the last two decades (though not necessarily its growing application) is reflected by the fact that when the organisation of competition authorities, the International Competition Network (ICN) was set up in 2001, it only had 14 members, but membership grew to 127 by 2013.

However, the crisis of 2008 also brought about a change in the perception of competition. Many hold failures of regulation – and especially the regulation of the financial sector – responsible for the crisis. The failure of a few large corporations (Enron, Worldcom) raised the issue of company size already before the crisis, even though they were more related to competition problems in another sector: excessive concentration in auditing. Companies founded before the crisis that grew to a large size, such as Amazon (1995), Google (1998) and Facebook (2004) kicked off another wave of concerns about company size. Only some of the issues are related to competition (these include the advertising ranking policy of Google, acquisitions, mergers), most of them are to do with other areas of public policy, such as data protection. There are continuous calls for breaking up these companies, which matches the goals of the "new Brandeisian" movement that is concerned with market concentration and company size in general.[13] This despite the fact that the above-mentioned company bankruptcies proved that poorly operating large companies can fail, and the market quickly fills their place. Keeping up with changes in social norms, reform proposals aimed at eliminating social inequalities have raised the possibility of changing the goals of a competition policy, which currently focuses on consumer welfare exclusively (*Fox* [2018]).

Many feel that industrial policy and competition policy complement one another. If an intervention of an industrial policy nature is carried out, then it has to be compatible with the principles of competition policy. Others hold the principle that industrial policy has to be limited to competition policy. According to the first

[13] For a detailed analysis of these issues, see *Gönczöl* [2019].

approach, industrial policy can only be successful if it affects sectors that already have competition, and does not limit competition. I.e. it must not lift companies out of this circle, but rather support all companies equally. Industrial policy needs to be horizontal (*Stiglitz et al.* [2013], *Sokol* [2015]). *Aghion et al.* [2015] carried out an analysis of Chinese companies, which indicated that a "competition-friendly" industrial policy is possible in principle. Companies' performance improved more in sectors where there was originally competition and where subsidies were spread as much as possible across the sector. Examined by support type, the findings were true of tax relief, but not of loans and import duties. How non-competition-distorting industrial policy interventions may be designed without influence from various interest groups is an open question of course. The main message of the analysis of *Agion et al.* is that the debate on industrial policy cannot simply be about taking a stand for or against industrial policy.

CONCLUSION

Competition policy and industrial policy are both (along with other public policy instruments, such as monetary policy and budgetary policy) part of a public policy package that governments use to try and achieve economic growth and greater welfare. Although their arguments and justifications are often opposed, they work in parallel in practice, with constant contact points between the two. This often makes it difficult to separate them, especially when considering the motivating force of interventions: the activities of interest groups. Competition regulation and sectoral regulation are carried out with the ambition of serving the public interest, but – as we have seen – the creation of the institutions overseeing them was marked by a compromise that emerged from the competition and conflict of a series of special interests. For instance, the implementation of the Sherman act was heavily influenced by such competing interests.[14]

Through the history of American regulation, the powerful lobbying influence of the regulatees generally played a significant role in the creation of federal regulatory agencies. The basis of federal telecommunications regulation was the 1913 Kingsbury Commitment, in which AT&T, under pressure from an increasingly ominous antitrust inquiry into its anticompetitive practices, proposed the introduction of federal regulation in the sector. In return for a legally protected monopoly, AT&T, in addition to state regulation, accepted federal regulation by the Interstate Commerce Commission (ICC), a body set up in 1887 that had only been involved in railway oversight up to that point (*Kiss* [2008] pp. 23–24).

[14] Regarding the interest group theory of regulation, *Antal-Pomázi* [2017] provides an analysis, proposes a model and tests that model.

The electricity industry has taken a similar approach to state regulation. The president of the most important electricity industry association, Samuel Insull stated as early as 1898 that service providers were interested in standardisation and the separation of peak and off-peak consumption, i.e. influencing demand patterns. The most suitable framework for this would be state or federal regulation instead of fragmented local administration and regulation – which had been the norm due to concessions. If the regulation were to include price regulation as well, then the industry, demanding in return the declaration of exclusive rights, would have to accept that as well (*Hausman–Neufeld* [2002] p. 1057). Insull's holding company eventually went bankrupt in 1931, for similar reasons in many ways to Enron in the 2000s (accounting manipulations, among other things). This bankruptcy played an important role in the 1934 creation of the stock market regulator and the 1935 creation of the federal electricity regulator (*Cudahy–Henderson* [2005]). Hearing the voices demanding regulation, Facebook recently proposed some regulatory conditions regarding itself, which the European Commission rejected.[15]

There are some areas in which there is less resistance to industrial policy interventions. One of these areas is the fight against the effects of negative externalities (e.g. environmental protection). Market competition is also seen to be limited in the knowledge industry (research and development), and interventions are accepted. Important public policy matters like the protection of democracy are also brought up as arguments in debates on competition or industrial policy. The actions against Standard Oil (1911), the distribution of radio frequencies in America (1920–1940) and the behaviour of today's high-tech companies all reflect the worry that companies with excessive economic power may take control of politics.

These all lead to the conclusion that market and competition don't exist in themselves: they both require as prerequisites a set of rules that determine their operation. The influencing of these rules in multiple directions is what the duality of competition and industrial policy is all about. The rules provide a framework, and market players may either adhere to or do not. Therefore, competition is not the default state of the market; the default state is a combination of competition and restriction of competition.

[15] Sectoral lobbies can make their voices heard not only for regulation, but also when it comes to deregulation. This type of rent-seeking intensifies when the incumbent's position is no longer sustainable, and the possibility of entering new markets arises (*Crew–Rowley* [1986]).

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• *Borbála Tünde Dömötörfy – Barnabás Sándor Kiss – Judit Firniksz* •

OSTENSIBLE DICHOTOMY?

By object and by effect restraints in EU competition law, with special regard to the *Budapest Bank case*

The purpose of our study is to examine the prohibition of anticompetitive agreements in EU competition law. Our analysis focuses on the frontier between by object and by effect restraints. After reviewing the development of the definitions of by object – by effect restrictions in EU case law, the paper shortly introduces the main definitions of anticompetitive agreement categories in the USA. The article provides a detailed analysis of the Opinion of Advocate General Bobek in the *Budapest Bank* case and the two-step test recommended in the Opinion. After a comparison of the aforementioned two-step test with US experience, our study summarizes our views about the ostensible nature of the dichotomy.

INTRODUCTION

EU competition law, similarly to its American counterpart, is a regime with a desire for constant or at least long-lasting regulation. The substantive legal rules that prohibit anticompetitive agreements[1] affecting trade between Member States, now a core element of EU competition policy, were already present in the 1957 Treaty of Rome, and they have been preserved, without major text changes, as Article 101 of the Treaty on the Functioning of the European Union (TFEU) since the Treaty of Lisbon (*Tóth* [2018] p. 60., *Szilágyi* [2007] pp. 146–147.). Article 101(1) TFEU is a general clause that prohibits those agreements and concerted practices that are anticompetitive by object or effect.

- "The following shall be prohibited as incompatible with the internal market: 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 ..." (Article 101(1) TFEU.)

By reading the text of the Article, one should almost immediately ponder on the meaning of and difference between anticompetitive object and effect. The general

[1] For the sake of clarity, in the present article we use the word 'agreement' as a single term for agreements and concerted practices.

clauses of TFEU have the ability of constant adaption, the downside being their reluctance to provide detailed answers by themselves. Article 267 a) TFEU stipulates that the Court of Justice of the European Union (CJEU) has exclusive jurisdiction in the interpretation of the terms of anticompetitive object and effect as they are derived from the text of the Treaties.

The CJEU was the first to hold[2] that the relationship between anticompetitive object and effect is not cumulative but alternative, from which it developed the consistent case law that did not require the establishment of anticompetitive effects if an agreement had already been found to be restrictive by object, because in such a case anticompetitive effects would be obvious, and the agreement would qualify as *prima facie* anticompetitive.[3] Consequently,

- "establishing the object of an agreement is an exercise that differs from the evaluation of its impact on competition" (*Ibáñez Colomo–Lamadrid* [2016] p. 16).

Nevertheless, the apparently straightforward dichotomy of object and effect and the relatively strict distinction between the two notions, confirmed by earlier decisions, have been fairly confounded by the CJEU'S case law of the last decade. The extent and depth of the examination of an agreement's economic background, as well as their actual or potential economic effects have been taken under consideration. The CJEU's latest case law has suggested a possible expansion of by object restrictions (*Whish–Bailey* [2018] p. 125), which ultimately gave rise to concerns that decisions made by the European Commission (Commission) or national competition authorities would consider more agreements as restrictive by object, whereas their factual circumstances would reasonably necessitate an effects test.

Intentions to resolve the above situation can be found in AG Michal Bobek's Opinion, submitted in the *Budapest Bank* case (Opinion).[4] The two-step test, presented by the Opinion, aims to synthetize the substantive legal requirements to distinguish by object restrictions, that is, the elements of a case that should fall under scrutiny and the order of investigation, executed by the competition authorities in the first place and the courts in the course of judicial review.

In the present article we argue that the object analysis established by the Opinion does not bring back the former strict dichotomy of object and effect, instead it moves toward an approach that designates the terms of anticompetitive object and effect as the extremes of a continuum. In this model, the area between the extremes

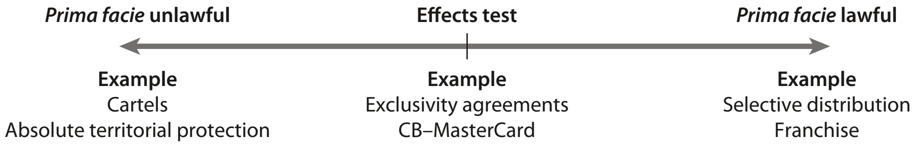
[2] Case C-56/65, *Société Technique Minière (L.T.M.) v Maschinenbau Ulm GmbH,* EU:C:1966:38, para 249.

[3] See *Ibáñez Colomo* [2019] p. 3, which considers cartel infringements as *prima facie* breaches of competition law.

[4] Case C-228/18, *Budapest Bank and Others v Gazdasági Versenyhivatal,* Opinion of AG Bobek, ECLI:EU:C:2019:678. We note that since the original publication of the present article in Hungarian, the judgment of the CJEU has also been published (ECLI:EU:C:2020:265).

represents an intermediate category, where the extent of economic analysis will be dependent on the appreciation of competition authorities and courts.

This continuum can also be viewed in *figure* below.



Source: Ibáñez Colomo [2019] p. 3.

This extended discretion will not only require the respect for client guarantees during competition proceedings and judicial review more than before, but it also has a close resemblance to the case law and policy developed under the US antitrust regime.

Although antitrust law in the United States stands on the ground of single regulation from its beginnings, the notion of *per se* illegality and the *rule of reason* test might also give the first impression of a dichotomy. This first impression is also an ostensible one, however, on account of the so-called *quick look* test, widely recognized in American antitrust literature, which is distinguished from the *rule of reason* principle, and because the rule of reason test itself does not offer clear-cut requirements for the depth and strictness of legal and economic analysis (*Markham* [2012] p. 594).

Therefore, in our article, we argue for the existence of relevant similarities that can be identified between the two-step test of the Opinion and the regime developed by US antitrust case law, which might as well be the takeaways for future European competition enforcement.

THE EVOLUTION OF THE ASSESSMENT OF BY OBJECT RESTRICTIONS UNDER EU LAW

Albeit the wording of Article 101(1) TFEU has remained basically unchanged since its creation, the relationship between anticompetitive object and effect – due to the conjunction ‘or’ used in the text – prompted questions early in the days of European integration, and the CJEU held in 1966 – in the landmark case of *LTM*[5] – that the conjunction ‘or’ between object and effect means that these are not cumulative but alternative requirements.

EU case law has been considerably expanded over the decades on the issue of distinction between object and effect. Relevant judgments can be divided into three categories, taking into account the generality or singularity of their statements. In

[5] Case C-56/65, supra note 2, p. 249.

the first category are elements of the case law that concentrate on defining the notion of 'anticompetitive object' as the object of judicial assessment. In the second category one can place relevant judgments that concern the extent and depth of scrutiny, the methodology of qualifying agreements as restrictive by their object. In the third category are the agreements that are considered to be restrictive by object in the courts' view, given their factual circumstances. It might also be possible to describe the above categories as elements of the case law that attempt to answer the following questions:
1st category: What is the definition of anticompetitive object?
2nd category: What must be examined in order to establish a by object restriction?
3rd category: Which agreements can safely be considered as restrictive by object?

Naturally, the contents of the above categories are interrelated and they cannot be distinguished in each case as it is obvious that a judgment that falls into the 3rd category might also be the source of general remarks from the CJEU on the nature of anticompetitive object and the methodology of investigation. Furthermore, upon close scrutiny one might have the impression that the 1st and 3rd categories are dependent on the extent and depth of investigation, more specifically, the 2nd category of the case law.

The case law of the CJEU and the General Court of the European Union (GC) leaves only a narrow margin of appreciation on the definition of anticompetitive effect. According to the CJEU,

- "certain forms of collusion between undertakings can be regarded, by their very nature, as being injurious to the proper functioning of normal competition."[6]

It is the very nature of the agreement that must be proven by the competition authority as being injurious and restrictive to competition. It is also clear that the intention of the parties cannot serve as an indication to the nature of the agreement (although it can also be taken into account), because the nature of the agreement is an objective element that must be examined in context.[7]

Within the 3rd category are the anticompetitive agreements that are part of the 'object box' established by *Whish–Bailey* [2018] (p. 132). Accordingly, it is established that

[6] Case C-209/07, *Competition Authority v Beef Industry Development Society Ltd. and Barry Brothers (Carrigmore) Meats Ltd.,* ECLI:EU:C:2008:643, para. 17; Case C-8/08, *T-Mobile Netherlands and Others v Raad van bestuur van de Nederlandse Mededingingsautoriteit* [2009] ECR I-04529, para. 29; Case C-226/11, *Expedia Inc. v Autorité de la concurrence and Others,* EU:C:2012:795, para. 36; Case C-67/13, *Groupement des Cartes Bancaires v Commission,* EU:C:2014:2204, para. 50.

[7] Case C-32/11, *Allianz Hungária and Others v Gazdasági Versenyhivatal,* ECLI:EU:C:2013:160, paras. 36–37; Joined Cases C-501/06 P, C-513/06 P, C-515/06 P and C-519/06 P, *GlaxoSmithKline Services Unlimited v Commission,* EU:C:2009:610, para. 58.

- "certain collusive behaviour, such as that leading to horizontal price-fixing by cartels, may be considered by their nature as likely to have negative effects, in particular on the price, quantity or quality of the goods and services, so that it may be considered redundant, for the purposes of applying Article 101(1) TFEU, to prove that they have actual effects on the market."[8]

Pursuant to the case law, the following are considered to be restrictive by object:
– horizontal price fixing,[9]
– market sharing,[10]
– export bans,[11]
– agreements to reduce output and production capacity,[12]
– exchange of information between competitors[13] or
– vertical price fixing.[14]

Nevertheless, Bailey and Whish acknowledge themselves that the contents of the 'object box' cannot be defined in a clear-cut way, and that infringement types caught because of their anticompetitive object may increase as the markets change and new forms of anticompetitive practices are recognized.[15] In certain cases, where the anticompetitive behaviour of undertakings can be considered as restrictive, factual background may ultimately alter qualification. Therefore, the economic background of agreements must always be examined (*Whish–Bailey* [2015] pp. 131–132).

The 1st and 3rd categories are undoubtedly connected to the uncertainty concerning the methodology of the object test, with regards to the object, process and depth of this test. The solution to this problem would try to distinguish the object test from the effects test. In the often-cited *LTM* case, the CJEU held that the object of the agreement should be examined in the first place, in the economic context in which it is to be applied.[16] If

- "does not reveal the effect on competition to be sufficiently deleterious, the consequences of the agreement should then be considered and for it to be caught by the prohibition

[8] Case C-345/14, *SIA Maxima Latvija v Konkurences Padome,* ECLI:EU:C:2015:784, para. 19.
[9] Case C-345/14, para. 22; Case C-67/13, para. 51; Case T-374/94, *European Night Services and Others v Commission* [1998] ECR II-03141, para. 136.
[10] Case T-374/94, supra note 9, para. 136.
[11] Ibid.
[12] Case C-209/07, supra note 6.
[13] Case C-8/08, supra note 6.
[14] Case C-243/83, *SA Binon & Cie v SA Agence et messageries de la presse* [1985] ECR 02015.
[15] It is interesting to note that *Whish* [2010] argues for the continuously refined and narrowed object box in the sixth edition of the cited book, pointing to the *Visa International, Erauw-Jacquery, Javico* and *GlaxoSmithKline* cases (*Whish* [2010] p. 120.)
[16] Case C-56/65, supra note 2, p. 249; see also Joined Cases C-96-102/82, C-104/82, C-105/82, C-108/82 and C-110/82, *IAZ International Belgium and Others v Commission* [1983] ECR 03369, para. 35.

> it is then necessary to find that those factors are present which show that competition has in fact been prevented or restricted or distorted to an appreciable extent."[17]

In the *BIDS* case, the CJEU applied the above to find the agreement made between the members of *Beef Industry Development Society* (BIDS) reducing beef production capacity by 25 percent and applying incentives that encourage competitors to exit from the market to be restrictive by object.[18] According to the CJEU, the infringement committed by BIDS is prohibited even if the undertakings entered into the agreement without the subjective intention of limiting competition, in order to remedy the negative effects of the economic crisis suffered by the Irish beef industry. The CJEU also denied to accept BIDS's argumentation that called for a narrow interpretation of by object infringements,[19] which might be regarded as a foreshadowing of its future case law.

In the *T-Mobile Netherlands* case, the CJEU took a step towards expanding the definition of anticompetitive object. The background of the case is that the Dutch mobile service operators had started negotiations on the reduction of standard dealer remunerations for postpaid subscriptions. The CJEU, after a summary of the developments in *BIDS* and former case law, held that in the case of a concerted practice such as the exchanges of information, it is not necessary to carry out an effects test. In order for a concerted practice to be regarded as having an anti-competitive object, it is sufficient that it has the potential to have a negative impact on competition. According to the CJEU, the concerted practice at hand, with regard to its specific legal and economic circumstances, was capable of resulting in the prevention, restriction or distortion of competition.[20]

A few years later, in the Hungarian *Allianz* case, the CJEU had to decide whether the vertical agreements between the Hungarian the national association of authorised car dealers (GÉMOSZ) and certain insurance companies were anticompetitive by object. Similarly to the *BIDS* and *T-Mobile Netherlands* cases, the CJEU accepted an expanded interpretation. While repeating the doctrines already stated in *LTM*, the CJEU amended it by holding that in the economic and legal context of the agreement,

- "it is also appropriate to take into consideration the nature of the goods or services affected, as well as the real conditions of the functioning and structure of the market or markets in question."[21]

[17] Case C-56/65, supra note 2, p. 249; Case C-209/07, supra note 6, para. 15.
[18] Case C-209/07, supra note 6, para. 40.
[19] Ibid. paras. 21–23.
[20] Case C-8/08, supra note 6, para. 31.
[21] Case C-32/11, supra note 7, para. 36.

The CJEU also elaborated that it is necessary to take into account the fact that an agreement such as the one in the hand case at hand is likely to affect not only one, but two markets, in this case those of car insurance and car repair services, and that its object must be determined with respect to the two markets concerned.[22]

The judgment in *Allianz* acknowledged the admissibility of new factors in the object analysis (*Nagy* [2016] p. 177). Parts of this analysis mentioned by the judgment had only occurred before in cases that were related to the implementation of the effects test.[23] This might have made the impression that the object and effect analyses were obfuscated (Ibid. p. 186), which made future competition enforcement uncertain.

Assuredly, by object restrictions had facilitated compliance for undertakings by defining the absolutely and unequivocally prohibited competition infringements in a kind of 'blacklist.' Contrary to the above practice, the CJEU in *Allianz* considered a vertical agreement to be anticompetitive by object that, according to general case law, would have qualified more favourably, while, on the other hand, it automatically considered this agreement to be a more serious infringement because it had violated national regulations of the insurance (!) sector (*Komossa* [2013] pp. 418–419). In light of the preliminary judgment, the Kúria (the Hungarian Supreme Court) held that the agreement between GÉMOSZ and the insurance companies was anticompetitive by object.[24] Apparently, the contents of the 'object box' had been expanded by an ambivalent example.

The CJEU applied the precedent in *Allianz* to adjudicate the *Cartes Bancaires* case. The Commission had found that the agreements between French banking institutions that operated bank card payment systems, having as their goal to balance the financial burdens of card acquirers and card issuers, as well as to regulate acquiring and issuing activities and to combat 'free-riding' in the above system, constituted an infringement of competition by object. The GC upheld the decision, accepting the Commission's analysis.[25] According to the first-instance judicial assessment, the practice of the undertakings in question was similar to the members' of BIDS, because the agreements were essentially limiting capacity and impeding the natural development of the relevant market.[26]

The CJEU, however, set aside the GC's judgment and referred the case back to first instance for a revised procedure. It elaborated that by object infringements (contrary to the case in *Allianz*) were to be assessed in a narrow sense, and such

22 Case C-32/11, supra note 7. para. 42.

23 See, e.g., Case C-238/05, *Asnef-Equifax and Others v Asociación de Usuarios de Servicios Bancarios (Ausbanc),* EU:C:2006:734, para. 49. Although in the Allianz case the CJEU makes a reference to the judgment in *Expedia* (Case C-226/11, supra note 6, para. 21) as precedent, the cited paragraph is more about the examination of the appreciable effects of *de minimis* cartels than about the methodology of the object test.

24 Judgment no. Kfv.II.37.268/2013/8. of the Kúria.

25 Case T-491/07, *Groupement des Cartes Bancaires v Commission,* EU:T:2012:633.

26 Ibid. paras. 197–198.

an interpretation can only be accepted in cases where an agreement reveals a sufficient degree of harm to competition that does not make it necessary to find that competition has in fact been prevented, restricted or distorted to an appreciable extent by that agreement.[27] According to the CJEU, during the object analysis, the GC did not take account of all relevant aspects of the economic or legal context in which the actual agreements had taken place. The GC should have examined, in particular, the nature of the services at issue, as well as the real conditions of the functioning and structure of the markets.[28] Moreover, in a similar vein to the *Allianz* case, the GC should have had regard to all interactions between the relevant market and a different related market.[29] The CJEU did not find *Cartes Bancaires* to be comparable to *BIDS* because while the members of BIDS intended to facilitate the exit of competitors from the market, the GC could not lawfully demonstrate, in its assessment, similar goals of the agreements in *Cartes Bancaires* or any other type of sufficiently deleterious harm.[30]

Although the CJEU acknowledged in *Cartes Bancaires* that the object analysis required the evaluation of interactions between two-sided or multilateral markets, in light of later decisions it still remains uncertain on how deep the examination of an agreement's legal and economic context should be.

A remarkable example to the above is the *Maxima Latvija* case. Maxima Latvija is a Latvian supermarket chain that leases areas from shopping malls. In the course of a preliminary ruling procedure, the CJEU had to answer whether lease agreements that reserve to Maxima Latvija as the tenant the right to agree to the lessor letting to third parties commercial premises not let to Maxima Latvija, can qualify as a by object infringement of competition. Following the appreciation of available documents and the economic context of the case, the CJEU concluded that the lease agreements containing the above clause do not show a degree of harm with regard to competition sufficient for them to be considered to constitute a restriction of competition by object, not even if these agreements could potentially have the effect of restricting the access of Maxima Latvija's competitors to some shopping centres.[31]

Nevertheless, in the *Toshiba* case, which was related to the power transformers market, the CJEU was apparently satisfied with less extensive object analysis. In its appeal, Toshiba asserted that the GC erred in law in characterising the 'gentlemen's agreement' between market-sharing European and Japanese cartel members as a by object infringement because it did not examine if an entry to the EEA market represented an economically viable strategy for Japanese producers. Toshiba argued that the GC did not take into account the insurmountable barriers to entry to the

[27] Case C-67/13, supra note 6, para. 52.
[28] Ibid. para. 78.
[29] Ibid. para. 79.
[30] Ibid. paras. 83–86.
[31] Case C-345/14, supra note 8, paras. 15–24.

European markets, which ruled out any potential competition between Japanese and European producers.[32]

The CJEU was again reluctant to provide detailed requirements on the acceptable extent of economic analysis. It only stated that

- "[i]n respect of such agreements, the analysis of the economic and legal context of which the practice forms part may thus be limited to what is strictly necessary in order to establish the existence of a restriction of competition by object."[33]

The CJEU thus found the existence of the gentlemen's agreement to be sufficient to provide a strong indication that competition existed between the European and the Japanese producers.[34]

The *Hoffmann-La Roche and Novartis* case[35] represented another expansion of the object box based on the evaluation of the relevant economic context. Each of the two undertakings, active in the medicinal products market, was selling two products, Lucentis and Avastin in the Italian market, both developed by the same manufacturer. Both of the products had the same active substances, but they were applied for different therapeutic purposes, oncology and ophthalmology. As both products were considered equally suitable for the treatment of certain eye diseases, the undertakings entered into a market-sharing agreement that had the purpose of producing and disseminating opinions and rumours that could give rise to public concern regarding the allegedly negative effects of Avastin, an ophthalmology product used 'off-label' for oncology purposes as well. As this was contrary to scientific opinions and data, the CJEU held that the agreement was a by object infringement as

- "in such a case, given the characteristics of the medicinal products market, it is likely that the dissemination of such information will encourage doctors to refrain from prescribing that product, thus resulting in the expected reduction in demand for that type of use. The provision of misleading information to the […] healthcare professionals and the general public, […] also constitutes an infringement of the EU rules governing pharmaceutical matters giving rise to penalties. […] In those circumstances, an arrangement that pursues the objectives described […] must be regarded as being sufficiently harmful to competition to render an examination of its effects superfluous."[36]

The judgment in *Hoffmann-La Roche and Novartis* can be regarded as an ambivalent decision because of several aspects. A main criticism of the judgment is that while

[32] Case C-373/14 P, *Toshiba Corporation v Commission,* EU:C:2016:26, paras. 30-31.
[33] Ibid. para. 29.
[34] Ibid. para. 33.
[35] Case C-179/16, *F. Hoffmann-La Roche Ltd and Others v Autorità Garante della Concorrenza e del Mercato,* EU:C:2018:25, para. 93.
[36] Ibid. para. 94.

it automatically holds any agreement between competitors that have the purpose of disseminating false information as a competition infringement by its object, it fails to observe the agreement's actual effects. On the other hand, the judgment deems various aspects of the case as relevant from the view of competition law despite the fact that they are regulated by other fields of law, such as consumer protection (see, to that effect, *Nagy* [2019] pp. 6–8, for a detailed discussion).

The analysis of an agreement's object also forms a part of competition law discussions on pay-for-delay agreements. After the *Cartes Bancaires* judgment, both practitioners and theorists raised the problem of qualifying pay-for-delay agreements under the by object - by effect dichotomy (*Gallasch* [2015]), *Dömötörfy* [2015]). Pay-for-delay agreements in the pharmaceutical industry[37] signify an understanding between an innovative manufacturer (a patent owner) and a generic manufacturer who actually or potentially infringes the innovative manufacturer's patent by entering a market or disputes its validity. For a specified consideration in return, the generic manufacturer undertakes to postpone its entry into the market for a certain period of time.[38]

Concerning the assessment of pay-for-delay agreement from the viewpoint of competition law, US jurisprudence has provided some additional comments to the already fierce debates. In the *Actavis* case, the US Supreme Court held that pay-for-delay agreements are not illegal *per se*, and therefore they would be subject to the rule of reason test.[39] At the same, however, the GC decided in the *Lundbeck* and the *Servier* cases that pay-for-delay agreements constitute an infringement of competition by object.[40] In these cases, the GC compared pay-for-delay agreements to market-sharing or output-limiting agreements, which are among the most severe types of competition infringements.[41] The GC's assessment was based on potential competition between the innovative and the generic manufacturer.[42] If there is potential competition, these agreements are considered to reveal, by their legal and economic context, a harm that is sufficiently deleterious to competition, which does not necessitate a more detailed examination.[43]

[37] Pay-for-delay agreements typically occur in the pharmaceutical industry (Hovenkamp [2014] p. 14, *Hemphill* [2010]). Despite alternative interpretations which were presented in the dissenting opinions of the judges in Actavis (Roberts, C. J., dissenting 570 U. S. (2013) FTC v. Actavis, Inc. Supreme Court of the United States No. 12-416 Chief Justice Roberts–Justice Scalia–Justice Thomas), the present article accepts the above as the widely accepted approach.

[38] What constitutes a consideration or a value transfer remains a hotly debated topic in practice and competition law literature alike, but it is not discussed in the present article.

[39] FTC v. Actavis, Inc., 133 S. Ct. 2223, 2229 (2013).

[40] Case T-472/13, *H. Lundbeck A/S and Lundbeck Ltd v Commission,* ECLI:EU:T:2016:449; Case T-691/14, *Servier SAS and Others v Commission.* ECLI:EU:T:2018:922.

[41] Case T-472/13, supra note 40, para. 1948.

[42] Ibid. paras. 171 and 191.

[43] The GC's judgment also created controversy in terms of assessing potential competition in the case of existing patents, although this is not discussed in the present article (see, e.g., *Ibáñez Colomo* [2016] for a detailed discussion).

Apparently, EU jurisprudence generally requires the examination of legal and economic context during the object analysis. The CJEU specified this early in the *LTM* case and has stuck to it ever since. Nevertheless, the approved depth and extent of the analysis, as well as whether the results of the analysis should be taken into account, varies from case to case. According to the CJEU, in certain cases like *BIDS* and *Toshiba*, the existence of a by object restriction should be derived from the agreement itself or the intention of the parties, without the economic context being actually capable of modifying the outcome. At the same time, in other cases such as *Allianz* and *Maxima Latvija* the CJEU made it clear that object analysis can only be carried out on the ground of economic examination, the absence of which may culminate in an unlawful decision.

Obviously, the case law detailed in this chapter cannot serve as a guide to determine the conditions for choosing either approach. However, as discussed below, the Opinion appears to be rather helpful in this aspect.

THE OPINION IN THE *BUDAPEST BANK* CASE

Similarly to *Allianz*, the Opinion was also issued in a Hungarian case. Starting from the middle of the '90s, Hungarian banks accepted unified rates for the multilateral interchange fees (MIF) applied by the bank card companies Visa and Mastercard. In its decision, the Hungarian Competition Authority (GVH) considered this agreement to have an anticompetitive object, although it also carried out a so-called effects test in the decision. The GVH's decision was annulled by the Metropolitan Court at the second instance, and the case was referred back to the GVH for a new procedure. The Metropolitan Court held that the agreement between the banks and the card companies was not restrictive by object, that the GVH did not thoroughly investigate the case and it could not appropriately establish by the effects test that the agreement had an anticompetitive effect.

The GVH brought an appeal before the Kúria, whereby the presiding chamber referred the case to the CJEU in a preliminary ruling procedure. The Kúria referred four questions to the CJEU, two of which is relevant to the current topic:

- "1. Can Article 101(1) TFEU be interpreted as meaning that the same conduct can infringe this provision both because the object of the conduct is anticompetitive and also because its effect is anticompetitive, with the two cases being treated as separate grounds in law?
  2. Can Article 101(1) TFEU be interpreted as meaning that the MIF Agreement, which establishes, in respect of MasterCard and Visa, a unitary amount for the interchange fee payable to the issuing banks for the use of the cards of those two companies, constitutes a restriction of competition by object?"[44]

[44] Case C-228/18, supra note 4.

The first question essentially seeks an answer to whether the same practice can be considered as a restriction by object and by effect at the same time. After a detailed argumentation, AG Bobek deems it efficient from an enforcement perspective that the infringements caught are assessed by their object as well as their effect by the competition authority.[45] Albeit this seems to be a relatively straightforward answer, we will discuss this later in the article.

The second question – enjoying our undivided attention – ultimately asks from the CJEU to decide whether an agreement similar to the agreement between the Hungarian banks and card companies would qualify as a by object or by effect restriction. Therefore, the Opinion concentrates on providing an abstract approach to by object restrictions, as well as analyzing the factual circumstances of the case.

In the first, general part, AG Bobek makes an attempt to give a unified interpretation of EU case law on the object analysis. Object analysis is therefore divided into two steps:

1. Analysis of the content of the provisions of the agreement and its objectives;
2. Analysis of the economic and legal context of the agreement.

The first step is an examination of the agreement and its contents, its aim being

- "to ascertain whether the agreement in question falls within a category of agreements whose harmful nature is, in the light of experience, commonly accepted and easily identifiable."[46]

The Opinion – referring to former case law, especially the opinion presented by AG Wahl in *Cartes Bancaires*[47] – emphasizes the role of experience in this step, which is defined as what can traditionally be seen to follow from economic analysis, as confirmed by the competition authorities and supported by case law.[48] The first step therefore has the purpose of examining whether the agreement's anticompetitive object stems obviously from the agreement itself.

In the course of step two,

- "the authority is required to verify that the presumed anticompetitive nature of the agreement, determined on the basis of a merely formal assessment of it, is not called into question by considerations relating to the legal and economic context in which the agreement was implemented. To that end, it is necessary to take into account the nature of the goods or services affected, as well as the real conditions of the functioning and structure of the markets in question. In addition, although the parties' intention is

[45] Opinion, supra note 4, paras. 18–36.
[46] Ibid. para. 42.
[47] Opinion of AG Wahl in *Cartes Bancaires,* EU:C:2014:1958.
[48] Opinion, para. 42.

> not a necessary factor in determining whether an agreement between undertakings is restrictive, that factor may be taken into account where relevant."[49]

The Opinion acknowledges that the extent and depth of the second step is unclear, as it does not answer where the object analysis ends and the effects test begins. At the same time, however, AG Bobek affirms that the second step is inevitable and mandatory for competition authorities, which serves as a legal and economic justification for prohibiting an anticompetitive agreement. EU competition enforcement cannot be carried out in the abstract; it should always reflect the economic and legal realities of actual circumstances.[50]

In the *Toshiba* judgment, the CJEU limited the examination of economic and legal context to the absolutely necessary elements of the case. The Opinion interprets this as follows:

- "it means that the competition authority [...] must [...] check that there are no specific circumstances that may cast doubt on the presumed harmful nature of the agreement in question. If experience tells us that the agreement under consideration belongs to a category of agreements that, most of the time, is detrimental to competition, a detailed analysis of the impact of that agreement on the markets concerned appears unnecessary. It is sufficient for the authority to verify that the relevant market(s) and the agreement in question do not have any special features which might indicate that the case at hand could constitute an exception to the experience-based rule."[51]

AG Bobek makes the more detailed examination of effects to the condition if the competition authority can identify particular circumstances that cast a doubt on establishing an obvious anticompetitive object. The second step is essentially a 'basic reality check',[52] which does not have any defined type or extent. AG Bobek admits that it is impossible to draw a clear line between the object analysis and the effects test, and divide the two methodologies. The distinction between the two tests is 'more one of degree than of kind.'[53]

In order to demonstrate the above, AG Bobek chooses to use the following – albeit admittedly extreme – metaphor:

- "if it looks like a fish and it smells like a fish, one can assume that it is fish. Unless, at the first sight, there is something rather odd about this particular fish, such as that it has no fins, it floats in the air, or it smells like a lily, no detailed dissection of that fish

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[49] Ibid. para. 43.
[50] Ibid. paras. 44–45.
[51] Ibid. para. 48.
[52] Ibid. para. 49.
[53] Ibid. paras. 49–50.

> is necessary in order to qualify it as such. If, however, there is something out of the ordinary about the fish in question, it may still be classified as a fish, but only after a detailed examination of the creature in question."[54]

Next, the Opinion applies the above methodology to the agreement between the Hungarian banks and card companies. First, it determines that the agreement itself does not reveal a harm that would be sufficiently deleterious to competition, which makes a more detailed assessment necessary.[55] By the second step, AG Bobek concludes that the information available in the documents of the case is not sufficient to decide the second question and it is for the Kúria to adjudicate the appeal on this issue. The Opinion adds that the effects test must always be applied if the effects of the agreement to competition are ambivalent or unclear at first sight. In the course of an effects test, not only the negative but also the positive effects (generally examined under the individual exemption rule of Article 101(3) TFEU) must be taken into account.[56]

In summary, the Opinion does not try to re-interpret existing case law, instead it attempts to put the pieces (*i.e.*, the cases already adjudicated by the CJEU) in their right, coherent place, just like a puzzle. It does not state anything new, although it does not resolve the blurred lines between object analysis and effects test. It draws up a structure of existing practice that has the potential to terminate the strict, dualistic approach to object and effect in EU competition law. At the center of the new approach is the examination of factual circumstances, which may help competition authorities to determine whether to decide on a by object or by effect restriction.

We are of the view that the new approach outlined by the Opinion can be set in contrast to antitrust enforcement in the US. For the sake of comparison, we will discuss only the most relevant aspects of US case law.

PER SE, RULE OF REASON AND *QUICK LOOK* TESTS IN US ANTITRUST LAW

Contrary to the EU experience, in the antitrust enforcement regime of the USA there is no dichotomy. Section 1 of the Sherman Act unequivocally prohibits all agreements that restrict competition.[57] Another difference between EU competition law and US antitrust law is that US law does not recognize an individual exemption rule such as Article 101(3) TFEU once it was established that the agreement violates competition law.

[54] Ibid. para. 51.
[55] Ibid. paras. 63–73.
[56] Ibid. paras. 77–82.
[57] "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal."

After 1890, American jurisprudence faced a problem caused by the enforcement of the Sherman Act. Courts realized that a strict application of the law would lead to the prohibition of certain agreements that would potentially have advantageous effects. In order to scrutinize the reasonability of these agreements, the rule of reason test was born, which is a weighing-up exercise of procompetitive and anticompetitive effects. If the rule of reason test is applied, the court seeks to take account of the relevant economic activities, the nature of the restriction, its history and effects, with the goal of distinguishing the restraints that are detrimental to competition and consumers from the restraints that stimulate competition and are beneficial to consumers.[58] US antitrust law acknowledges two categories of restraints, based on their examination method:

a) *per se* illegal are the 'naked restraints', which are agreements that have the obvious nature of distorting competition, for example, horizontal price fixing (in these cases, *Hovenkamp* [2018] states that the main question is the existence of the agreement because keeping the agreement a secret is the undertakings' major concern), while
b) the *rule of reason* test is applied to other restrictions where advantageous restraints are mixed with anticompetitive elements (in this case, Hovenkamp argues that the existence of the agreement is obvious, and the key issue is to decide whether the agreement is anticompetitive given the actual circumstances. Naturally, the rule of reason test requires a genuinely more extensive and costly analysis (*Hovenkamp* [2018] p. 93).

While many of the European commentators compare *per se* and *rule of reason* infringements to by object and by effect restraints, the *per se* – rule of reason dichotomy is an ostensible one. The rule of reason test is not a unified concept, as it is not always applied in the same form. Generally, if the plaintiff is able to prove that a restriction is 'inherently suspect' because it belongs to a group of agreements that are always (or almost always) detrimental to competition, the so-called 'quick look' test or 'truncated' rule of reason test absolves the plaintiff of the burden of proof regarding these detrimental effects. It will be the defendant's duty to prove possible procompetitive effects, which, if successful, will require a 'full' rule of reason test (*Oliver* [2010]).

One may consider the quick look rule of reason to be an intermediate 'category'; when anticompetitive restrictions of an agreement are less obvious than *per se* illegal infringements, a quick look analysis might be sufficient to exclude the necessity of a full rule of reason test.

In this case, the analysis is made up of several steps. First, the authority examines the nature, not the market effects, of the infringement, and decides whether

[58] http://wikis.fu-berlin.de/pages/viewpage.action?pageId=410157604.

it is inherently suspect of being detrimental to consumers. If the result is negative, a full rule of reason test must be conducted.

If the restriction qualifies as being inherently suspect, the second step involves the defendant attempting to demonstrate the plausibility of possible efficiencies in order to evade the application of the quick look test (e.g., the decrease in production costs, the creation of new products, etc.).

It the plaintiff is able to successfully demonstrate plausible efficiencies, it will be the authority's obligation to prove that the restraint distorts, or is capable of distorting competition, having regard to the factual circumstances of the case (*Jones* [2006] p. 712). In the *Actavis* judgment, the US Supreme Court preferred the application of the quick look test to the full rule of reason test (*Hovenkamp* [2014] pp. 3–30, pp. 23–27). The judgment itself makes a reference to professor Areeda's opinion in describing the examination of reasonableness as a 'scale', reflecting to the requirement that the quality of proof required should vary from case to case.[59]

Similarly to the above, Spencer Weber Waller remarks that the regime under US case law resembles to a scale, where there is no clear-cut border between *per se* illegal restrictions and restrictions that are subject to the rule of reason test: on the one hand, sometimes even the application of the *per se* rule might require a thorough analysis of the market in order to presume the agreement's anticompetitive nature, while on the other hand, even the rule of reason test may be carried out 'in the twinkling of an eye' if detrimental effects are obvious (*Waller* [2009] pp. 693–724, pp. 705–706). The rule of reason test itself is best described as a colour scale with different shades of a colour, which resembles more to a continuum than to a dichotomy (*American Needle…* [2010] p. 407; see also *Areeda* [1989] p. 408, *Hovenkamp* [2018] p. 149). *Hovenkamp–Areeda* [2017] (p. 1501.) explicitly calls it a 'sliding scale' (see also *Hovenkamp* [2018] p. 123).

We must note, however, that the existence of this continuum is disputed in the United States as well. From a practical point of view, the application of the quick look test may be a 'death sentence' for certain infringements as plaintiffs have limited options to rebut the presumption of detrimental effects. Consequently, instead of an attempt to categorize several shades of grey in business practices, in the antitrust doctrine the quick look rule of reason enables courts to prohibit complicated infringements without the need to expand the *per se* concept (*American Needle…* [2010] p. 407).

[59] "As a leading antitrust scholar has pointed out, '[t]here is always something of a sliding scale in appraising reasonableness,' and as such 'the quality of proof required should vary with the circumstances.' […] As in other areas of law, trial courts can structure antitrust litigation so as to avoid, on the one hand, the use of antitrust theories too abbreviated to permit proper analysis, and, on the other, consideration of every possible fact or theory irrespective of the minimal light it may shed on the basic question—that of the presence of significant unjustified anticompetitive consequences. […] We therefore leave to the lower courts the structuring of the present rule-of-reason antitrust litigation." (FTC v. Actavis, Inc., p. 21.)

Hovenkamp warns that other interpretations place the quick look test between the *per se* and rule of reason categories. Court have given different definitions to the quick look test in cases that were basically amalgamations of *per se* infringements with a complicated economic background that necessitated a closer look. Occasionally, the complicating factor would be the novelty or uniqueness of the infringement, and the lack of judicial experience requires further assessment – which in turn would not automatically be a full rule of reason test. Hovenkamp uses the above trichotomic approach to explain that the dispute is essentially about the allocation of the burden of proof and the assessment of evidence (*Hovenkamp* [2018] pp. 123–124).

Naturally, for a thorough analysis of the full extent of the rule of reason test one would also need to take account of the historical development of the test (*Gavil* [2012]), which is not discussed extensively here due to its length. We wish to briefly note, however, that the necessity of a reasonability test was emphasized early in the first decade of the enforcement of the Sherman Act, in the 1897 *Trans-Missouri Freight* judgment.[60] The landmark decision was nonetheless issued fourteen years later: the rule of reason test was born with the 1911 *Standard Oil* judgment.[61] Over the course of a hundred years' career, the test has gone through several phases of development (*Markham* [2012] pp. 601–613). One of the most important events in the development was the appearance of the quick look test (Ibid. p. 607). By the end of the 1970s it became clear that the *per se* – rule of reason dichotomy is not able to provide satisfactory answers in every case. In the *Broadcasting Music* case[62], the court had to adjudicate an agreement that had the object of price fixing with regard to an entry of a new product into the market (Ibid. p. 608). Although the infringement ostensibly fell into the *per se* illegal category, the court insisted on applying the rule of reason test. In the *National Society of Professional Engineers* case,[63] also an example of price fixing, the court disregarded the *per se* rule, and, ultimately, the full rule of reason test (Ibid. p. 600). The quick look test was conceived in the *NCAA* case[64] as an explicit third category (Ibid. p. 601). The *California Dental* judgment later stated that there was no clear-cut border between the concepts.[65] The case literally refers[66] to the concept of a 'quicker' look than the full rule of reason test. *Hovenkamp* [2018] places the *Actavis* judgment in the 'quicker look' category (p. 33).

In the period after *California Dental* antitrust enforcement developed the tendency to expand the rule of reason test while pushing back the application of the *per*

60 United States v. Trans-Missouri Freight Ass'n, 166 U.S. 290 (1897).
61 Standard Oil Co. of N.J. v. United States, 221 U.S. 1, 60 (1911).
62 Broadcast Music, Inc. v. CBS, Inc., 441 U.S. 1, 8-9 (1979).
63 National Society of Prof. Engineers v. United States, 435 U.S. 679 (1978).
64 NCAA v. Bd. of Regents, 468 U.S. 85 (1984); *Markham* [2012] 608-609.
65 Cal. Dental Association v. FTC, 526 U.S. 756 (1999). Markham, Jesse W.: Sailing a Sea of Doubt: A Critique of the Rule of Reason in U.S. Antitrust Law. Fordham Journal of Corporate & Financial Law, 2012. Vol. 17. No. 2. 591-664. p. 610.
66 Cal. Dental, 526 U.S. at 780–81 (1999)

se rule (*Markham* [2012] pp. 610-613; see also *Sokol* [2015] note 49). This increase in the application can be observed to be more or less present since the 1970s – due to the rise of the economic approach and the development of analytic methods –, which left only the hardcore cartels in the *per se* illegal category (*Valentiny* [2019] p. 148). One of the most important results of this tendency was that in 2007 resale price maintenance cases were decided to fall outside the scope of *per se* illegal infringements.[67] One can wonder what effect the economic progress of the fourth industrial revolution may have on the evolution of the case law (*Economist* [2018], *Ezrachi–Stucke* [2017]).

The US Antitrust Guidelines for Collaborations among Competitors[68] declares *per se* illegal the agreements that always or almost always lead to the increase of prices or the limitation of production output. In the case of the rule of reason test, the analysis commences with the examination of the agreement's nature. The authority assesses the object of the agreement and, if it is an already existing agreement, the actual anticompetitive damage caused by it. In certain cases, the nature of the agreement and the lack of market power may indicate the lack of anticompetitive effects. On the other hand, when the nature of the agreement itself makes detrimental effects plausible, or actual damages were incurred, in the absence of procompetitive effects the authority carries out a detailed evaluation.[69]

It is also interesting to note that a short paragraph of the abovementioned Guidelines demonstrates a degree of similarity to the CJEU's judgement in *Cartes Bancaires*: if the likelihood of anticompetitive effects is evident from the nature of the agreement, in the absence of any overriding benefits that could offset the anticompetitive harm, US authorities will challenge the agreement without a detailed market analysis.[70]

In light of the foregoing, it seems evident to approach the rule of reason test from the view of the burden of proof. The full rule of reason test as the first category places that burden solely on the plaintiff (*Jones* [2006] pp. 702–705). The quick look rule of reason test presumes the unreasonableness of the agreement, which can be rebutted by the defendant via the demonstration of possible advantages (*Waller* [2009] p. 701). Consequently, in order to decide between the types of the rule of reason test, US courts will always take account of the factual circumstances and economic context of the case.

[67] *Leegin Creative Leather Products, Inc. versus PSKS, Inc.,* 551 U.S. 877 (2007), *Valentiny* [2019] p. 148, Nagy [2013a] pp. 3–4.

[68] Federal Trade Commission and the U. S. Department of Justice: Antitrust Guidelines for Collaborations among Competitors. https://www.ftc.gov/sites/default/files/documents/public_events/joint-venture-hearings-antitrust-guidelines-collaboration-among-competitors/ftcdojguidelines-2.pdf.

[69] Ibid.

[70] Ibid.

CONCLUSIONS

As we have mentioned before, the new approach outlined by the Opinion is not an inherently new paradigm in the analysis of anticompetitive agreements, albeit it is an excellent summary of EU case law development since *LTM* – with the intention to create order. The two-step test by AG Bobek indeed possesses some peculiar similarities to the *per se* – rule of reason approach of American antitrust literature.

We must emphasize that the below comparison is more of a functional distinction than one based on content. We do not dispute the fact that the two regimes are genuinely different. Enforcement rules under US law, as well as the *per se* – rule of reason approach cannot be easily identified with EU enforcement and the by object – by effect 'duality', respectively. *Per se* infringements under US law are not automatically placed into the object box under EU law, to the very least because of the opportunity of individual exemption under Article 101(3) TFEU.

Furthermore, tendencies in the USA today forecast an even rarer application of the *per se* rule (*Waller* [2009], *Carrier* [2009], *Jones* [2006] p. 806). According to certain remarks, by object restrictions can mostly be compared to infringements caught under the quick look test (*Killick* [2016] p. 16). It can also be argued that by object restrictions encompass a broader category than the concepts of US antitrust law: it is hardly believable, for example, that vertical agreements would be as strictly prohibited in the USA as in the EU (*Jones* [2006] p. 299.). These differences could best be elaborated within their historical and economic background; however, such a detailed comparison is not the object of the present article. Our only goal is to demonstrate parallel approaches between the two regimes on the methodology of economic analysis.

In US antitrust case law, there is clear precedent on the importance of judicial experience, and AG Bobek also emphasizes its relevance. EU courts have declared before that

- "it is established that certain collusive behaviour, such as that leading to horizontal price-fixing by cartels or consisting in the exclusion of some competitors from the market, may be considered so likely to have negative effects, in particular on the price, quantity or quality of the goods and services, that it may be considered redundant, for the purposes of applying Article 101(1) TFEU, to prove that they have actual effects on the market. Experience shows that such behaviour leads to falls in production and price increases, resulting in poor allocation of resources to the detriment, in particular, of consumers."[71]

AG Bobek refers back to AG Wahl's opinion in *Cartes Bancaires* as a proof to the importance of experience. According to Wahl, experience is a relevant point of reference in presuming potential anticompetitive effects, because experience

[71] Case T470/13, *Merck KGaA v Commission,* EU:T:2016:452, para. 188; Case C-67/13, supra note 6, para. 51.

- "must be understood to mean what can traditionally be seen to follow from economic analysis, as confirmed by the competition authorities and supported, if necessary, by case-law."[72]

The Opinion in *Budapest Bank* is a continuation of object analysis based (also) on experience, which strengthens the precedent value of judicial case law in a similar vein to the US regime. Apparently, experience plays an important part in the existing case law that the Opinion intends to synthetize.

The second step of the object analysis and the quick look rule of reason test also have a number factors in common. Both tests have blurred borders, but it is safe to say that the quick look test is not a full rule of reason test, just as the second step of the object analysis proposed by AG Bobek is not a full effects test. Commentators of EU law further support this statement: according to *Ibáñez Colomo* [2019], the analysis of the economic and legal context is a kind of a 'standard effects test', which is to be distinguished from a 'enhanced effects test', meaning the actual effects analysis (p. 14). The examination of economic context is therefore important in both regimes, regardless of the establishment of a *per se* or by object restriction. According to both EU and US law, this evaluation should take place in the reasonable extent and depth.

In US antitrust law, the quick look test is between the *per se* and rule of reason tests. However, the categorization of infringements is not dichotomic or trichotomic, but – if one accepts the approach proposed by the US Supreme Court (*Hovenkamp* [2018] pp. 123–124) – resembles a scale where different infringements require a different approach. *Jones* [2006] affirms that US courts moved from a dichotomic or trichotomic approach to a direction that is more flexible and capable to account of the factual circumstances and logic of the given case (p. 739). According to *Hovenkamp* [2018], this is especially relevant if the agreement in question is not made among competitors but between the associations and alliances of competitors or other similar professional networks. The operation of these groups, as well as their self-regulation rules are generally lawful, however, in some instances there is no legitimate reason behind some of their agreements that are not objectively necessary for the achievement of their statutory goals, and these agreement may ultimately be considered as *per se* illegal. The quick look test might be an appropriate tool for a more extensive examination of these groups of undertakings (p. 129).

The above bear relevant similarities to EU jurisprudence and the Opinion.[73] The judgments in *Allianz* and *Cartes Bancaires* were related to associations of undertakings, and the relevant markets (car repairs and mandatory liability insurance,

[72] Opinion of AG Wahl in *Cartes Bancaires,* supra note 47, paras. 78–79.

[73] We must note that our comparison only concerns the confoundedness of the categories, that is, their description as a continuum or a sliding scale with blurred lines. We do not wish to argue whether the application of a given category of this scale is appropriate or not. See, as an example, the international criticism expressed after the *Allianz* judgment (*Nagy* [2013*b*], [2015]).

bank card payments) were two-sided or multilateral. The factual circumstances of the *Budapest Bank* case are also quite complicated, and the Opinion points out their relevance when it implies that the main goal of the second step in the object analysis is the identification of 'special features'.

By object/*per se*/quick look restrictions and by effect/rule of reason restrictions do not represent a dichotomy but a continuum, where – as AG Bobek states – the difference between the types of economic analysis is more of degree than of kind. *Hovenkamp* [2018] highlights the difference in the burden of proof: in the case of simpler factual circumstances, the burden of proof should be greater for the defendant undertakings, while in a more complicated case the authority should bear a greater obligation. Both systems might be interpreted in a way that places emphasis on the depth of demonstration and the allocation of the burden of proof, and from this viewpoint both the EU and the US regime appears to be more like a multicolored scale than a structure of clear-cut categories. European competition law commentators have previously raised the continuum-like approach of legal tests (see *Ibáñez Colomo* [2019] pp. 3–4), and the Opinion, in our view, appears to point toward the same direction.

It nonetheless remains to be seen whether the 'new' approach of the Opinion will be enforced in EU competition law, and if yes, how. One of the most important differences between US and EU competition law is the primacy of European public enforcement, which means that it is the duty of competition authorities, not courts, to carry out proceedings. The role of the CJEU, the GC and national courts is to do a review of legality. This review is limited: courts cannot intervene in the jurisdiction of competition authorities, and in the case of a procedure initiated by the Commission, the CJEU and the GC only have a limited jurisdiction towards the adjudication of complex economic assessments made by the Commission, which can only extend, in terms of its content, to the evaluation of whether the Commission's assessment is vitiated by a manifest error of assessment.[74] Therefore, in complex cases it is primarily the authority's duty to investigate the economic context of an agreement.

Under these circumstances, we are of the view that the protection of procedural rights might be even more relevant in competition proceedings than before, which places an important weapon to the hands of the reviewing courts. As AG Bobek declares in his answer to the first question referred before the CJEU in *Budapest Bank*,

- "as a conceptual possibility, that an agreement might amount to both types of restriction certainly does not liberate the appropriate competition authority from the requirement to, first, adduce the necessary evidence for both types of restriction and, second, evaluate and clearly subsume that evidence under the appropriate legal categories. […] I think it is important to underline that aspect rather clearly, not because of the text of the present request for a preliminary ruling, but rather its subtext. It would hardly be

[74] See, e.g. Case C-42/84, *Remia v Commission,* EU:C:1985:327, para. 34.

> sufficient, including for the purpose of subsequent judicial review of a decision, if, in its decision, a competition authority limited itself to assembling factual evidence and, without stating what inferences in terms of legal evaluation it drew from that evidence, merely suggested that certain behaviour might be this and/or that, leaving it for the reviewing court to connect the factual dots and come to a conclusion. Put simply, the existence of alternative legal boxes is no licence for vagueness, in particular when imposing heavy administrative sanctions."[75]

The right to a clear, reasonable, logical and unambiguous authority decision is one of the most important guarantees of the undertakings in a competition case. Consequently, if the object analysis as drawn out by the Opinion receives a wider reception, these requirements will perhaps be even more emphasized than before in EU competition cases.

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[75] Opinion, paras. 29–30.

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WHY IS LENIENCY POLICY LESS EFFECTIVE IN HUNGARY: IS THERE A REGULATORY ANSWER?

Hungarian leniency policy is generally considered to be less effective. Although, in regional comparison, it may appear to be successful, the statistical data shows that it falls behind the European average. This paper makes a comparative snapshot of Hungarian leniency policy in order to establish whether its relative ineffectiveness can be traced back to regulatory factors or to circumstances beyond regulation.

INTRODUCTION

Hungarian leniency policy is generally considered to be less successful (*Transparency International* [2013]). Although the Hungarian results are decent in comparison to other Central European Member States, they fall behind the European average.

The purpose of this paper is to inquire whether the moderate success of Hungarian leniency policy can be traced back to regulatory reasons and, hence, can be enhanced with regulatory means. This task is accomplished by comparing the Hungarian leniency regime to those of more successful systems. Section II sets out the legal considerations (legal risks) that influence the submission of leniency applications. Section III presents the regulatory regimes of four effective systems: the EU, Germany, the Netherlands and the United Kingdom. Section IV presents the Hungarian rules and their application. Section V provides an analytical presentation of the systems compared and demonstrates that the Hungarian leniency regime is, for the most part, in accordance with those of the comparators and, at certain points, is even more generous for leniency applicants. This suggests that Hungarian leniency policy cannot be further enhanced via regulatory means and its perceived ineffectiveness is due to peculiar social norms and cultural patterns.

LEGAL CONSIDERATIONS DETERMINING THE SUBMISSION OF LENIENCY APPLICATIONS AND THE EUROPEAN FRAMEWORK

The decision to submit a leniency application is determined by various legal and non-legal considerations and is featured by a complex cost-benefit analysis and entrenched social patterns of behavior. The decision-making hinges on the balance between advantages and the drawbacks, however, it has a very important characteristic: individual stakeholders may have different interests, which may lead to a genuine principal-agent problem. Hence, outcomes may be different on the corporate and the individual level.

Under Hungarian law, the legal consequences faced by cartelist companies have four strands: administrative sanctions (competition fine), civil liability for damages, exclusion from public tenders and criminal sanctions. One of the purposes of leniency is to generate distrust among cartelist enterprises and, thus, rivalry to submit a leniency application (given that solely the first successful leniency applicant may benefit from a full immunity from the competition fine). This may be described as a prisoner's dilemma (*Blum et al.* [2008]) heavily impregnated by social patterns of behavior: if the chance that someone else may submit a leniency application is low, the interest in rushing to the competition authority will be equally low.

Corporate employees' legal risks may be boiled down to criminal liability and civil law (employment law) liability for the damages caused to the firm. These risks may severe the interests of the firm from those of the directors and employees, as the latter may be interested in not disclosing (or hiding) information to avoid personal liability, even in matters where the leniency could serve the firm's best interests. This conflict of interests may impact on the decision-making process, as the submission of a leniency application involves active cooperation and internal data-gathering.

Of course, the decision about whether to submit a leniency application or not hinges not merely on legal considerations. Such a move may seriously damage the firm's (and the managers') reputation and affect business relations and trustworthiness seriously. The leniency applicant may incur more costs on the "non-legal" side than the benefits it received on the "legal side." These are non-regulatory considerations and risks, which are difficult to gauged. However, if a comparison to the successful European systems reveals that the Hungarian regime is equally beneficial to cartelists (or even more generous), it may be reasonably presumed that the leniency policy's relative ineffectiveness is due to non-regulatory considerations.

Even though national leniency policies concerning the competition fine significantly converge, formally, they have not been "Europeanized." Criminal and public procurement law sanctions come under national competence and may feature significant differences. Although the Public Procurement Directive (*EU* [2014*a*]) lists "grave professional misconduct" among the facultative grounds of exclusion, the definition of this is left to the Member States. Nonetheless, the Private Enforcement Directive (*EU* [2014*b*]) limits the joint and several liability of cartelist undertakings benefiting from a full immunity from the fine. The successful leniency applicant's joint and several liability is restricted "to its direct or indirect purchasers or providers; to other injured parties only where full compensation cannot be obtained from the other undertakings that were involved in the same infringement of competition law. (…) The amount of contribution of an infringer which has been granted immunity from fines under a leniency programme shall not exceed the amount of the harm it caused to its own direct or indirect purchasers or providers." It has to be noted that this arrangement is not unknown to Hungarian law, in fact, Hungarian law introduced this principle way before the Private Enforcement Directive. As from 1 June 2009,[1] the liability of enterprises benefitting from full immunity has been subsidiary: the injured party first has to seek recovery from the cartelists that have not been awarded immunity from fines.[2] Accordingly, this rule applies solely to applicants benefiting from full immunity, a reduction of the fine entails no such benefit (*Nagy* [2009*a*]).

It needs to be noted, however, that the Private Enforcement Directive's deadline of implementation was 27 December 2016 and before this German, Dutch and British law provided no such benefit to leniency applicants.

LENIENCY POLICY IN EU, GERMAN, DUTCH AND UK COMPETITION LAW

This section presents the leniency regimes of the EU, Germany, the Netherlands and the United Kingdom along the above four considerations: administrative sanctions (competition fine), civil liability for damages, exclusion from public tenders and criminal liability.

EU competition law's leniency program is generally considered to be effective (*Lowe* [2003]): even though the number of leniency applications seems to be on the decline (*Ysewyn–Kahmann* [2018], they still account for the vast majority of competition matters.[3]

The European Commission's Leniency Notice (*EC* [2006]) distinguishes between two types of leniency: full immunity and reduction of the fine (partial immunity). An undertaking may benefit from full immunity, if it is the first to convey information and evidence that either helps the Commission to carry out a down raid or to establish the violation, and the Commission is not in the possession of sufficient evidence to adopt a decision to carry out a dawn raid or to find an infringement. An undertaking may not benefit from full immunity, if it coerced others to participate in or remain part of the cartel. If the conditions of full immunity are not met, the undertaking may benefit from a partial immunity (reduction of the fine), if the information and evidence represents significant added value with respect to the evidence that is already in the Commission's possession. The undertaking that first meets the conditions of partial immunity receives a 30-50% reduction of the fine, the second one 20-30%, while the third and subsequent leniency applicants receive an up-to 20% discount.

[1] Act XIV of 2009.

[2] Section 88/D HCA.

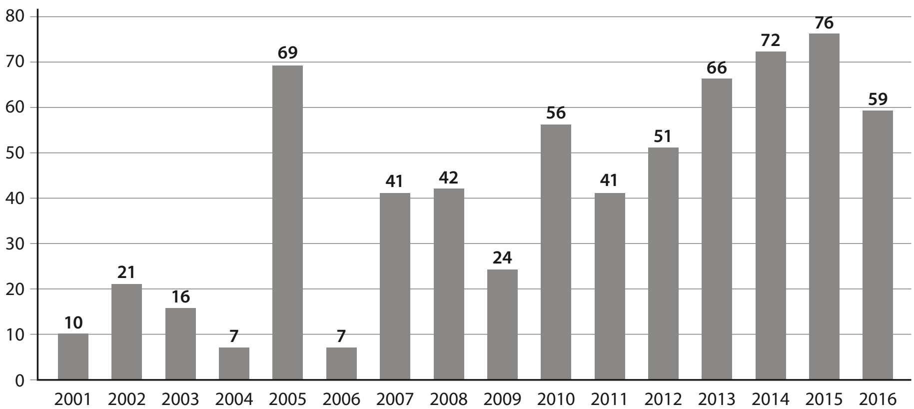
[3] *Ysewyn–Boudet* [2018] ("a large majority of cartel decisions adopted by European competition authorities [is] based on immunity and leniency applications").

In addition to the above core requirements, the leniency applicant has to fulfill various conditions: it is expected to cooperate with the Commission genuinely, fully, on a continuous basis and expeditiously, to terminate its participation in the violation (unless the Commission instructs it otherwise), to have not destroyed, falsified or concealed evidence and to have treated the submission of the leniency application confidentially.

The German leniency regime has produced, on the average, 53 leniency applications per year *(Figure 1).*

According to the German competition authority's leniency notice (*Bekanntmachung* [2006]), an undertaking benefits from full immunity, if
– it is the first to contact the competition authority at a time when the authority does not have sufficient evidence to obtain a search warrant,
– the information and evidence provided by the leniency applicant enables the competition authority to obtain a search warrant,
– it was not the only ringleader of, nor did it coerce others to participate in the cartel, and
– cooperates fully and on a continuous basis with the competition authority (Para 3).

Once the competition authority gets into the position to obtain a search warrant, the undertaking normally (but not automatically) benefits from full immunity, if
– it is the first to contact the competition authority and the latter does not have sufficient evidence to prove the violation,
– the information and evidence provided by the leniency applicant enables the competition authority to prove the cartel,
– it was not the only ringleader of, nor did it coerce others to participate in the cartel,
– cooperates fully and on a continuous basis with the competition authority, and
– no other undertaking has been granted full immunity (Para 4).



Source: Bundeskartellamt [2016] p. 20.

FIGURE 1 • **Number of bonus applications submitted to the Federal Cartel Office 2001–2016**

If full immunity cannot be granted, the competition authority may reduce the fine up to 50%, provided the information and evidence provided by the leniency applicant amounts to "a significant contribution to proving the offence" and the applicant cooperates fully and on a continuous basis with the competition authority (Para 5). The amount of the reduction is based on the value of the contribution to discovering the violation and the sequence of the applications.

The submission of the leniency application entails no benefit or immunity as to the criminal and public procurement consequences: the natural persons concerned may face criminal liability [Para 24. Strafgesetzbuch (StGB) § 298] and the cartelist undertaking may be excluded from public tenders.[4]

In the Dutch leniency regime (*ACM* [2014]), the leniency applicant, as a general requirement, has a wide duty to cooperate: until the competition fine becomes final, the leniency applicant has to cooperate with the competition authority fully and continuously, in line with the interests of the investigation and procedure [Article 17 (1)–(2)].

The undertaking benefits from full immunity, if it is the first to submit an application, the competition authority has not yet launched an investigation, the information provided enables the competition authority to carry out a targeted inspection, the undertaking has not coerced another undertaking to participate in the cartel, the applicant complies with the obligation to cooperate [Article 4(1)]. An undertaking may benefit from full immunity also in case it submits an application after the opening of the competition investigation, provided the statement of objections has not been issued and the undertaking provides new evidence on the basis of which the competition authority is able to prove the violation [Article 4(2)].

If the pre-conditions of full immunity are not met, the undertaking may benefit from a reduction of the fine, provided the leniency application is submitted before the issuance of the statement of objections and it contains information representing a significant added value. The reduction ranges from 20% to 50% (30-50% for the first applicant, 20-30% for the second, while the third and subsequent applicants benefit from a reduction up to 20%) [Article (5)–(7)].

Cartels are not criminalized under Dutch law and no public procurement sanctions apply (*Pree–Snoep* [2017] p. 224, p. 225)

The British leniency regime (*OFT* [2013], *CMA* [2017], [2020]) applies to horizontal hardcore violations and vertical resale price-fixing alike (Para 2.3). The general conditions of leniency (which apply to both full and partial immunity) are the following (Para 2.7): admission of the violation, full disclose of (non-legally privileged) information, documents and evidence, continuous and complete cooperation and termination of violation. An undertaking may not benefit from full immunity (type "A" and "B" leniency), if it has taken steps to coerce another undertaking to take part in the violation.

[4] Gesetz gegen Wettbewerbsbeschränkungen (GWB) § 124(1)(4). See *Mäger–Schreitter* [2017]: As to the earlier regulation, see *Pasewaldt* [2008], *Stein–Friton–Huttenlauch* [2012], *Mäger–Bischke* [2013] pp. 90–91.

Leniency is classified into three categories: type “A” leniency guaranteeing full immunity, type “B” leniency, which may offer full immunity subject to discretion and type “C” leniency guaranteeing a reduction in the fine. An undertaking benefits from type “A” leniency, if it is the first to submit an application before the competition authority launches an investigation and before it has sufficient information to establish the violation (Para 2.9–2.10). The immunity extends to criminal liability: it guarantees “blanket” immunity from criminal prosecution for all cooperating current and former employees and directors and protection from director disqualification proceedings for all the directors. Type “B” leniency governs plights where the competition authority has already launched an investigation. In this case the undertaking may benefit from a discretionary immunity up to 100% and the competition authority may grant protection against criminal liability and directors’ disqualification (that is, this is not an automatic entitlement and is subject to the competition authority’s discretion) (Para 2.15–2.16). Type “C” leniency applies to cases where the undertaking is not the first to submit an application or it is the first but coerced others to participate in the violation, hence, it cannot benefit from type “A” and “B” leniency. Type “C” leniency offers a partial discretionary immunity up to 50%, protection from director disqualification proceedings and may involve discretionary criminal immunity for specific individuals.

As a sanction unknown to Hungarian law (*Nagy* [2009*b*]), the competition authority may sue for the disqualification of the directors involved in cartelization (for a period of up-to 15 years).[5] Nonetheless, in accordance with the above, the OFT pronounced that it does not wish to make use of this power in relation to undertakings that were granted full or partial immunity. This does not apply to directors who coerced others to participate in the violation, were removed because of their role in the violation or for opposing the application for leniency, or failed to cooperate (*OFT* [2010] 4.13–4.14).

Cartelist companies are not automatically disbarred from public tenders, however, the contracting authority may exclude economic operator that “entered into agreements with other economic operators aimed at distorting competition.”[6]

As noted above, prior to the transposition of the Private Enforcement Directive, German, Dutch and British law provided for not special status for leniency applicants concerning (civil) claims for damages.[7]

[5] Section 9A to 9E of the Company Directors Disqualification Act 1986

[6] The Public Contracts Regulations 2015, http://www.legislation.gov.uk/uksi/2015/102/pdfs/uksi_20150102_en.pdf, Article 57(8)(d) („the contracting authority has sufficiently plausible indications to conclude that the economic operator has entered into agreements with other economic operators aimed at distorting competition”). The exclusion may take place within three years after the violations. Article 57(12).

[7] As to English law, see *Morony–Alderton* [2013] p. 48. As to Dutch law, see *Smeets–van Empel–Brekhof* [2013] p. 110. As to German law, see *Rinne* [2013] p. 70.

LENIENCY POLICY IN HUNGARY

The Hungarian rules on leniency, in essence, follow the general European pattern, with the difference that as from 15 January 2017, in addition to horizontal hardcore violations, they also apply to vertical resale price fixing.[8]

Hungarian leniency policy is considered to be less effective, though in regional comparison it may be appear to be relatively successful. For instance, in Romania, until recently, leniency applications have been rare (*Suliman* [2014]), it was as late as 2011 that leniency was applied for the first time,[9] and the first competition decision emerging from a leniency application was adopted in 2015 (*Lacatus–Potlog* [2015]).

The statistical data shows that the Hungarian leniency policy has been gaining ground. None of the decisions adopted in 2006 and 2008 involved leniency,[10] while in 2007 and 2009 there was a single case based on leniency.[11] 2010 saw a surge (three applications), however, in 2011 none of the 14 cartel investigations launched was based on leniency. In 2012, three leniency applications were submitted,[12] in 2013 one,[13] in 2014 no application was submitted.[14] Nonetheless, the last five years have seen a slight but lasting increase in the number of leniency applications: three in 2015,[15] two in 2016,[16] five in 2017,[17] five in 2018[18] and four in 2019.[19] As the rules on leniency have seen no substantial change in the last years, this increase cannot be reasonably attributed to regulatory reasons.

In accordance with EU competition law, Hungarian law confers full or partial immunity from fines on cartelist enterprises ("whistle-blowers") that reveal a cartel before the HCO or contribute to the evidence the authority already has. The statutory rules on leniency are included in Sections 78/A-78/D HCA. Prior to 1 June 2009, the HCO's leniency policy had no detailed statutory rules and was included in Notice 3/2003 on the application of the leniency policy facilitating the discovery of cartels, which was amended by Notice 1/2006 and Notice 2/2009. Leniency applications submitted as from 1 June 2009 are governed by the above statutory rules.[20]

[8] 78/A(1) HCA. In a case the HCO accepted a leniency application concerning a resale price fixing scheme before this date. Case Vj-81/2006/74 *Olympus*. See: *Nagy* [2016] p. 107.

[9] Consiliul Concurenței a acordat prima imunitate la amendă prin programul de clemență (17 January 2011), http://www.clementa.ro/news/5/23/Consiliul-Concurentei-a-acordat-prima-imunitate-la-amenda-prin-programul-de-clementa.html.

[10] Annual Report of the HCO 2006, p. 51; Annual Report of the HCO 2008, p. 64.

[11] Annual Report of the HCO 2007, p. 65; Annual Report of the HCO 2009, p. 86.

[12] Annual Report of the HCO 2012, p. 7.

[13] Annual Report of the HCO 2013, p. 8.

[14] Annual Report of the HCO 2014, p. 13.

[15] Annual Report of the HCO 2015, p. 15–16.

[16] Annual Report of the HCO 2016, p. 12.

[17] Annual Report of the HCO 2017, p. 13.

[18] Annual Report of the HCO 2018, p. 13.

[19] Annual Report of the HCO 2019, p. 24.

[20] Sections 8 and 17(4) of Act XIV of 2009.

The leniency policy had been applicable to cartels (horizontal hardcore violations) from the outset and, as from 15 January 2017, it was extended to vertical resale price fixing.[21] Nonetheless, it is to be noted that the HCO has interpreted the conditions of leniency very generously and in Case Vj-81/2006/74 *Olympus* it granted full immunity from the fine in respect of a vertical agreement at a time when the HCA applied solely to horizontal agreements.

The leniency applicant may be granted full immunity, if providing, directly or indirectly, determinant evidence, or partial immunity, if providing evidence that has an added value in comparison to the evidence already available to the HCO.

The following four general conditions apply to all leniency applications (irrespective of whether it is for full or partial immunity): disclosure of the violation: the admission of the infringement and full data disclosure,[22] termination of participation in the violation, except the HCO instructs the undertaking otherwise,[23] good faith, complete and continuous cooperation until the end of the competition proceedings,[24] and confidential treatment of the leniency application and its content.[25]

Full immunity from the fine is available to the undertaking that is first to provide determinant evidence concerning the cartel: the undertaking may supply the evidence directly or may assist the HCO to find it (through a dawn raid). An undertaking is eligible for full immunity from the competition fine, if it helps the HCO find the evidence proving the violation (it supplies evidence that enables the HCO to obtain a court warrant to conduct a dawn raid, provided at the time the leniency application is submitted the HCO does not have sufficient information to obtain a court warrant) or if it supplies the evidence proving the violation, provided at the time the leniency application is submitted the HCO does not have sufficient evidence for proving the violation and no undertaking fulfils the requirements of the preceding point.[26] As a negative condition, no undertaking can be granted immunity from the fine that coerced another undertaking or other undertakings to participate in the cartel.[27]

No strict time-limit applies to the submission of the application for full immunity. While immunity under the first point (helping the HCO to find the evidence) cannot be granted once the HCO has already carried out a down raid, immunity under the second point (supplying evidence that proves the violation) remains available, provided the HCO has not collected sufficient evidence during the procedure. Section 78/A(4) HCA contains a specific provision on leniency applications sub-

[21] Section 78/A(1) CA. The benefit of leniency was extended to vertical resale price fixing through Section 32(2)(27) of Act CLXI of 2016.
[22] Section 78/A(1) HCA.
[23] Section 78/A(7)(a) HCA.
[24] Section 78/A(7)(b) HCA.
[25] Section 78/A(7)(c) HCA.
[26] Section 78/A(2) HCA.
[27] Section 78/A(8) HCA.

mitted after the launch of the procedure. If the leniency application is submitted after the moment the preliminary position or the case-handler's report is sent out or access to the file is opened for any of the parties, the fine can be reduced only if the undertaking conveys clear evidence substantively affecting the adjudication of the infringement as to a fact or circumstance that was unknown to the HCO.[28]

Partial immunity from the competition fine (reduction of the fine) is available to an undertaking if full immunity cannot be granted and the undertaking supplies evidence that represents a significant added value relative to the evidence the HCO has.[29] Partial immunity may be granted to more than one undertaking, if the evidence supplied by subsequent whistle-blowers has added value, by way of example, through strengthening the proof of the violation or revealing that the cartel had a broader purview. Section 78/A (5) establishes the scale of fine reduction: the first undertaking is entitled to a 30-50%, the second to a 20-30% and the third and later undertakings to an up-to 20% reduction.

Cartelist enterprises are excluded from public tenders. Section 75(2)(n) of the Act on Public Procurement specifically excludes those undertakings from public tenders that violated competition law in the preceding three years. This rule applies only if the commission of the mischief was established and a fine was imposed. Accordingly, if the leniency applicant is awarded full immunity from the fine, it cannot be excluded from public tenders: although the HCO's final decision establishes the undertaking's involvement in the violation, it imposes no fine. On the other hand, leniency applicants receiving partial immunity cannot benefit from the above rule, since they are imposed a fine, even if a reduced one, and are, hence, excluded from public tenders.

Under Hungarian law, the cartelization of pubic tenders and concession procedures is criminalized (otherwise, the violation of competition rules triggers no criminal liability). The criminal prohibition was introduced in 2005 (effective as from 1 September 2005) via Section 296/B of the old Criminal Code. In 2012, the Hungarian parliament adopted a new Criminal Code (Act C of 2012), which reiterated the same statutory language in Section 420.

The person who, so as to manipulate the result of a public procurement procedure or of an open or closed tender published in respect to an activity that can be pursued only on the basis of a concession, concludes an agreement or engages in concerted practice concerning the fixing of the prices, fees, other contractual conditions or the division of the market and thereby restricts competition, may be liable to imprisonment for a term between one and five years. The same punishment applies if someone, so as to manipulate the result of a public procurement procedure

[28] Section 78/A(3) HCA

[29] Before 1 July 2014, Section 78/A(3) HCA embedded a strict time-limit and provided that the application for partial immunity had to be submitted before the HCO's preliminary position (equivalent of statement of objections) was served or, if this occurred earlier, before the file was opened for access by the parties.

or that of an open or closed tender published in respect to an activity that can be pursued only on the basis of a concession, takes part in the adoption of a decision of an association of undertakings that restricts competition.[30] The punishment is milder if the above is committed in respect of a public procurement value not exceeding HUF 50 million. In this case, the perpetrator is liable to imprisonment for a term not exceeding two years.[31]

It is to be noted that the criminal enforcement of competition law is highly under-developed: since the introduction of the criminal prohibition in 2005 (this rule applies as from 1 September 2005), according to the available information, criminal conviction occurred in a single case.[32] This is basically due to two factors. First, criminal enforcement is not proactive but passive in relation to administrative enforcement. The usual way of handling cases is that the HCO files a criminal complaint after it completed the administrative procedure, so at a time when the criminal investigation's real-time data-gathering tools can no longer be used. Second, the burden of proof and the rules of evidence in the administrative procedure are so much more lenient as compared to criminal procedure, that the evidence gathered in the former is quite often of little use for criminal prosecution. Although the HCO has condemned the cartelization of public tenders in numerous matters, the evidence sufficient for an administrative fine is usually not sufficient to establish criminal liability. While the threshold of proof is pretty low in cartel cases, criminal matters are governed by the "beyond reasonable doubt" standard.

Section 420 of the Criminal Code reconciles criminal liability with the aims of leniency policy, translating the immunity from the fine to immunity from criminal liability.

First, the perpetrator cannot be punished if he reports the violation to the authority and reveals the circumstances of the commission before the criminal authority gains knowledge. This option is independent of the operation of the leniency rules under competition law: it is available also in cases the undertaking connected to the perpetrator submits no leniency application.[33]

Second, the perpetrator is not punishable if the undertaking submits an early leniency application for full immunity from the competition fine: the undertaking's executives, members, supervisory board members, employees and their agents (who have this status at the time the act was committed) cannot be punished if the undertaking, before the institution of the HCO's competition proceedings, submits a successful leniency application entailing full immunity from the fine and reveals the circumstances of the commission. According to the HCA, an undertaking may

[30] Section 420(1)-(2) of the Criminal Code.
[31] Sections 420(3) and 459(6) of the Criminal Code.
[32] This occurred in a criminal matter emerging from competition case Vj-28/2013. The judgment is not publicly available.
[33] Section 420(4) of the Criminal Code.

be granted full immunity from the fine also in case the application is submitted after the institution of the competition procedure (albeit it is certainly more difficult for the undertaking to comply with the requirements). On the other hand, immunity from criminal liability is available only if the undertaking submits the leniency application before the competition procedure's institution; that is, if the leniency application is submitted after the start of the proceedings, the undertaking may but the perpetrator may not automatically benefit from a full immunity from the punishment.[34]

Third, if the undertaking submits a leniency application for full or partial immunity, the punishment can be reduced with no restrictions and in case it is particularly equitable the perpetrator may be exempted from it. The punishment of the undertaking's executives, members, supervisory board members, employees and their agents (who have this status at the time the act was committed) can be reduced or put aside if the undertaking submits a successful leniency application to the HCO that entails full or partial immunity from the fine and reveals the circumstances of the commission.[35] Under this provision it is irrelevant when the application for full immunity was submitted, that is, whether before or after the institution of the competition procedure; however, as in the event the submission predates the institution of the proceedings, the perpetrator is automatically entitled to full immunity, this provision in fact applies only to cases where the application for full immunity is submitted after the procedure's institution and where an application for partial immunity is submitted.

Accordingly, immunity from criminal liability is guaranteed solely in case the leniency application is submitted before the institution of the competition procedure. If the leniency application is submitted afterwards, a discretionary immunity from criminal immunity may be granted by the court: if it finds this equitable, the court may decide to grant full immunity; otherwise, the perpetrator is automatically entitled to a reduction of the criminal punishment. Furthermore, the perpetrator benefit from full immunity from criminal liability (if the court finds that this is equitable) even in case the undertaking submitted merely an application for partial immunity.

Under Hungarian law, legal persons have criminal liability in certain cases, where a natural person connected to the legal person commits a criminal act. As a corollary, an undertaking runs the risk of facing derivative criminal liability if a person connected to it gets involved in the cartelization of a public tender. Act CIV of 2001 on the criminal law measures applicable to legal persons establishes certain measures, which can be applied to legal persons, if there is a link between the perpetrator and the legal person. Nonetheless, the criminal liability of legal persons is rarely invoked in practice and has never been used in competition matters.

[34] Section 420(5) of the Criminal Code.
[35] Section 420(6) of the Criminal Code.

CONCLUSIONS

The regulatory comparison carried out above reveals that Hungarian leniency policy does not differ from the comparators in any significant way, what is more, it is more favorable to leniency applicants.[36]

	Full immunity (pre-procedure application)	Full immunity (in-procedure application)	Partial immunity (reduction)	Criminal liability	Public procurement exclusion	Civil liability (before the Private Enforcement Directive)
Hungary	Automatic	Automatic if it proves the violation.	30–50%, 20–30%, 0–20%.	Early leniency application for full immunity: full criminal immunity. Other leniency application: discretionary criminal immunity and extenuative circumstance.	No exclusion in case of full immunity.	Subsidiary liability.
European Union	Automatic	Automatic if it proves the violation.	30–50%, 20–30%, 0–20%.	No criminal liability.	No exclusion at all.	No protection, joint and several liability.
Germany	Automatic	Subject to discretion (usually granted).	0–50%	The leniency application entails no criminal immunity.	Exclusion applies, no protection for leniency applicants.	No protection, joint and several liability.
The Netherlands	Automatic	Automatic if it proves the violation.	30–50%, 20–30%, 0–20%.	No criminal liability.	No exclusion at all.	No protection, joint and several liability.
United Kingdom	Automatic	Subject to discretion.	0–50%	Pre–procedure leniency application: full criminal immunity. In other cases: discretionary criminal immunity.	Exclusion applies, no protection for leniency applicants.	No protection, joint and several liability.

The Hungarian leniency regimes is more favorable than the comparators at numerous points.

First, the Hungarian rules make no formal distinction between leniency applications submitted before opening and during the procedure. This clearly benefits leniency applicants. Accordingly, leniency applicants may, as an automatic entitlement, benefit from full immunity, even if they submit the application after the procedure

[36] Cf. *OFT* [2009] p. 52.

is launched. On the contrary, in Germany and the United Kingdom, the applicant benefits from a discretionary immunity and it is up to the competition authority to determine the extent of this, although it has the power to grant full immunity.

Second, in case an enterprises benefits from full immunity, this automatically implies immunity from criminal liability and exclusion from public tenders, while, as to claims for damages, its liability has been subsidiary since 1 June 2009. These benefits are rather generous. The highly successful German regime provides no protection against criminal liability and, before the adoption of the Private Enforcement Directive, none of the comparators provided any benefit concerning actions for damages. Likewise, none of the comparators provide any benefit for leniency applicants against exclusion from public tenders.

The above showcase that Hungary's more favorable regulatory regime produces significantly weaker results. This suggests that the Hungarian regime's relative ineffectiveness cannot be explained with regulatory reasons and, hence, its root-causes can be found beyond the law and cannot be eliminated by means of regulatory means, at least not in the short run. Settled social patterns not only create alternative social norms but may also distort how the prisoner's dilemma plays out and reduce the risk that other cartelist companies submit a leniency application (*Jaspers* [2020] p. 117). Furthermore, in such an environment, long-term effects in terms of reputation and business relations may outweigh the short-term benefits. Finally, there may be a principal-agent problem, in the context of both competition law compliance and leniency.

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REGULATION

• *Zombor Berezvai* •

THE IMPACT OF RETAIL REGULATION ON CONSUMER PRICES

This paper studies the impact of the regulation of the retail sector on competition and consumer prices. We first perform an international analysis using OECD data. Our findings indicate that there is correlation between changes in retail regulation and changes in food prices, which suggests that regulation has an impact on competition between companies, and in turn has an impact on consumer prices. After this we look at two specific regulatory measures: the Sunday shopping ban and the regulation restricting the building of new stores with large floor area (known in Hungary as the "plaza-stop" act). In our study we analyse the average consumer price changes of 17 food products between 2006 and 2017 based on monthly data using FGLS panel regression method. Our findings show that the compulsory Sunday closing had no significant impact on consumer prices during the one year the regulation was in effect. On the other hand, modern retail formats and the penetration of international chains significantly reduced consumer prices. Based on this result, establishing entry barriers in retail had an unfavorable effect on consumers materializing in higher prices.

INTRODUCTION

Only a couple of sectors are as heterogeneous as retailing. Retail outlets range widely from the corner shop operated by one family to hypermarkets employing 800 staff. In this sector one can find sole traders, domestic small and medium-sized enterprises as well as international corporations. Additionally, the retail sector is constantly changing. In addition to the continued expansion of large store formats, e-commerce is rapidly growing as well. In such a dynamic business environment various external factors and state regulations can produce very different outcomes.

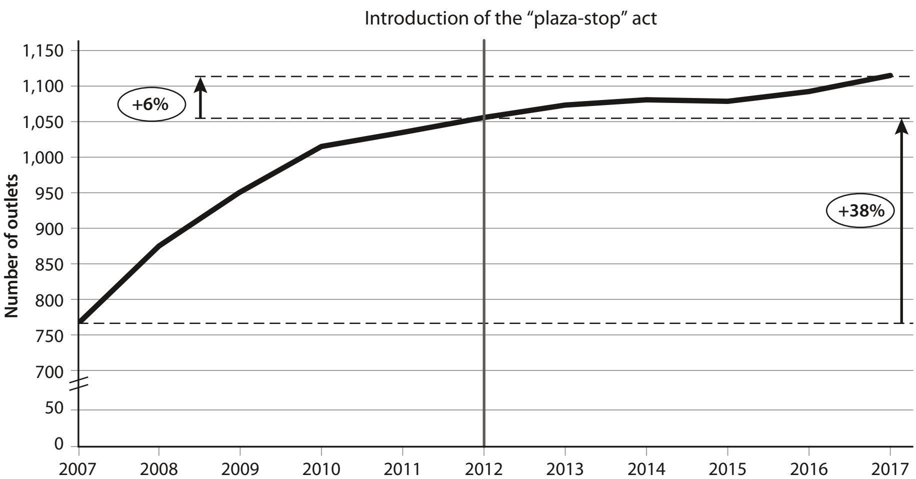
The retail sector is regulated in each and every developed country; however, to very different extent. The most typical arguments for the regulation of the retail sector are that it serves to protect the interests of consumers, employees and the environment, but in some cases the argument that small shops should be supported also appears.

The differences in the regulatory environment may have an impact on the structure, concentration and through this the competition between retailers in the given countries. And this ultimately manifests itself in consumer prices. The objective of our study is to examine and quantify these effects. For this purpose, we look at two aspects. First, we examine the correlation between retail regulation and consumer prices in OECD countries. This gives a general overview of what impact regulation can have. After this we look closely at two regulatory measures that had a profound impact on food retail in Hungary in recent years.

The government introduced the regulation that has become known in Hungary as "plaza-stop" act in 2012, which stipulated that a special permit was required for the construction of retail outlets with a floor area of more than 300 squaremeters. The regulation affected mainly foreign-owned retail chains as Hungarian-owned retailers were often granted exemption from the ban (*OECD* [2016]). This meant that it became very hard for modern retail chains to expand, and consequently their planned expansion slowed down significantly. *Figure 1* illustrates this well; it shows that the number of outlets practically stagnated after 2012. This is especially remarkable since even during the global economic crisis the number of retail outlets grew significantly, which was mainly due to the expansion of Aldi and Lidl. The "plaza-stop" regulation halted the expansion of mainly these two chains.

The second regulation we studied was the compulsory Sunday closing of retail outlets introduced in March 2015 and lifted one year later, in April 2016. This affected customers even more and run into considerable resistance. The regulation had a profound effect on the shopping habits of consumers, and impacted the competition between stores, as it reduced the time available for shopping by a whole day.

Examining these two regulations makes it possible not only to analyse the correlation between regulation and prices in general but distinguish the effects of different types of regulatory measures. On the other hand, we can also study the effects of the two types of regulation in relation to one another.



Note: Data show the total number of outlets of Tesco, Spar (not including franchise partners), Auchan, Penny Market, Lidl, Cora and Aldi.
Source: Based on annual top lists compiled by Trade Magazin (https://trademagazin.hu/en/kereskedelmi-toplistak/).

FIGURE 1 • **Total number of outlets belonging to modern food retail chains in Hungary**

In the next section we provide a literature review. Then the correlation between retail regulation and consumer prices is analysed in the OECD countries. This is followed by a brief description of the Hungarian retail sector. Next, we give an overview of the methods used in the analysis of the two regulatory measures presented above as well as the sources of data used. In the following section, we present the estimation results, and then we discuss them. Finally, we conclude the paper with a summary.

LITERATURE REVIEW

Very few researchers have studied the relationship between retail regulation and prices. On the other hand, the expansion of modern retail formats (especially super- and hypermarkets as well as discount stores) and their effect on consumer prices have been studied extensively. In the following section we provide a summary of these two streams of literature.

The relationship between retail regulation and prices

Every country regulates retail market activities to varying degrees, which affects competition in the sector as well. There are two methods to analyse the effects of these regulations: 1) empirical analysis of a regulatory change; 2) estimation of the effects using theoretical models (mainly game theory and industrial organization). As changes in regulations occur rarely, we are often left with the theoretical approach.

Two significant areas of state regulation are the imposition of restrictions on the opening of new stores and the limitation of the opening hours of existing ones. Based on empirical analyses the effect of regulation restricting the opening of new stores is clearly negative. *Schivardi–Viviano* [2011] has proved using Italian data that entry barriers in retailing are associated with larger retail profit margins and lower level of productivity of the incumbent firms. *Hoffmaister* [2010] came to a similar conclusion when he looked at the effects of barriers to entry regulations in Spain. A special permit from the administration of the autonomous region is required to open a large-format store in Spain. The governments of several regions issued only very few such permits in order to protect the interests of small local retailers. When analysing the effects of entry regulations in Sweden *Maican–Orth* [2015] found also that more liberal entry regulations increase the productivity of retailers, moreover the increase in productivity is larger for small stores and small markets than for larger ones.

Therefore, one unfavourable effect of regulation is price increase, while it does not even protect small local retail outlets, which could justify such regulations. *Sadun* [2015] who looked at the effect of entry barriers in the United Kingdom found that such restrictions, which were meant to protect independent retailers, actually harmed them. As the entry barriers prevented large retail chains from opening larger outlets, they invested in smaller and more centrally located formats, which competed more directly with independent shops.

The effect of regulating the opening hours is less obvious. The reason being that it creates two effects that act in opposite directions. The first one is that longer opening hours mean higher operating costs for retailers (e.g. more staff is needed, payment of shift allowance to employees). Based on these the liberalisation of opening hours increases prices. According to the theoretical analysis performed by *Wenzel* [2010] applying the Salop model, deregulation of the opening hours on the short term leads to no changes in either prices or the number of retailers. However, due to the cost of extended opening hours, prices increase whereas the number of retailers decreases, i.e. the industry becomes more concentrated. The findings of another theoretical analysis conducted by *Shy–Stenbacka* [2008] are quite similar: retailers with longer opening hours charge higher prices in the market equilibrium. The model developed by *Inderst–Irmen* [2005] shows that prices rise; however, they argue that it is caused by the increased differentiation of the stores, which reduces price competition. *Flores–Wenzel* [2016] have also found that prices increase, the reason being that with longer opening hours the demand of (at least one segment of) consumers increases, and increased demand in turn increases equilibrium prices.

On the other hand, longer opening hours give consumers more time to collect price information, which increases competition. According to the theoretical results of *Clemenz* [1990] and *de Meza* [1984] liberalisation leads to price reduction.

Similarly to the results of theoretical analyses, the findings of empirical studies do not show a uniform picture either. According to the results of the study conducted by *Tanguay et al.* [1995] after the deregulation of opening hours in Québec, the price level at shops with a large floor area increased by around 5 per cent. On the other hand, *Reddy* [2012] showed a decrease in prices using data collected in Germany in the aftermath of the liberalisation taking place in 2006 and 2007. *Kay–Morris* [1987] found the same when analysing British data. However, *Genakos–Danchev* [2015] in their comprehensive study collecting data from 30 European countries found that lifting the restriction on the opening hours of shops did not have a significant impact on price level.

The impact of the expansion of modern store formats

In recent decades modern store formats and international retail chains have had considerable impact on the retail sector. According to *Hortaçsu–Syverson* [2015] the appearance of modern store formats has reshaped the retail sector even more than the appearance of e-commerce. Online retail is unlikely to extinguish physical stores for many years to come; therefore, it poses limited threat to the existence of modern store formats.

This major change has piqued the interest of several researchers. *Leibtag* [2006] looked at Nielsen data for the period between 1998 and 2003, and found that as a result of the expansion of Wal-Mart and other shops following an EDLP (everyday low prices) strategy the grocery spending of consumers increased at a rate much below the inflation rate of food products. The findings of the study conducted by *Volpe–Lavoie* [2008] confirm this; they argue that the appearance of Wal-Mart Supercenters decreased the price of manufacturer branded products by 6 to 7 per cent and the price of private label products by 3 to 8 per cent in the vicinity of the stores.

It is no accident that the market share of non-traditional chains, especially the ones following and EDLP pricing strategy grew the most intensively in the United States in the course of the six-year period mentioned above (*Leibtag* [2006]). Wal-Mart became the biggest grocery retailer in the United States as well as globally (*Volpe–Lavoie* [2008]).

The changes have also reached developing countries. As of the 1990s supermarkets started spreading in developing countries (*Minten–Reardon* [2008]). The penetration in these countries is characterised by a rapid growth in market share of these chains. When investigating the reasons, the authors have made several conclusions. One of them being that foreign-owned retail chains – as they had more advanced procurement systems and quality standards – were more competitive than local businesses. In addition, these chains sell a wide assortment of processed food products in one place, which consumers find more convenient. Using a dataset of 103 developing countries *Tandon et al.* [2011] found that of the price and non-price characteristics (like convenience and wider product assortment) the latter were more important for the customers.

The entry and expansion of modern retail chains resulted in the concentration of retailing as smaller retail shops were forced out of the market. *Martens* [2008] found that the entry of Wal-Mart significantly increased concentration in grocery retailing.

The relationship between retail concentration and prices was the subject of several studies (e.g. *Yu–Connor* [2002], *Stiegert–Sharkey* [2007], *Hovhannisyan–Bozic* [2016]). The findings suggest very much the same: retail concentration increases the price level. So there seems to be consensus that there is a positive correlation between concentration and price level.

Modern retail formats therefore have two opposing effects on consumer prices. On the one hand, due to their more effective supply chains the prices are reduced, but on the other hand they increase prices due to higher concentration. A study by *Podpiera–Raková* [2009] attempts to separate the two effects. Their findings suggest that the expansion of large retailers lowered the consumer price index by 0.8 percentage point annually in the Czech Republic due to the increased upstream market power of retailers. However, due to the increasing number of acquisitions the largest retailers are expected to become even stronger, which would increase the yearly inflation of food products by 1.2 percentage points, which in turn would substantially affect the overall inflation as well.

As can be seen from the above, the impact of the market penetration of modern store formats is not unambiguous, and it is likely to vary by markets as well as by time. The impact of the Hungarian "plaza-stop" act on consumers mainly depends on which of the various effects becomes dominant. If the expansion of modern store formats drives down consumer prices, the regulation curbing the penetration of such formats is not beneficial to the public. If, though, the regulation prevents the further concentration of the sector and consequently stunting the increase in prices, it is tenable. However, no empirical analysis has been conducted in Hungary yet to answer this question.

RELATIONSHIP BETWEEN RETAIL REGULATION AND PRICES IN OECD COUNTRIES

The literature review shows that there is a correlation between the regulation of the retail sector and price levels, but very few research studies have been undertaken to empirically analyse this relationship. In our study we first conduct an international comparison of OECD countries.

The OECD Product Market Regulation Indicators – updated every five years – serve as the basis of the analysis. The values on the scale range from 0 to 6 with higher values corresponding to stricter state regulation. The value of the index is an aggregate value averaging the values of the following six indicators:

- Licences or permits needed to engage in commercial activity,
- Specific regulation of large outlet,
- Protection of existing firms,
- Regulation of shop opening hours,
- Price controls,
- Promotions/discounts.

The extent of regulation varies by country (*Figure 2*). Hungary with its 2.06 value was in the middle, nearing the OECD average. In general, we can say that regulation is becoming more and more liberalized over time, and it applies approximately to the same degree to each of the above areas (*Koske et al.* [2015]).

The OECD first published the indicators of the retail sector regulation in 1998 and has updated it every five years since. This means that so far there have been four editions of the survey, in 1998, 2003, 2008 and 2013 with an ever-expanding number of countries. In 2013 the indicators for some non-OECD countries were also included. However, due to the differences of less developed countries we looked at OECD member states exclusively in our study (22 countries[1] as we only looked

[1] Australia, Austria, Belgium, Canada, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Mexico, Netherlands, Norway, Poland, South Korea, Spain, Switzerland.

Note: 0 corresponds to virtually no regulation, while 6 means there is substantial regulation in all areas.
Source: OECD Product Market Regulation Indicators.

FIGURE 2 • **The degree of retail regulation in European countries in 2013**

at those countries where all data were available for every year the product market regulation indicators were measured.)

We measured the effect of regulation on the inflation of food products, as consumers get food nearly completely from retail. If because of state regulation competition in the retail sector decreases, this will lead to an increase in food prices. As our objective is to measure minor changes in real value, we examined the ratio of food inflation and overall inflation (consumer price index) in our analysis. By looking at the overall consumer price index we can eliminate the differences in price fluctuations caused by the varied fiscal and monetary policies of different countries, which when using a dataset containing data for many years and many countries would cause significant differences. This is in accordance with the method used by *Mizik et al.* [2007].

However, the relative increase or decrease of food prices in relation to the overall basket of consumer goods is affected not as much by the degree of regulation but by changes in regulation. Changes in retail regulation affect competition between companies, which may modify their behaviour as well as their optimal pricing strategy. This may result in either a decrease or an increase in prices until a new equilibrium point is reached. This is the potential effect that we would like to identify.

Figure 3 illustrates the relationship between the two main variables. As can be seen there have been some changes in retail regulation over the five-year periods, which means there is sufficient variance to identify causal effects. Also a weak but positive relationship can be seen between the degree of change in regulation and the increase in food price inflation exceeding the overall inflation rate, therefore the data show that stricter regulation of the retail sector is followed by some increase in prices. However, there are numerous other factors that influence food prices, and these have to be controlled, so we have added control variables into the regression model:

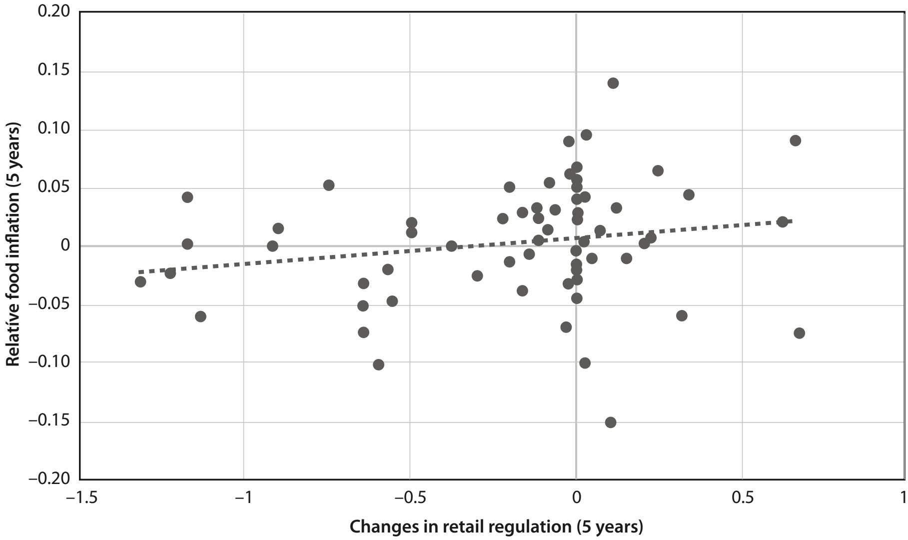
$$\frac{1+CPIFood_{it}}{1+CPI_{it}}-1 \tag{1}$$

$$= \alpha + \beta_1 \Delta RetailReg_{it} + \beta_3 \Delta GDP_{it} + \beta_4 \Delta Wage_{it} + \beta_5 \Delta Pop_{it}$$
$$+ \beta_6 \Delta TaxRev_{it} + D_t + u_{it},$$

where $CPIFood_{it}$ stands for food inflation in country i in the period between t and $t-1$, CPI_{it} is the change of the overall consumer price index, $\Delta RetailReg_{it}$ is the change in the degree of retail regulation, ΔGDP_{it} is the change in the volume of gross domestic product, $\Delta Wage_{it}$ is the annual average real wage change, ΔPop_{it} is the change in the number of inhabitants, $\Delta TaxRev_{it}$ is the change in tax revenue to GDP ratio, and finally D_t dummy variables mark the time fixed effects. In the analysis we also specifically looked at the effects of opening hour regulations, where we used this sub-index instead of the $\Delta RetailReg_{it}$ variable.

Another advantage of using a first difference approach is to eliminate the country-specific (and time independent) effects from the variables, so they cannot distort the results. However, other time dependent variables not included in the regression can still cause distortions, therefore the results should be interpreted with this caveat. When we looked at the changes of GDP, real wage and population, we considered the degree of changes, while in the case of other variables we calculated the difference in order to make the interpretation of results as easy as possible.

We collected the data to estimate equation (1) from OECD iLibrary and the OECD Product Market Regulation (PMR) database. The OECD places special emphasis on ensuring that the data series can be compared both by time period and country. This is especially advantageous and helps minimize analytical bias. *Table 1* contains the descriptive statistics of the variables.



Source: author's own calculation based on OECD data.

FIGURE 3 • **The relationship between the retail regulation indicator and relative food inflation**

TABLE 1 • **Descriptive statistics of the variables used to estimate the model**
(the average of the three five-year periods between 1998 and 2013, number of observations: 66)

Variable	Mean	Standard deviation	Minimum	Maximum
Food inflation (over 5 years, per cent)	13.9	10.5	−5.3	43.6
Overall inflation (over 5 years, per cent)	13.6	9.7	−2.9	49.1
Retail regulation indicator	2.18	1.10	0.60	4.68
Changes in retail regulation indicator (over 5 years)	−0.19	0.43	−1.31	0.67
Regulation of opening hours (sub-index)	1.48	1.64	0	5.14
Changes in regulation of opening hours (over 5 years, sub-index)	−0.24	1.00	−6	0.07
GDP volume change (over 5 years, per cent)	11.1	10.9	−26.3	40.6
Average real wage increase (over 5 years, per cent)	5.5	7.7	−21.8	29.2
Population growth (over 5 years, per cent)	2.9	2.8	−1.8	12.7
Changes in tax revenue to GDP ratio (over 5 years, percentage points)	0.06	1.66	−3.34	4.48

Source: author's own calculation based on OECD iLibrary data.

Table 2 contains the estimation results. Columns (1) and (2) show the effects of the changes in retail regulation indicators with and without time fixed effect, while columns (3) and (4) show the results for only one sub-index, the regulation of shop opening hours.

TABLE 2 • **The relationship between retail regulation and prices in OECD countries (panel regression estimation results)**

Independent variable	Relative changes in food prices			
	(1)	(2)	(3)	(4)
Changes in retail regulation indicator	0.032* (0.008)	0.022* (0.005)	–	–
Changes in regulation of opening hours (sub-index)	–	–	0.009* (0.002)	0.007 (0.003)
Average real wage increase	–0.297 (0.210)	–0.234 (0.222)	–0.279 (0.190)	–0.215 (0.206)
GDP volume change	0.102 (0.116)	0.149 (0.155)	0.120 (0.110)	0.169 (0.159)
Population growth	–0.272 (0.289)	–0.369 (0.274)	–0.216 (0.298)	–0.342 (0.289)
Changes in tax revenue to GDP ratio	0.002 (0.005)	–0.000 (0.005)	0.002 (0.006)	–0.000 (0.005)
Constant	–0.023 (0.014)	–0.006 (0.013)	0.014 (0.018)	–0.016 (0.015)
Period fix effects	no	yes	no	yes
N	66	66	66	66
R^2	0.1831	0.2478	0.1455	0.2360

Note: cluster robust standard errors for time periods in parentheses;
***significant at 1 per cent level, **significant at 5 per cent level, *significant at 10 per cent level.

The results show that except for the retail regulation indicators none of the other explanatory variables were significant in the model. The retail regulation indicator is only significant at 10 per cent level;[2] however, this is primarily due to the standard errors clustered for the time period, as by this the degree of freedom dropped significantly. For other explanatory variables this is not an important consideration, their significance level is very high. The effect of the opening hours regulation is smaller and is only significant (at 10 per cent level) if the time-fixed effects are not included in the model. *Bloch* [2012] also found that product market regulation in the United States and France are an exogenous source of inflation, therefore no feedback mechanisms can be detected. Furthermore, our findings are in line with the results of *Égert* [2016] who found that product market regulation negatively affects productivity; however, this is no longer the case if year fixed effects are also included in the regression.

The effect of the retail regulation indicators is not negligible. Considering the average five-year inflation (13.6 per cent) a 1-point increase of the retail regulation indicator is expected to increase food inflation by 3.6 percentage points. And in the model including time fixed effects it increases food inflation by 2.5 percentage points within a five-year period. Considering actual changes in retail regulation indicators *(Table 1)* the real impact could vary between –4.8 percentage point and 2.4 percent-

[2] The p-value is 0.058 in both model (1) and (2).

age point with a mean of –0.7 percentage point. This degree is reconcileable with the average food inflation for five years (13.9 per cent).

The effects are much smaller, between 0.8 and 1 percentage points if we look at the opening hours regulation only. This suggests that other regulatory measures probably affect inflation as well.

According to the analysis conducted by *Koske et al.* [2015] product market regulation is on the decrease in OECD countries, so the relationship between time-fixed effects and retail regulation indicators is not surprising. This is why leaving time-fixed effects out of the regression does not necessarily cause distortion in the estimation; therefore, product market regulation does have an impact on the changes in consumer prices.

However, the retail regulation indicator does not make it possible to examine specific regulations individually. The indicators do not specify the various regulatory measures, even though their effect can vary significantly. In the next section we attempt to find answers to the questions raised here using longitudinal analysis of the Hungarian retail sector by examining the effects of the "plaza-stop" act and the compulsory Sunday closing.

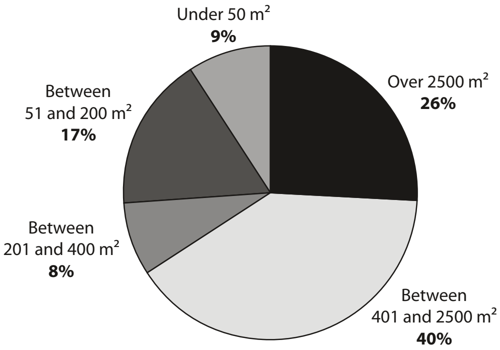
A BRIEF OVERVIEW OF THE RETAIL SECTOR IN HUNGARY

In 2016 the retail sector produced 4 per cent of the Hungarian GDP according to the data published by the Hungarian Central Statistics Office (HCSO). However, the sector plays a much more important role in the national economy, as it employs 6 per cent of the total workforce, and in addition, it is the source of livelihood of many self-employed professionals. The retail sector is characterized by being fixed to the location, which applies to most of its services.

Our study focuses on food and other daily grocery retail. In 2016, based on the data by the market research company Nielsen, food retail trade reached a turnover of around HUF 1,620 billion, two thirds of which was realized by modern retail outlets with a floor area over 400 squaremeters (i.e. hypermarkets, supermarkets and discount stores) *(Figure 4).*

The retail sector started to change around the time of the political transition in Hungary. The privatisation of state-owned businesses boosted the expansion of foreign retail chains, but at the same time, domestic chains operating in a franchise system were set up as well.

Coop has the largest store network. In addition to Coop, CBA and Reál have an extensive nationwide store network. All these three chains operate in a franchise system. This system makes it possible for all three companies to have many partners and several thousands of stores, which means they have a significant market share. However, besides the partially unified image, certain joint promotions and private label brands, the pricing as well as the assortment are decided by the owners of



Source: Nielsen
(http://trademagazin.hu/hu/nielsen-nott-nagy-uzletek-sulya-az-elelmiszer-kiskereskedelemben).

FIGURE 4 • **The market share of different store formats in ninety food product categories measured by Nielsen in 2016**

the shops. This is why such chains should be categorised as local traditional retail outlets, as there are huge differences between them regarding floor area as well as business strategy even within one chain.

Foreign-owned businesses operate three major formats that are very distinct from one another: hypermarkets, supermarkets and discount stores. Some companies are present in several categories. Hypermarkets include (in descending order of the number of stores) Tesco, Interspar and Auchan. Tesco is without any doubt the most significant, as it is the leading food retailer in Hungary. Hypermarkets are characterised by large floor space (between 3,000 and 15,000 squaremeters) and a wide range of products.

Out of the hypermarket chains Tesco and Spar also have a network of supermarkets. In this format Spar is the most important player with about 370 outlets. It doubled the number of its stores in 2008 by acquiring the Plus discount store chain. There used to be an additional foreign-owned retail chain, the Belgian-owned Match that operated this format, but withdrew from the Hungarian market in 2013.

In the discount format foreign retail chains entered the market in several waves, but their expansion has become even stronger in recent years. Profi appeared in Hungary after the political transition. Soon after Plus followed in 1992. Both companies have since left the Hungarian market, Plus withdrew in 2008 and Profi left the country in 2013. Penny Market, owned by the German Rewe group, entered the Hungarian market in 1996.

After Hungary's accession to the European Union German-owned hard discount chains started their expansion in the country. The first of them was Lidl, a chain belonging to the largest European retailer, the Schwarz Group. As a result of its intensive expansion Lidl currently has over 160 stores nationwide. Another German retailer, Aldi arrived in Hungary with a little delay, opening its first store in Hungary in 2008, but it has been expanding rapidly, and the number of its outlets now exceeds 100, which is considered a milestone.

With the entry of foreign retail chains, concentration steadily and significantly increased in the sector. *Juhász et al.* [2005] have found that the revenue share of the large corporations increased from 24 per cent to 37 per cent, while that of microbusinesses dropped from 40 per cent to 32 per cent between 1999 and 2003. This tendency continued throughout the late 2000s and 2010s. While at the end of 2007 there were 45,599 grocery stores in Hungary according to HCSO data, this figure went down to 40,329 in ten years, which means more than one per cent decrease annually. At the same time, the number of stores operated by international chains increased gradually *(Figure 1).*

METHODOLOGY AND DATA

We examined the relationship between retail regulation and consumer prices by analysing the monthly average prices of 17 food products.[3] The monthly nationwide average consumer prices of the 17 products were sourced from the HCSO, while the manufacturer's selling prices were downloaded from the Market Price Information System of the Research Institute of Agricultural Economics (RIAE MPIS). The manufacturer's selling prices show the purchase prices of retailers, while consumer prices show the sales prices of them. The difference between the two is the gross margin of the retailer. This is to cover the expenses of the retailer and ensures its profit as well. If the market environment changed as a result of regulation, and competition became either stronger or weaker, it had an impact on the gross margin, which implies that the best way to examine the subject of this study is to look at the gross margin.

Due to the differences in the turnover rate of the products, the inventory policy of the retailers as well as the differences in the contracts between retailers and manufacturers, there is no guarantee that changes in the manufacturer's selling price impact immediately the expenses of the retailers. Therefore, when estimating the model, it was not the gross margin, but the net consumer price that we used as dependent variable. We calculated this by subtracting the VAT from the gross consumer price published by the HCSO.

We used monthly data for the months between January 2006 and December 2017 for the purposes of this analysis. In order to avoid modelling inflation, we deflated all data using the monthly consumer price index published by the HCSO. With this transformation, the changes in real prices can be examined. For the analysis we used the logarithm of the prices.

[3] White flour, pastry flour, cooking oil, fresh/ESL milk (2.8% fat), UHT milk, sour cream (20% fat), kefir, sweet cream butter, cottage cheese, unflavoured whipped butter spread, fruit yoghurt, egg, turkey breast, chicken leg, pork leg, pork loin, pork shoulder.

In our study we quantified the impacts of two regulatory measures: the so-called "plaza-stop" act passed in 2012 and the compulsory Sunday closing in force between 2015 and 2016. The aim of the "plaza-stop" act was to restrict the number of stores with a floor area of more than 300 m^2 (later raised to 400 m^2), which was relatively successful, as shown in *Figure 1* with a visible decline in the number of new stores after 2012. This is why we used the number of discount stores, super- and hypermarkets as an independent variable in our analysis. However, no historical monthly time series are available regarding the number of stores. The top list of the retailers published by Trade Magazin contains only annual data, whereas the HCSO published the number of domestic outlets only every six months. Therefore, we used the number of Aldi discount stores as a proxy variable; the monthly data was made available to us by Aldi Hungary. The number of Aldi stores serves as a good proxy variable for two reasons. First, Aldi opened stores more or less simultaneously in all parts of the country. Within the first month of entering Hungary (in April 2008) it opened eight stores covering the whole country (in Bonyhád, Budaörs, Debrecen, Dunaföldvár, Mosonmagyaróvár, Nyíregyháza, Pécs and Piliscsaba). Even if these outlets had an effect on the price levels of their close vicinity only, due to their wide geographical distribution the effect could be felt all over the country. And due to their intensive expansion, they appeared in more and more places all over the country, which meant that they had an impact on prices nationwide.

On the other hand, the number of Aldi stores shows strong correlation with both the number of hypermarkets as published by the HCSO and the annual data published by Trade Magazin *(Table 3)*. In addition, the number of Aldi stores shows strong negative correlation with the total number of grocery stores *(Table 3)* illustrating the impact of modern retail chains on concentration (*Juhász et al.* [2005], *Martens* [2008]). Based on this it is not only the expansion of Aldi discount stores that is shown by the variable used, but that of modern food retail chains in Hungary, therefore it seems to be an appropriate proxy variable to use.

TABLE 3 • **The correlation between the number of outlets of retail chains in Hungary and the number of Aldi stores**

Chain/group	Period, frequency	Correlation value
Tesco	2007–2017, annual	0.854
Auchan	2007–2017, annual	0.860
Interspar	2007–2017, annual	0.924
Hypermarkets total	December 2007–December 2017, biannual	0.827
Spar	2007–2017, annual	0.641
Penny Market	2007–2017, annual	0.975
Lidl	2007–2017, annual	0.962
Modern retail total	2007–2017, annual	0.970
Food & grocery total	December 2007– December 2017, biannual	–0.961

Source: Aldi Hungary, Trade Magazin annual retail top lists, HCSO.

We encoded the effect of compulsory Sunday closure of shops using a dummy variable, which had a value of 1 in a month when it was compulsory for shops to be closed on Sunday and a value of 0 at any other time. This, however, presupposes that when the restriction was lifted, the pre-restriction situation was restored. This can be overly restrictive in some cases, so we have defined two dummy variables, one for the period of compulsory Sunday closure, and one for the period following it.

We used the average monthly net salary as a control variable, which can affect the margin of retailers in two ways. On the one hand, lower income increases the price sensitivity of consumers; this is when the pricing strategy of retail chains becomes of key importance. During the 2008–2009 crisis retail chains operated with low prices and had high promotional activity, mainly in the form of price promotions, which negatively affected their margin (*Berezvai* [2015]). On the other hand, higher wages mean greater expenses for retailers, who in turn have to apply higher gross margins to compensate it. The labour shortage appearing recently forced players in the retail sector (just like in any other sector) to increase salaries significantly, which in turn might increased gross margin. The effect of the two channels are identical, if salaries are higher, consumer prices are likely to increase as well. The descriptive statistics of the data are shown in *Table 4*.

TABLE 4 • **Descriptive statistics used to estimate the model**
(144 months between January 2006 and December 2017)

Variable	Mean	Standard deviation	Minimum	Maximum
Net consumer prices (deflated to January, 2004)				
Chicken leg (HUF/kilogram)	421	30	367	489
Cooking oil (HUF/litre)	246	33	187	351
White flour (HUF/kilogram)	75	11	56	103
Fresh milk, 2.8% fat (HUF/litre)	128	8	112	148
Fruit yoghurt, 150 grams (HUF/cup)	51	3	44	61
Kefir, 175 grams (HUF/cup)	46	3	40	53
Turkey breast (HUF/kilogram)	955	51	839	1,081
Pastry flour (HUF/kilogram)	95	13	71	125
Pork leg (HUF/kilogram)	688	45	605	854
Pork loin (HUF/kilogram)	765	67	662	927
Pork shoulder (HUF/kilogram)	676	72	571	859
UHT milk (HUF/litre)	148	12	125	177
Sweet cream butter, 100 grams (HUF/unit)	133	10	116	167
Sour cream, 20%, 175 grams (HUF/cup)	74	4	67	84
Egg, pack of 10 (HUF/unit)	193	20	164	322
Cottage cheese, 250 grams (HUF/unit)	164	11	147	196
Unflavoured whipped butter spread, 250 grams (HUF/unit)	188	6	175	200

TABLE 4 • **Descriptive statistics used to estimate the model** (continued)

Variable	Mean	Standard deviation	Minimum	Maximum
Manufacturer's net selling prices (deflated to January, 2004)				
Chicken leg (HUF/kilogram)	325	42	248	414
Cooking oil (HUF/litre)	188	38	130	322
White flour (HUF/kilogram)	52	9	37	75
Fresh milk, 2.8 % (HUF/litre)	96	7	82	113
Fruit yoghurt, 150 grams (HUF/cup)	37	5	28	53
Kefir, 175grams (HUF/cup)	32	5	23	41
Turkey breast (HUF/kilogram)	805	77	645	1,011
Pastry flour (HUF/kilogram)	59	8	44	83
Pork leg (HUF/kilogram)	580	50	493	777
Pork loin (HUF/kilogram)	614	64	491	812
Pork shoulder (HUF/kilogram)	523	50	410	726
UHT milk (HUF/litre)	101	8	89	131
Sweet cream butter, 100 grams (HUF/unit)	87	8	71	110
Sour cream, 20%, 175 grams (HUF/cup)	43	3	36	49
Egg, pack of 10 (HUF/unit)	144	22	111	282
Cottage cheese, 250 grams (HUF/unit)	108	12	83	132
Unflavoured whipped butter spread, 250 grams (HUF/unit)	131	13	95	157
Number of Aldi stores	66	41	0	126
Average net salary (HUF/month)	100,935	9,637	89,690	135,473

Source: HCSO, RIAE MPIS and Aldi Hungary.

The data follow a panel structure, but unlike the general practice we monitored only a few (17) products for a long time (144 months). Therefore, the autocorrelation of data series became an important consideration, which raises some questions about the applicability of standard panel models (random effect or fixed effect estimation, dynamic panel models).

As a first step we examined the stationarity of the logarithmized data series using the Levin–Lin–Chu and the Hadri Lagrange multiplier (LM) panel unit root tests. The test designed by *Levin et al.* [2002] is recommended specifically for medium-sized panels, as it has proved to be significantly better according to simulation results compared to testing stationarity of data series individually. The test is based on the widely used augmented Dickey-Fuller test, this way its null hypothesis is that every time series of the panel contains a unit root. To determine the number of lags we used the Akaike information criterion starting from six lags.

On the other hand, *Hadri* [2000] suggested a test whose null hypothesis is the stationarity of data series. The test is the Lagrange multiplier test based on the distribution of residuals, which – based on the Monte-Carlo simulations performed – does well with small sample sizes. The test can be applied with cross-sectionally correlated residuals.

Table 5 shows the results of the stationarity tests.

TABLE 5 • **Panel unit root test results**
(based on data ranging from January 2006 to December 2017)

Variable	Test	Null hypothesis	*p*-value	Decision (at 5 per cent level)
Consumer prices	Levin–Lin–Chu-test	each time series of the panel contain a unit root	0.6578	the data series are non-stationary
	Hadri LM test	each time series of the panel are stationary	0.0000	the data series are non-stationary
Changes in consumer prices	Levin–Lin–Chu-test	each time series of the panel contain a unit root	0.0000	the data series are stationary
	Hadri LM test	each time series of the panel are stationary	0.2531	the data series are stationary
Manufacturer's net selling prices	Levin–Lin–Chu-test	each time series of the panel contain a unit root	0.0859	the data series are non-stationary
	Hadri LM test	each time series of the panel are stationary	0.0000	the data series are non-stationary
Changes in manufacturer's net selling prices	Levin–Lin–Chu-test	each time series of the panel contains a unit root	0.0000	the data series are stationary
	Hadri LM test	each time series of the panel are stationary	0.8318	the data series are stationary

Note: In the case of the Levin–Lin–Chu test the number of lags was determined using the Akaike information criterion, for the Hadri LM test cross-sectional correlations were allowed.

The results show that both the (deflated) consumer prices and the (deflated) manufacturer's selling prices contain unit root. However, the first differences of the data are stationary, therefore, we analysed these to avoid spurious regression. The estimated model is the following:

$$\Delta \log(y_{it}) = c + \sum_{j=0}^{3} \alpha_j \,\Delta \log(x_{it-j}) + \sum_{j=0}^{3} \beta_j \,\Delta Aldi_{t-j} \qquad (2)$$
$$+ \sum_{j=0}^{3} \gamma_j \,\Delta Sunday_{t-j} + \sum_{j=0}^{3} \delta_j \,\Delta PostSunday_{t-j}$$
$$+ \sum_{j=0}^{3} \theta_j \,\Delta \log(inc_{t-j}) + D_t + u_{it}.$$

where y_{it} and x_{it} are respectively the consumer and manufacturer's selling prices of product i in month t, while $Aldi_t$ shows the number of Aldi stores. $Sunday_t$ takes the value of 1 if the compulsory Sunday closure regulation was in force in month t, and 0 otherwise. The value of $PostSunday_t$ is 1 for the period following the lifting of the Sunday closure ban, and 0 otherwise, inc_t is the average net salary in month t, and finally D_t stands for month and year dummy variables. For each explanatory variable we allowed for maximum three months (one quarter of a year) delay.

When analysing differentiated data series potential autocorrelations in data as well as cross-sectional correlations have to be taken into consideration. Time clustered shocks (e.g. the financial crisis or the global increase in prices of agricultural products) can affect all products simultaneously, which might create correlation between cross-sectional residuals.

In our analysis we used feasible generalized least squares (FGLS) estimation. Similarly to the analysis by *Tanguay et al.* [1995], regarding the cross-sectional residuals we allowed for heteroscedasticity and correlation, and regarding the autocorrelation of residuals we estimated autocorrelations by products. The prerequisite for the estimation is the strict exogenity of the explanatory variables (*Wooldridge* [2002]), which we believe is met for the variables in the model.

The expansion of Aldi was determined exogenously. In the Hungarian market one needs at least 100 stores to operate effeciently, therefore Aldi had to keep expanding in the analysed time period. The fact that Aldi significantly increased the number of stores during the 2008–2009 financial crisis while generating a steady loss is the clear proof of this (*Berezvai* [2015]).

The Sunday shopping ban was the consequence of a political decision, while the reason this ban was lifted also had a lot to do with the political battles that were fought over it. Such a decision, from the perspective of changing prices should be regarded as exogenous.

The international analysis presented in the previous section as well as the current Hungarian analysis have two major differences. First, the analysis of the Hungarian situation uses much more detailed data. On the other hand, changes in regulations had an impact on all products simultaneously, therefore there is no cross-sectional control group, unlike in the international analysis, as there the individual countries had varied regulatory history.

ESTIMATION RESULTS AND DISCUSSION

Table 6 contains the estimation results of equation (2). In column (1) of the table the compulsory Sunday closure was quantified with one single dummy variable. The model selected by sequentially eliminating non-significant variables is shown in column (2). In column (3) we defined two separate dummy variables for the introduction and the removal of the Sunday shopping ban. By gradually eliminating variables that are not significant at 5 per cent level we got column (4), which is completely identical to column (2).

The results show that changes in the manufacturer's selling prices are not manifested completely in the changes in consumer prices. One reason may be that retailers smoothen out price fluctuations. The relative deviation of manufacturer's selling prices is higher (0.21) than that of consumer prices (0.18).

The increase in average salaries affected prices. As expected, we found a positive effect here. Over one percentage points increase in net pay rise boosted the increase in consumer prices by 0.04 percentage points.

TABLE 6 • **Estimation results**
(FGLS panel regression based on monthly data between January 2006 and December 2017)

Independent variable	Changes in consumer prices in month *t*			
	(1)	(2)	(3)	(4)
Changes in manufacturer's selling price in *t*	0.1668*** (0.0093)	0.1663*** (0.0093)	0.1672*** (0.0093)	0.1663*** (0.0093)
Changes in manufacturer's selling price in (*t* – 1)	0.1829*** (0.0093)	0.1829*** (0.0093)	0.1833*** (0.0093)	0.1829*** (0.0093)
Changes in manufacturer's selling price in (*t* – 2)	0.0854*** (0.0094)	0.0853*** (0.0094)	0.0849*** (0.0094)	0.0853*** (0.0094)
Changes in manufacturer's selling price in (*t* – 3)	0.0394*** (0.0095)	0.0387*** (0.0095)	0.0396*** (0.0095)	0.0387*** (0.0095)
Changes in the number of Aldi stores in *t*	0.0002 (0.0004)	–	0.0003 (0.0004)	–
Changes in the number of Aldi stores in (*t* – 1)	–0.0001 (0.0004)	–	–0.0001 (0.0004)	–
Changes in the number of Aldi stores in (*t* – 2)	0.0001 (0.0004)	–	0.0000 (0.0004)	–
Changes in the number of Aldi stores in (*t* – 3)	–0.0008** (0.0004)	–0.0008** (0.0003)	–0.0007** (0.0004)	–0.0008** (0.0003)
Introduction of compulsory Sunday shopping ban in *t*	–0.0008 (0.0038)	–	–0.0002 (0.0053)	–
Introduction of compulsory Sunday shopping ban in (*t* – 1)	–0.0012 (0.0037)	–	0.0006 (0.0052)	–
Introduction of compulsory Sunday shopping ban in (*t* – 2)	0.0015 (0.0037)	–	0.0022 (0.0052)	–
Introduction of compulsory Sunday shopping ban in (*t* – 3)	0.0015 (0.0037)	–	–0.0046 (0.0053)	–
Lifting of compulsory Sunday shopping ban in *t*	–	–	0.0020 (0.0053)	–
Lifting of compulsory Sunday shopping ban in (*t* – 1)	–	–	–0.0030 (0.0052)	–
Lifting of compulsory Sunday shopping ban in (*t* – 2)	–	–	–0.0016 (0.0052)	–
Lifting of compulsory Sunday shopping ban in (*t* – 3)	–	–	–0.0069 (0.0053)	–
Changes in average net salary in *t*	0.0417** (0.0182)	0.0415** (0.0170)	0.0419** (0.0182)	0.0415** (0.0170)
Changes in average net salary in (*t* – 1)	–0.0104 (0.0179)	–	–0.0126 (0.0180)	–
Changes in average net salary in (*t* – 2)	–0.0017 (0.0179)	–	–0.0060 (0.0180)	–
Changes in average net salary in (*t* – 3)	0.0067 (0.0172)	–	0.0048 (0.0173)	–
Constant	0.0062** (0.0026)	0.0061*** (0.0023)	0.0062** (0.0026)	0.0061*** (0.0023)
Year fixed effects	yes***	yes***	yes***	yes***
Month fixed effects	yes***	yes***	yes***	yes***
N	2,380	2,380	2,380	2,380
R^2	0.3779	0.3770	0.3791	0.3770

Note: FGLS regression with cross-sectionally heteroscedastic and correlated residuals, and residual autocorrelation by products. Standard errors in parentheses.
***significant at 1 per cent level, **significant at 5 per cent level, *significant at 10 per cent level.

Regarding the variables of interest, the model showed no significant impact of Sunday shopping ban on consumer prices. This is true even when we created a separate dummy variable for the introduction and lifting of the ban, respectively. Our results are consistent with the results of *Genakos–Danchev* [2015]. No substantial impact could be demonstrated even when we used a six-month lag, by which time horizon long-term effects should have become apparent as well (*Wenzel* [2010]).

On the other hand, the model attributed price reducing effects to the penetration of modern retail formats and the expansion of international retail chains, in which we used the number of Aldi stores as a proxy variable. The number of Aldi discount stores significantly reduced the average consumer prices within three months. The opening of one Aldi shop reduced the increase of consumer prices by 0.08 percentage points. And since Aldi opened 126 stores in Hungary during the period examined, its cumulative effect was a food inflation reduction of approximately 10 percentage point in the 12 years under investigation. As the expansion of Aldi took place more or less at the same time as that of other retail chains (*Table 3*), this effect is likely to be indicative of the beneficial effects of the expansion of modern retail chains in Hungary.

Our findings are consistent with those of both *Leibtag* [2006] and *Volpe–Lavoie* [2008]: the authors examined the impact of the expansion of Wal-Mart on consumer prices in the US market. Furthermore, *Podpiera–Raková* [2009] measured an impact of the same magnitude using data from the Czech Republic. The findings confirm that the "plaza-stop" act increases consumer prices (or more accurately prevents consumer prices from decreasing), therefore, it is harmful to the consumers.

Finally, based on the results of an empirical study conducted by *Sadun* [2015] using data from Great Britain, it is not even clear that such regulation would benefit smaller shops. One can observe in Hungary as well that international retail chains tend to expand more and more in the inner cities, and open smaller shops. Spar is the most prominent in this regard, as City Spar supermarkets are located specifically in the vicinity of hubs in the city centre, while the franchise program launched in September 2012 increased competition through smaller, more traditional outlets. Spar Express also deserves a mention, which appeared at OMV petrol stations. The efforts of Aldi and Lidl to expand in the inner city is also obvious, e.g. they opened retail outlets on the ground floor of residential buildings by uniting smaller shops there.

CONCLUSION

In our study we analysed the impact of retail regulation on consumer prices. First, we executed an international comparison using OECD data to identify the general effects of retail regulation. After this we examined the impact of two specific regulatory measures in Hungary: the compulsory Sunday closure and the so-called "plaza-stop" act on consumer prices.

Our findings indicate that stricter retail regulations are likely to increase food inflation, therefore have a detrimental effect on consumers' welfare.

The analysis of specific regulatory measures in Hungary indicates that the ban on Sunday opening for shops had no demonstrable effect on consumer prices. However, it should be underlined that this regulation was in effect for merely one year, so we cannot say anything about the long-term effects. On the other hand, the expansion of modern retail formats, mainly that of discount stores drives down prices. Therefore, the "plaza-stop" act had unfavourable effect on consumer prices via delayed or lower number of new store openings.

When interpreting the findings, limitations have to be taken into account. In the international analysis we could use data from four periods only. In addition, we examined five-year intervals, in which period stricter retail regulation could be implemented and then revoked. The database used in the analysis of the Hungarian retail market was much more extensive, but we analysed the price changes of only 17 food products at national level. Further studies should be conducted performing the analysis by store formats in order to determine the exact effects more accurately. In addition, the database should be broken down geographically, and examine the impact of a newly opened store on the price level of the nearby area.

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• *Zoltán Pápai – Péter Nagy* •

DANCING WITH HANDS AND FEET TIED

The handling of zero-rating in net neutrality regulation as demonstrated by the Telenor Hungary vs NMHH case

The present study examines the EU's net neutrality rules that entered into force in 2015, and specifically the provision that prohibits certain potentially welfare-enhancing zero-rating offers by mobile operators without any substantive examination. The authors describe the contents of the net neutrality rules and the developments in the information and communication technology (ICT) market that could have led to this regulatory move. An overview of zero-rated offers (services that offer content at zero marginal cost to consumers) is provided: their types, the business rationale for their use and the competition issues they may pose. Through the case of Telenor Hungary vs NMHH, the authors assess the economic effects of this business practice on welfare and competition, as well as the questionable economic rationale for prohibiting it. The study comes to the conclusion that the justifications of the European rules on zero-rating are highly dubious, and they are based on assumptions which are not proven empirically. The purported goal of "non-discrimination" pursued by net neutrality regulation places unjustified restrictions on achieving technological and economic efficiency and on the freedom of market players to do business, and its application may be detrimental to consumer welfare.

> "Whenever competition is feasible it is, for all its imperfections, superior to regulation as a means of serving the public interest."
>
> *Alfred E. Kahn*

INTRODUCTION

On 27 January 2017, the National Media and Infocommunications Authority of Hungary (NMHH) issued a statement[1] in which it reprimanded Telenor for providing "more favourable terms for the data traffic of the applications covered by the MyChat and MyMusic offers compared to the data traffic of all other internet con-

[1] NMHH was one of the first authorities in the European Union to apply the EU's net neutrality provisions to an operator's zero-rating offer. This decision was preceded in December 2016 by another zero-rating ban regarding a Hungarian mobile operator, Magyar Telekom (*NMHH* [2016*a*]). Though there are many similarities between the two cases, the present study discusses only the Telenor case.

tent and applications" (*NMHH* [2017*a*]). Telenor customers choosing these add-on subscription options could use the popular chat and music download applications listed in the terms and conditions without limitation, even after exhausting their subscription's data allowance. In its decision, NMHH called upon the operator to cease this unlawful practice.

Although the case might not be entirely clear on first reading, even a layman reader may well wonder why it is bad if a mobile operator offers a scheme to consumers by which they can consume content they like under more favourable data usage terms, while other subscribers are not harmed in any way. What rules does the business practice called zero-rating violate that led the authority to find it illegal? As the telecom regulator is not involved in making the rules, only enforcing them, the real question is the justification of the *ex ante* regulation that limits the freedom of market player to make agreements of this type, and renders it impossible for certain content or applications to be available to mobile phone users under more favourable conditions based on the operator's business decision.

The present article examines the above questions, and considers whether there is a higher goal or potential harm to be prevented with regard to competition and/or the long-term sustainability and development of the internet ecosystem, which would justify the *ex ante* limitation on zero-rating tariffs. If no such economic justification can be found, then it is highly likely that this type of regulation is harmful to and restricts the functioning of the market. If this is so, it would be much better to rely on the general toolset of competition regulation and consumer protection instead.

Our approach in examining these issues is best summarised by the comments made by the excellent economist Alfred E. Kahn, known as the father of economic regulation (who also worked as a regulator for a period) at a conference:

- "If I were asked to offer one single piece of advice to would-be regulators, on the basis of my own experience, it is that as they perform their every single regulatory action they ask themselves: "Why am I doing this? Is it really necessary?" (*Kahn* [1981] p. 66).

Naturally, whether some regulation is necessary may not be a simple choice of yes or no; there could be arguments both for and against it; the economics of regulation is concerned with examining such arguments and assessing effects on welfare. The goal of the present analysis is to provide an economic assessment of the specific legal regulations based on net neutrality rules as pertaining to the widespread and varied business practice in the mobile telephony market that is of zero-rating. Through this analysis, we would like to contribute to the understanding of regulation and regulatory decisions, and hopefully to improving them.

We would like to stress that the authors have no intention of providing a legal analysis of the regulations and the case – as we are not qualified to do so – but rather an *economic* assessment of the legal regulations in force. A piece of legislation and the associated case law may well be legitimate in that it was adopted by vote and it is applied by the bodies responsible for enforcement, but it might at the same time be harmful from the point of view of economics. Our analysis is only concerned with the economic aspect. We will be examining the effects of the regulations on social, and more specifically, consumer welfare, investment in internet infrastructure and services, innovation – and the overall development of internet services and markets, that is, the internet ecosystem.

First, we provide an overview of the content of net neutrality regulation and how it came about. We devote a separate chapter to zero-rating as a special subset of net neutrality cases – the subset that the Hungarian case discussed in this article belongs to. We provide an overview of the types of zero-rating tariff plans and the arguments for and against their use. This is followed by an economic discussion on the effects of Telenor's business practice on welfare and competition, and an examination of whether prohibiting this practice resolves valid economic concerns. Finally, we assess the regulation underpinning the decision under discussion with regard to the intended effects and the effects seen in practice.

THE CONTENT OF NET NEUTRALITY REGULATION

Relationships between parties in the internet market

In order to understand the operation and effects of network neutrality regulation, one needs to understand market players and their relationships – *Figure 1* provides some assistance.

Market players and their relationships are discussed starting from users (marked with U1, U2 and U3 at the bottom of *Figure 1*), i.e. in the *downstream* → *upstream*

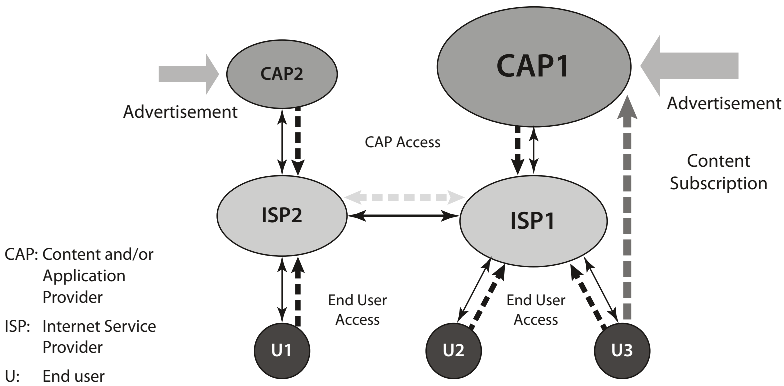

FIGURE 1 • **Relationships between internet market players** directions. The thin continuous lines represent physical connections, while thick dashed lines represent flows of money.

End users (consumers), represented by *U*, are in direct contact with an Internet Service Provider (ISP) providing fixed line, mobile or other wireless internet access. Consumers pay the provider for access to an internet service, and the operator routes the traffic of content and applications providers (CAP, shown at the top of the graph) to consumers, and transmits traffic between consumers as well. The consumer pays the ISP for access to the internet service, for bandwidth (speed) and the delivered (up- and downloaded) traffic.

As there are numerous ISPs around the world and even within a country, the free flow of data among consumers and between consumers and content and applications providers (CAPs) requires ISPs to be interconnected. This allows all users to be part of the same global network. Thus, the ISP is a platform that connects users with each other and with CAPs. It is important to note that in most cases, the CAP that a consumer connects to through the physical access and traffic provided by the ISP she is subscribed to, is an entirely different ISP from that of the consumer. In fact, the data typically flows through multiple networks before it reaches the end user.

The overwhelming majority of internet traffic is between CAPs and consumers, which is generally (but not necessarily) asymmetric, as the content delivered to consumers is of much larger volume, and there is less traffic going the other way. In some applications, most notably *peer-to-peer* applications, there is direct traffic between consumers, without a CAP involved as a middleman.

Consumers pay CAPs directly for content in some cases, but in many cases, content and applications are provided "free" – that is, consumers don't pay for them with money. They hand over personal data in exchange, however, and consume advertisements, paying with their time and attention.

CAPs need access to the ISP's network in order to reach consumers – or, to look at it the other way, to become accessible to consumers. Therefore, they also pay the ISPs for access and for bandwidth.

The ISPs undertake to transmit internet traffic, but not to control it. The ISPs do not vouch for the quality of the particular content or application service.

First, the service quality perceived by the consumer is endogenous to their choice of internet access quality from the options provided by the ISPs. Lower-speed internet access allows for poorer-quality services from content and applications providers. Thus, content and applications providers cannot control the quality of their services to the consumers (without the participation of ISPs). Even ISPs can only do so on their own network.

Second, it is vital with regard to quality that the transmission of packet-based internet traffic is a *best effort* service, i.e. by default, network nodes forward data packets to the next node in the order of arrival and the speed and success also depend on the network traffic load. Different services and applications have varying tolerance for package loss, network delay, and fluctuation in the transmission of the packets (jitter).

Therefore, the quality perceived by consumers depends partly on the quality of their internet access, and partly on the stochastic quality characteristics of the data traffic they initiate, which may traverse various networks. In the transmission of the content and application service traffic over the internet, the "weakest link" in the access path determines the quality of the service.

ISPs have the ability to improve the quality of traffic by prioritising certain applications or content types, or even specific content. Naturally, this type of traffic control can also be done with a negative purpose and/or effect. Typical examples of negative practices include banning, limiting or throttling some specific service or traffic type. At the technical level, the net neutrality rules discussed below require the use of the *best effort* transmission model to handle traffic, with a few exceptions banning any positive or negative discrimination and any efficiency and/or welfare-enhancing interference in the flow or management of traffic.

The Net Neutrality Regulation

In making the decision mentioned in the introduction, NMHH followed the Net Neutrality Regulation of the European Parliament and the Council[2] adopted in 2015, when it examined and prohibited Telenor's internet traffic management practice.

The EU regulation, which is directly effective in member states, gives end users a right to access, use and transmit internet services, content and applications without restrictions, on any terminal equipment of their choosing.[3] The regulation imposes obligations on public electronic communications providers (ISPs), who provide internet access services and route traffic to consumers. However, quite unusually, end user rights in this regulation cover not only consumers in the traditional sense of the word, that is, the true end users at the bottom of the downstream service chain, but also, the content and applications providers at the very top of the service chain.[4] As we will see, this intermingling of quite distinct players in the service chain in

[2] Regulation (EU) 2015/2120 of the European Parliament and of the Council (*EU* [2015]). Net neutrality is covered by Articles 1 to 6 of the regulation.

[3] "End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user's or operator's location or the location, origin or destination of the information, content, application or service, via their internet access service." (Article 3(1) of *EU* [2015].)

[4] This is quite unusual even if it is clear that consumers can initiate content traffic, too. In the telecommunications market, players who provide a commercial service have been distinguished from true end users essentially from the very beginning. There is no reason to set aside this decisive distinction with regard to the public internet, and it is hardly reasonable for traditional consumer rights not to be limited to actual consumers. The relationship between the CAP and ISP players at the *upstream* levels of the service chain, who provide services to the end users, is completely different from the relationship between consumers and ISPs. The CAP-ISP relationship should be regulated separately from consumer-ISP relationships, if at all.

the definition is vitally important with regard to the potential detrimental effect of net neutrality rules on the functioning of the ISP market and on the relationships between market players.

The regulation allows ISPs to agree with users on the commercial terms and the technical characteristics of the service – such as price, speed and data caps – without infringing on the legally guaranteed end user rights.[5]

According to the regulation, ISPs can generally not interfere with internet traffic; they can only do so in cases where this is especially justified by legal or technical reasons. Irrespective of the receiver, sender, location or terminal equipment used, ISPs: *1.* may not block internet traffic, *2.* may not slow down internet traffic and *3.* must forward internet traffic free of discrimination.[6] Interference in internet traffic by ISPs, i.e. traffic management is only allowed if there is "reasonable" justification. To be deemed reasonable, the measures need to be transparent, non-discriminatory and proportionate, and they may not be based on commercial considerations but on objectively different technical quality of service requirements of specific categories of traffic. (Article 3(3) of *EU* [2015].)

Thus, it appears that the Regulation does not prohibit the somewhat different treatment of different traffic types based on considerations related to the operability and enjoyability of the service, if the network could not otherwise guarantee this at times of traffic congestion.

All traffic of the same type must be treated the same way, however. Additionally, traffic management is allowed only for specific reasons, namely: *1.* compliance with EU or national legislation or measures implementing such legislation, *2.* preservation of the integrity and security of the network, *3.* preventing impending network congestion. Any traffic management measures taken for reasonable cause may only be sustained for the shortest possible time necessary for achieving the objectives.

The implementation of the regulation is left to the national regulatory authorities. Article 5 requires these authorities to monitor and, if necessary, ensure compliance with the net neutrality rules, and report on their activities in this regard each year.[7]

[5] "Agreements between providers of internet access services and end-users on commercial and technical conditions and the characteristics of internet access services such as price, data volumes or speed, and any commercial practices conducted by providers of internet access services, shall not limit the exercise of the rights of end-users laid down in paragraph 1." (Article 3(2) of *EU* [2015].)

[6] "Providers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used." (Article 3(3) of *EU* [2015].)

[7] We will not describe in detail the rest of the content of regulation 2015/2120, as this is not necessary for understanding and analysing the regulatory background of the zero-rating practice that is the subject of the present study.

BEREC guidelines on the implementation of the net neutrality regulation, and specifically the assessment of the compliance of zero-rating business practices

The *EU* [2015] regulation is a rather brief, general legal text, and does not give any practical guidance regarding the implementation of the rules it contains. Therefore, the issuing of implementation guidelines was seen to be necessary from the start. The regulation delegated the job to the *Body of European Regulators for Electronic Communications* (BEREC), the body that coordinates the work of European telecommunications regulators in order to harmonise regulatory practices. The BEREC Guidelines are not binding, but national regulators are expected to heed its recommendations to the greatest extent possible. Authorities primarily rely on this document and its recommendations in their enforcement work, and diverge from it only in strongly justified cases.

The Guidelines are about the implementation of the Regulation; thus, they endeavour to provide practical guidance on the issues that arise in practice, taking into account the current regulatory, economic and technical issues. The *BEREC* [2016] Guidelines show that this was far from an easy task.[8] Regulation 2015/2120 is made up of six short articles,[9] and the 45-page, 191-paragraph Guidelines attempts to interpret and comment on every element of the text. Here, we briefly discuss the parts that are relevant to zero-rating. The Guidelines – presumably because of the market significance of the matter – discuss the regulation's provisions on zero-rating in great detail (*BEREC* [2016] paragraphs 40–56).

One of BEREC's most important statements on zero-rating can be summed up as follows: if an internet subscription has a data cap (as mobile internet offers usually do) and the ISP makes unlimited zero-rated traffic available to the subscriber after the data cap has been reached while blocking or slowing all other traffic according to the general contract terms, then the ISP's practice is contrary to the network neutrality regulations. Zero-rating itself is not prohibited, but as per the BEREC Guidelines, this form of it is essentially considered contrary to Section 3 (3) of the Regulation (*BEREC* [2016] paragraph 55). This is because the ISP treats traffic associated with different applications or services differently.

The BEREC Guidelines list as contrary to the regulation any practice where an ISP blocks, slows down, restricts, or degrades any internet traffic without appropriate justification, or where an ISP restricts the range of applications available to an end user (*BEREC* [2016] paragraph 55). It is easy to see that such practices run counter to the other provisions and objectives of the Regulation, as they cause direct harm to

[8] BEREC issued a new guideline in 2020 Guidelines on the Implementation of the Open Internet Regulation, but at the time of the NMHH decision and also of the writing of the Hungarian version of this article the 2016 Guidelines was in force and served as the valid reference. The interpretation of the Regulation has not changed so much.

[9] Regulation 2015/2120 actually covers two separate issues, net neutrality and roaming in the EU; the six articles cited above are the ones referring to net neutrality.

the affected users without benefiting others; however, this is far from clear with regard to zero-rating practices. Though this is not stated explicitly in the Regulation or the Guidelines, a practice that affects the traffic associated with certain applications and services favourably without treating others negatively is still considered discriminatory. It follows from this logic that positive discrimination is forbidden, too.

BEREC's position is that there could be zero-rating or other potentially problematic business practices not listed above, for which only a more detailed examination could determine whether they are compatible with the Regulation's provisions. In such cases, the Guidelines require the authorities to carry out a comprehensive assessment (*BEREC* [2016] paragraph 56).

The Guidelines do not contain an exhaustive list of the elements such an assessment needs to consider, but they do suggest that the market position and market power of the ISP involved in the zero-rating practice and the CAP need to be examined in accordance with the principles of competition law. This is quite a clear requirement, and there are examples of this procedure being applied in practice, although rather in more in competition than in regulatory practice. In order to determine the relevance and significance of the effects and the potential harm, the size of the affected group of end users needs to be assessed as well.

Any potentially problematic business practice needs to be judged on its effects. The Guidelines recommend assessing how the practice under examination affects content diversity, how it affects the content consumption incentives of consumers, and to what extent it materially reduces end user rights. BEREC also recommends the examination of how the commercial practice affects the diversity of content offered by content and applications providers, incentives for market entry and the operation of the internet ecosystem as the "engine of innovation" in general. The problem is that these are quite vaguely defined benchmarks.

There is no doubt that the Guidelines provide the most detailed guidance available regarding the regulation of zero-rating, but even this lengthy document provides little direction on specific cases. BEREC's position can be summarised as follows:

- Zero-rating offers violate the Regulation if, in case of a service package with a data cap, the ISP treats zero-rated and other traffic differently after reaching the data cap.
- Zero-rating offers not covered by the above point do not necessarily infringe upon the Regulation, but they may be problematic.
- If the zero-rating only covers some specific services and applications, an infringement of the Regulation is much more likely. BEREC's position is that it is less concerning if the zero-rating practice differentiates a specific *type* of traffic and treats it differently from others, without differentiating within the same traffic type.
- A zero price can be an issue in and of itself, as the traffic covered by the zero-rating is not counted towards the data cap, and the cost difference between two different traffic types may distort consumer choices, thus making entry into the CAP market more difficult, hindering innovation and, in the end, undermining end user rights.

As the goal of the present analysis is assessing the rules on zero-rating, we will not go into any more detail on the BEREC Guidelines, even though some other elements of the Guidelines may have some bearing on the issue as well. We will, however come back to the issues raised by the Guidelines and the regulation in the Conclusion section.

THE INTRODUCTION OF NET NEUTRALITY RULES

Before discussing the zero-rating practice under examination and the Hungarian regulator's decision on it, we need to recall the objective of net neutrality and how and why the rules that limit the traffic management of ISPs were introduced. This background information is necessary for assessing whether the existing rules serve the intended objectives well and whether the methods they use are reasonably justified and proportional.

The issue of net neutrality has received much greater attention than the number and severity of the practical concerns it causes would justify.[10] It has generated passionate interest over the last decade and a half, the details and twists and turns of which we cannot go into, for lack of space. The summary article by *Krämer et al.* [2013] provides a good overview of the economic issues and opinions that arose before the current regulation was introduced.

The telecommunications industry is traditionally regulated, but regulations regarding commercial business practices (such as pricing or the composition of subscription packages) are very rare nowadays. The European telecommunications regulation focuses mainly on operators with significant market power, and enforcement is preceded by thorough analysis on the definition of the relevant markets and an examination of market power. Operators that have been identified as having significant market power in the relevant market are subjected to justified and reasonable obligations based on the principle of minimum necessary intervention. Sectoral regulation has always approached developing markets carefully, and since the introduction of the new regulatory framework in 2002, it has refrained from intervening in the operation of retail markets. Obligations pertaining to all operators were only used very rarely, regarding fundamental technical issues (such as interconnection and ensuring interoperability).

The net neutrality rules applying to ISPs diverge fundamentally from the previous careful and considered approach of telecommunications regulation, in that it forbids retail practices related to retail pricing and service package design for market players that are not dominant – i.e. *do not have significant market power* on the relevant retail market. Without close familiarity with the antecedents of net neutrality regulation and the circumstances of its birth, it would be impossible to

[10] The phrase *network neutrality* or *net neutrality* in reference to the internet was coined by law professor Tim Wu in 2003 (see *Wu* [2003]).

understand how or why the ISPs operating on a competitive market "deserve" such a strict regulatory approach.

Let us recall briefly how this regulation emerged. Telecom operators were somewhat apprehensive, but mostly happy when the internet came about, as the voice service market was reaching maturity and saturation, and the internet was a new telecommunication service that offered a chance to increase revenues. However, with the development of broadband, it quickly became clear that the internet brings not only opportunities, but also rather serious challenges to telecom operators. The source of the challenges was the dynamically growing content and applications market,[11] which had affected telecom operators offering internet services negatively in a number of ways:

- The increasing popularity and consumption of content requiring high-volume data traffic (especially video) caused congestion on networks, which required significant investments in increasing network capacity. ISPs became more and more frustrated as a flourishing OTT service market with a variety of innovative business models flourished on their networks,[12] without providing them with high enough direct revenue to balance the significantly increasing the investment and operational costs (CAPEX and OPEX) they had to bear.
- Serving a certain group of consumers –so-called *heavy users*, who generate traffic exceeding the average by several orders of magnitude – became more and more inconvenient for ISPs. The revenue from these customers was dwarfed by the costs associated with the investments aimed at increasing capacities and managing the traffic congestion.
- Moreover, certain OTT services proved to be especially "threatening", as they were in direct competition with legacy services and thereby affected the core business of the telecom operators. Voice and message applications started to replace to a significant extent the operators' highly profitable fixed-line voice and text (SMS) services. The projected shrinking of voice and SMS revenues, which provided a significant portion of the total revenue and the bulk of the profit[13] was a serious threat to operators.

[11] Between 2008 and 2012, the capitalisation of European CAPs was expected to grow by close to EUR 140 billion, while that of the European telecom operators was expected to shrink by close to EUR 70 billion (see the report commissioned by the European Telecommunications Network Operators' Association: *BCG* [2013]).

[12] Over-the-Top (OTT) service providers (like. Facebook, Netflix, YouTube, etc.) are CAPs that reach consumers and provide services to them through the public internet network operated by numerous ISPs. The OTT service is not controlled or distributed in a commercial sense by the ISPs whose network is used.

[13] This process is still ongoing. According to BCG's study, the use of the voice and messaging applications of OTT service providers is growing steadily. In their projection for 2018, internet-based voice services were expected to cause European telecom operators a revenue loss of EUR 21 billion. The loss of telecom operators in the text message business was predicted to be EUR 10 billion on 8 European (German, French, British, Italian, Spanish, Dutch, Belgian, Portuguese) markets (*Bock et al.* [2015], *BCG* [2013]).

Thus, it is understandable that telecom operators, who became the ISPs, were fervently looking for answers to these challenges.

One option was to jump on the bandwagon, and try to carve out a significant share of the growing content and applications market. Numerous telecom operators entered what was completely new territory to them, setting up or buying content-producing and application developing divisions. However, this has not been particularly successful so far, in part due to the lack of the necessary skills, which are quite far removed from their engineering-based fundamental business skills and culture, and partly due to the lack of competitiveness with the highly innovative and successful global players in this market (Google, Facebook, Amazon, Netflix).

Telecom operators which also became ISPs started to work on protecting themselves against the threatening OTTs that jeopardised their revenues or increased their costs. Some ISPs blocked or slowed down some types of high-traffic content, applications or subscriber activity (such as peer-to-peer traffic). Some mobile operators made it more difficult to use internet-based voice and messaging applications. They felt – and they also voiced this opinion – that it was unfair that companies providing content over the internet (OTT service providers) that were independent of ISPs were generating ever greater amounts of traffic, but the burden of the supporting capacity expansion was borne by the telecom operators only. They even floated the idea of demanding some type of contribution from OTT service providers for providing data connections of suitable quality.

It should be noted that the ISPs made only sporadic attempt at hindering or obstructing OTT traffic, and the news reports and the harsh negative public reception of these developments prompted them to retreat in order to protect their reputation and avoid likely regulatory intervention. According to the survey in *BEREC* [2012], out of 115 European mobile operators, 28 applied some type of limitation on internet voice traffic (VoIP). This proportion is clearly not insignificant, but it should also be noted that close to three-fourth of mobile operators opted for some reason not to block applications that were clearly cannibalising their core business. This must certainly be due to the fact that the strong competition in the sector forces operators to think carefully before risking long-term consumer goodwill for short-term gains. Additionally, new entrants challenging the incumbents were more likely to support – or less likely to hinder – the use of such applications.

The post hoc assessment of the fairly mild response of the fixed and mobile ISPs shows it was neither successful nor even particularly dangerous; it did not lead to any significant distortions of competition or reduction of consumer welfare. The ISPs, despite their considerable financial resources and large existing consumer base, did not achieve significant success on any of the vertically related CAP markets.

Nevertheless, from the point of view of consumers, ISPs are gatekeepers to content access: they provide the internet connection necessary for accessing these services, which gives them the ability to behave in ways that are potentially detrimental to both *downstream* end users or to the CAPs operating on the *upstream* market. However, no significant interference of this kind has taken place so far. The issues have been sporadic, such that consumer protection or the competition authority and the pressure of public anger have been able to take care them.

The campaign against ISPs already began in the early 2000s. Those concerned about the freedom of the internet – with the overt or covert support of large content and applications providers like Google, Facebook, Netflix or Amazon – cried wolf, stressing that if ISPs were not regulated, even fundamental values and safeguards of democracy like the freedom of speech might be in danger. ISPs were facing concerted efforts from (mostly legal) experts and public enthusiasts enjoying the overt or tacit support of CAPs, and CAPs themselves.

The concerns were based – in addition to sporadic foreclosing attempts by ISPs – mostly on the very real gatekeeper role of ISPs in the vertical chain of service relationships and potential anticompetitive practices (see below). The complex vertical structure of the industry, the competition between ISPs, the effects of consumer reaction and the examination of the motivations of ISPs to engage in such behaviours were not given sufficient weight in these debates. Early economic analyses[14] showed that net neutrality rules banning the application of "termination rates" charged to CAPs and the associated quality differentiation of traffic (offering a "fast lane") are clearly beneficial to content and applications providers, but their effects on social welfare are doubtful at best, and quite probably negative.

In the multi-threaded and multi-level net neutrality fight, the more sober, analytical economic *pro* and *contra* arguments that take into account the complexity of the industry were not taken into account as strongly as some oversimplified, but loudly voiced and ideologically based positions. The idea of internet freedom was introduced, and presented as if it were equivalent to freedom of speech; this made the issue so politically sensitive that decisionmakers started to lean towards regulation, eventually issuing the strictest regulation in the modern history of the telecommunications industry. This is based on the idea that every ISP is a wolf in sheep's clothing, which needs to be tied up and then constantly monitored, because it threatens the freedom of the sacrosanct internet.

In Europe, the net neutrality side won the argument.[15] In the United States, regulation was adopted, but after the Republicans came into power it was soon revoked.[16]

Where the advocates of net neutrality won, they won too big. By banning the quality differentiation of traffic, the regulation also prevents the application of two-sided pricing by the ISPs, connecting the consumers and CAPs, charging CAPs a contribution based on the traffic they generate in order to finance improving ISP

[14] A good overview of these is available in *Easley et al.* [2018].
[15] See the EU's 2015 Net Neutrality Regulation, discussed in more detail below (*EU* [2015]).
[16] The 2015 net neutrality order (*FCC* [2010], *FCC* [2015]) was repealed in late 2017 (*FCC* [2017]).

networks. The ISP service is a classic example of a two-sided market, and such limitations are very likely to reduce consumer welfare.[17]

The Net Neutrality Regulation affects all ISPs negatively, but particularly the mobile operators. After the adoption of the Net Neutrality Regulation, ISPs only had one remaining business option to discriminate between contents or services on the mobile broadband market, where data caps are prevalent because of network capacity constraints. This option, which consumers happen to like, is zero-rating: offering certain content without limits, and, in a sense, free of charge.[18]

AN ANALYSIS OF ZERO-RATING

The concept and types of zero-rating

A zero-rated service by an ISP is one where the ISP does not count the traffic of specific contents or applications towards the subscriber's general data cap. Zero-rating is only relevant to subscription services where there are various levels of packages with different data caps or allowances; basically, mobile broadband services. The data cap limits consumers' use of various contents and applications, except for contents covered by the zero-rating: the consumer can use these without limitation, and the marginal cost is zero. Despite the apparent simplicity of the concept, there are numerous forms and types of zero-rating, which can be classified and assessed based on the following criteria.

- *What content types does it cover?* Zero-rating can either cover the services of one or a few specific CAPs, or it can cover a specified *type of content or application*, such as Telenor's MyMusic package, which covers practically all music streaming applications. In the first case, examining whether the service in question is offered by the ISP (or its subsidiary) itself or an independent third party can be an important differentiating feature in assessing the potential competition-restricting effects of the zero-rating, as in the former case the ISP may have an incentive to promote its own services and foreclose competitors'.
- *How does the zero-rating relate to offers with a general data cap?* The ISP often offers the zero-rated content automatically, as a free supplementary service to every consumer who subscribes to the particular data package in question. In other cases, like in Telenor Hungary's case, consumers can opt into the supplementary zero-rating service for a separate fee. There are also cases where a mobile operator makes some content available for free to every subscriber, even those who do not have any

[17] On the economics of platforms operating as two-sided markets, see for instance *Rochet–Tirole* [2006] and *Evans–Schmalensee* [2014].

[18] While zero-rating is not necessarily confined to the mobile market it is where it is most widely used.

broadband data subscription (Facebook Zero, used in developing countries was one example, see *Eisenach* [2015]; Telenor also had an offer of this type in Hungary at one point, also with Facebook).

• *Who pays for zero-rating?* It is possible – although the consultancy firm DotEcon did not find any examples of this in their study on zero-rating practices[19] – that a CAP could pay an ISP to make its content or service available to consumers without any charge. In many cases, including the Telenor Hungary case, the option for unlimited use of a content or application can carry its own separate price tag, paid by the consumer. In this case, using the phrase *zero-rating* is a little misleading, as it is not actually free to the consumer. Still, these terms do match the definition, as the content or application can be used at zero marginal cost, and it does not count towards the overall data cap. In such cases, the consumer essentially purchases a supplementary unlimited data allowance that they can only use for the content specified by the ISP. In many cases, neither the CAP, nor the consumer pay the ISP directly. Some analysts have suggested that the ISP cannot provide this service for free; it must cover the costs in some manner. According to this approach, the price of unlimited use is built into the price of the general data allowance, which would be cheaper if the offer did not include zero rated items. This is not necessarily the case, and indeed as we said above it was not true for the zero-rating offers of Telenor Hungary. However, in the following, we present an economic rationale for why ISPs may reasonably provide content to consumers for free in the form of a zero-rating offer.

• *Can the zero-rated content or application be used after the data cap is reached or not?* This might seem like a small difference, but as we have seen, it is a crucial distinction in European net neutrality regulation. According to a literal interpretation of Article 3 (3) of Commission regulation *EU* [2015] (backed up by the BEREC Guidelines, and now the judgement of the Court of Justice of the EU in the Telenor vs NMHH case), the ISP cannot block some traffic while allowing other traffic to reach the consumer. This is indeed the case with zero-rating offers that can be used after the data cap is reached: all traffic is blocked, except the content and applications included in the zero-rating tariff.

Concerns raised regarding zero-rating offers

A significant portion of the concerns raised regarding zero-rating are based on the concern that these offers *distort consumer choice*, diverting the consumption toward the content available at zero marginal cost. Consumers consume zero-rated and non-zero-rated content at a different rate than they would by default if there were no zero-rating tariff or all content were available without limitations.

[19] See *DotEcon* [2017], although the authors admit that they were not able to obtain in-depth information about CAP-ISP transactions.

According to the approach hostile to zero-rating,[20] which consumer protection groups backed enthusiastically,[21] ISPs can use this tool to influence what content consumers consume, affect the functioning of vertically connected markets, especially the content market, and even *pick content market winners*. According to the proponents of this interpretation this may compromise consumers' freedom of choice, and it could distort competition on the content market.

According to this reasoning, large CAPs have sufficient financial resources to make their services cheaper to access through ISPs than their competitors' (e.g. by providing financial compensation for zero-rating them). Smaller content and applications providers that cannot buy into zero-rating are at a disadvantage they cannot make up for, and end up foreclosed from the market, or unable to enter in the first place. Thus, the argument goes, the use of zero-rating can function as a *barrier to entry and an obstacle to innovation in the upstream CAP markets*.

An ISP's motivation to *distort competition in the upstream CAP market* is greater if the ISP itself is present on that market. According to net neutrality advocates, the danger can be especially grave if the ISP has market power on the internet market. This is when the issue of *exclusionary conduct based on the leverage of market power*, well known in regulatory theory and practice*, arises.* Using its dominant position on the access market,[22] the ISP provides an offer to consumers that players on the vertically connected CAP market cannot compete with, and eventually they are foreclosed. The tool the ISP uses to foreclose upstream competitors is supposed to be the zero-rating service favouring the ISP's own CAP service, which is presumed to confer a benefit on the ISP's own content that alternative CAPs cannot compete with.

Behaviour aimed at foreclosure is theoretically possible in the other direction as well. This requires the vertically integrated ISP to have a dominant position in the upstream CAP market, which can be leveraged in the downstream internet access market, pushing ISP competitors out and *distorting competition in the ISP market.* The tool would be zero-rating in this case, too. However, in order to effectively foreclose competitors, the ISP's vertical CAP services have to be so attractive – or indispensable – to consumers that the offer of unlimited use motivates them to actually switch from the ISPs that cannot provide such offers to the ISP that does.

This theory of harm concerning the effects of zero-rating is conceivable as a model, but considering the characteristics of the ISP and CAP markets in real life, it is impossible – or virtually impossible – for it to actually happen.

[20] A good example of this would be the essay by Barbara van Shewick, one of the prominent advocates of net neutrality (*Schewick* [2016]).

[21] 50 lobbying organisations wrote letters to the FCC in March 2016. https://cdn.arstechnica.net/wp-content/uploads/2016/03/FinalZeroRatingSign-OnLetter.pdf.

[22] According to the European approach to competition regulation, a dominant position in the relevant market is a necessary precondition for distorting competition. The concept of significant market power as used in regulation is similar to the concept of a dominant position in competition policy.

- First of all, it should be noted that these theories of harm only make sense if the zero-rating covers one or a small set of content services. The harm cannot be shown to exist through any reasonable argumentation[23] if the zero-rating covers all contents or applications of a certain type, as Telenor Hungary's MyMusic does.
- The ability of ISPs offering zero-rating to influence content consumption is in reality significantly lower than what is presumed by arguments raising this theory of harm. It could be significant if consumers only (or primarily) accessed this type of content through the access provided by the ISPs, i.e. mobile broadband connections with a data cap. This is clearly not the case for most consumers: the majority may also have an unlimited fixed internet subscription at home, and mobile users could use a Wi-Fi connection for a significant portion of the time, in which case the non-zero-rating content of their preference is again available with virtually no limits and at zero marginal cost. It is quite unlikely for a zero-rated offer to have the ability to significantly distort the overall content consumption of consumers (if the multiple ways to access the internet are considered)).
- The ability to distort the choice between CAP services also presumes that the services are close substitutes, and the choice between them is greatly affected by the implicit data usage price associated with their consumption. However, content services of a similar type are often not very close substitutes. Consumers usually interested in specific content (e.g. a given film, news portal, game or application) will not replace that content with other content just because one is available in a zero-rating tariff while the other is not.[24]
- Demand for internet access is derived; i.e. it is not sought for itself. For the consumer, the value of an internet connection – and thus, the demand for it – is determined by the amount of interesting content and applications available through it. It is fundamentally in the ISP's interest for consumers to be able to access the content they are interested in; ISPs are not at all motivated to prioritise through zero-rating content that consumers are not interested in (with the exception of their own content). This would be counterproductive in the ISP market; the company would be risking losing customers, especially if its competitors provide other, more attractive zero-rating content to consumers. Therefore, it is quite unlikely that the market position of otherwise successful CAPs would

[23] The argumentation would be that consumer choice is distorted because they listen to more music than they would without zero-rating, and this causes harm to providers of other types of applications. However, it is not at all clear that the use of other types of applications would be reduced. In fact, an important characteristic of economic decisions is that the reduction of the relative price of a product – provided that it is not an inferior good – increases its demand due to the income effect. But the effect on the demand for other goods depends on the substitution effect; it is possible that the for demand for them also increases.

[24] Naturally, there are services which are close substitutes, e.g. in the area of data storage services, and there may be consumers who do not have a strong preference for any specific content, to whom the above does not apply. The issue of substitution is essentially an empirical one.

deteriorate as a result of the use of zero-rating, while the market position of less successful ones improves.

- The vertically integrated ISP does indeed have an incentive to prioritise its own services on related upstream markets. There is nothing unusual about this; all companies with vertically related products have a rational incentive to do so. The market is distorted if 1) the ISP has a dominant position on the access market, 2) it can significantly influence the related CAP markets and 3) this influence is so effective that it leads to competitors' foreclosure. In the present situation, it is quite doubtful whether there is a provider on the ISP market with significant market power. Despite concentration (there are generally 3 or 4 players in a country with a network of their own, and perhaps a few virtual operators), mobile markets are characterised by quite intense competition. The ability to distort competition probably cannot be proven even with regard to the largest mobile operator, and it is out of the question for the smaller players. The second condition, the existence of a leverage effect on the related market, is extremely unlikely because of the lack of a dominant position and the availability of the above-mentioned alternative options (unlimited access at home or through Wi-Fi access). In many cases, foreclosing competitors on the CAP market would not be possible even if the first two conditions were fulfilled. In a significant part of the CAP market, large global players are increasingly dominant, and they would not be significantly affected by such moves, even if there were serious attempts to foreclose them out on a national market. In the case of global CAPs, being foreclosed on a national market is not a realistic possibility.[25]
- Exclusion by leveraging market power in the reverse direction, i.e. leveraging market power existing in the CAP market in order to foreclose competitors from the ISP market is clearly not possible: as discussed above, telecom operators have not been able to achieve any significant success in the content market, let alone obtain a dominant position.

Therefore, it can be concluded that the theories of harm regarding zero-rating are only valid in principle at best. The characteristics of real markets are fundamentally different from the assumptions many of these models are based on. Thus, the validity of the theory of harm is highly dubious, and the likelihood of any real harm is low. We do not wish to say that any harmful effects or distortion of competition are entirely inconceivable, but we firmly believe that the likelihood and magnitude of any such effects is far too small to justify or necessitate the strict *ex ante* regulation and close surveillance laid down in the EU regulation.

[25] Foreclosing global market players from a market is typically only achieved through state regulation, such as in China, Russia and other countries that apply censorship.

Benefits of zero-rating for operators and consumers

Despite the concerns voiced by consumer protectors,[26] zero-rated tariffs have proven successful on the mobile internet market.[27] Here, we discuss the reasonable motivations of mobile operators for offering these popular schemes.

Stimulating demand • Even though the mobile broadband market is becoming more and more saturated, there are consumer segments where penetration is still low. In these segments and in the early stage of the product lifecycle, zero-rating offers that are available without a data subscription allow mobile operators to introduce consumers to mobile internet services, serving as a sort of product sample. Mobile operators do this in the hope of attracting new subscribers. Naturally, the zero-rated content needs to be attractive to the targeted consumers, or familiar in its means of access (e.g. Facebook).

Product differentiation • Mobile broadband access appears to be a relatively homogeneous product if the networks are robust. Differences in coverage or speed played an important role in the early stage of competition for consumers. With the wide roll-out of fourth-generation networks based on LTE technology, these differences are disappearing; consumers experience quite similar geographical coverage and bandwidth (internet speed) from every operator. However, operators need to differentiate themselves from their competitors, so they started looking for new possibilities to do so. Zero-rating in mobile internet offers is such an option. The goal of the operator is to make its offer more attractive than that of its competitors, thus gaining new subscribers or keeping the existing ones.

From another perspective, zero-rating can also be seen as a price discount on data subscriptions. The revenue coming from the consumer (the subscription fee) does not change, but the implied price of data (e.g. the average price paid for 1 GB of traffic) is lowered, as the consumer can use more data for the same price. This is a widespread practice in the telecommunications sector: instead of reducing prices, which reduces the average revenue per user (ARPU), the operator provides extra volume, which reduces the average price of traffic, but not the ARPU.

A tool for price differentiation • Operators offer mobile broadband in packages with differing levels of data allowances. The larger the data allowance, the higher the monthly fee, but the implied price (e.g. the price of 1 GB of data) is lower in

[26] See for instance: Zero-rating has now become the neuralgic point in the net neutrality debate on both sides of the Atlantic. World Wide Web Foundation, https://webfoundation.org/2015/02/guest-blog-the-real-threat-to-the-open-internet-is-zero-rated-content

[27] The *DotEcon* [2017] study commissioned by the European Commission examined and attempted to categorise the varied practices applied in EU member states. According to its conclusions, competition issues may arise only sporadically.

bigger packages. Data caps are put in place partly because each operator's network capacity is limited, and thus it is not able to provide unlimited data traffic to every subscriber without risking network congestion and deteriorating service quality. However, limited network capacity is only one – and not necessarily the most important – reason why the data caps are applied. Mobile operators would have a fundamental business interest in price discrimination even if their network capacities were not particularly limited.[28]

Subscription plans with data caps offered by mobile operators are a form of price discrimination. Second-degree price discrimination means that the access price and data unit price paid by consumers varies according to the consumer's choice of plan. Price discrimination is possible because consumers' preferences with regard to data usage are heterogeneous; that is, they evaluate offers with different data caps differently. User preferences are also heterogeneous with regard to the content they wish to access.[29] Consumers also have varied assessments regarding unlimited access to their most favoured or critical contents and applications. The focus is not on quantity of use in this case, but rather on having uninterrupted access to these critical applications, which may be a source of significant added value.[30] Zero-rating – especially of the type that can be purchased to cover some content or content types – is a supplementary offer providing unlimited use, and it essentially introduces an additional type of price discrimination based on this heterogeneity of preferences.

Price discrimination is an important and efficient tool for ISPs – and in general for all kinds of service providers in the telecommunication and ICT sector. It is evident from the economics literature that,[31] especially in industries with high fixed costs, uniform pricing may not ensure a return on costs; i.e. the industry would be unsustainable if it were to use uniform pricing. Thus, in some cases, price discrimination is indispensable and vital for the functioning of the industry. It is easy to see that price discrimination provides greater social and consumer welfare than uniform pricing. With uniform pricing, the price of a uniform offer with a high data cap (or an unlimited one) would be so high that many consumers with a low willingness to pay would be priced out of the market. Output (in terms of subscriber number) would fall, causing greater deadweight loss and lower consumer welfare. Operators' revenue would be lower, and consumer surplus would probably be lower too, as the increase in consumer surplus for consumers with the highest willingness to

[28] Price discrimination also happens on the fixed broadband market, but there bandwidth is used as a differentiator instead of data caps.

[29] The two are not completely independent of each other: for example, consumers interested in video content naturally appreciate larger data packages more.

[30] One might think of a consumer who feels "lost" without a navigation app, and is therefore worried that they might not be able to use it if the data cap is reached.

[31] For an exhaustive discussion of price discrimination, see for example *Varian* [1989], *McAfee* [2008], and *Armstrong* [2008].

pay would not counterbalance the reduction in the consumer surplus of consumers with lower willingness to pay who would be priced out of the market.

Price discrimination generally increases the economic surplus; when it comes to the second-degree price discrimination (menu pricing) used in this case, it is virtually impossible for it to adversely affect social welfare compared to uniform pricing (see for example *Varian* [1996]). Essentially, welfare would be reduced if discrimination caused output to fall; however, in this case, output is greater than it would be with uniform pricing, so consumer surplus is likely to be higher than it would be with uniform pricing.

Because of the significantly increased amount of consumer data available (*big data*), there have been more and more studies of the consequences and potential dangers of companies' increased ability to use more accurate personalised first-degree price discrimination based on this detailed consumer data. *OECD* [2016] provides a good summary of the associated economic and regulatory thinking and the issues of consumer exploitation in this context. The main conclusion of that paper is that price discrimination should be considered beneficial by default, as it often has positive effects on the economy as a whole, on consumers and on competition.[32]

The positive effects of price discrimination are closely tied to increased output. It is important to recognise that there are at least two types of output in the ISP market: one is the number of subscriptions, the other is data traffic. Zero-rating offers increase both types of output. The impact on traffic (total amount of data used) is surely significant, and this is always clearly visible irrespective of how developed the market is. As the market becomes saturated, the impact on the number of subscribers can become smaller and smaller. However, if we consider zero-rating offers enabling the unlimited use of the relevant content or application (type) that can be purchased as a separate add-on option (which is the kind that is used in the Hungarian cases) as a separate product or a supplementary product, then, even if the total subscriber number does not change, they can be considered to increase the number of revenue-generating subscriptions. With this approach in mind, the benefits of this type of zero-rating are clear:

- The operator recognises the heterogeneity of consumer preferences, and, based on this information it introduces a new (supplementary) product, such as unlimited music downloads;

[32] The paper also identifies cases where the concern of consumer exploitation may be raised; however, this requires fulfilling conditions (falling output, market sharing) that do not arise in our case. The OECD's approach is rather cautious; however, there are more radical economic opinions according to which no regulatory intervention is ever justified with regard to price discrimination. See Carlton [2016] at a conference organised by the OECD: "Attempts to attack price discrimination that does not harm one's rivals – non exclusionary price discrimination – is a big mistake, with rare exceptions."

- The consumer compares the expected utility (determined based on their preference for the available content and the extra value provided by unlimited use) to the price charged by the operator, and, if it is above the price, buys the supplementary subscription, resulting in higher revenues for the operator;
- The increased number of subscriptions brings greater producer surplus (profit) to the operator, possibly a significant amount, as the marginal cost of the supplementary product is low;
- For some consumers, the utility of the purchased supplementary product exceeds the price paid, generating consumer surplus as well.

Therefore, the launching of a zero-rating tariff with unlimited use of some attractive contents or applications increases both producer and consumer surplus, thus increasing social welfare.

The above clearly illustrates that operators may have several natural reasons, compatible with competition, for using zero-rating, even if the costs are not covered by CAP providers. These motivations provide a much more obvious explanation for the introduction and spread of zero-rating tariffs than the anticompetitive motives assumed in some theoretical models, but never proven to exist in practice. Therefore, for operators, zero-rating primarily serves as a tool for demand stimulation, product differentiation and price discrimination, which are all integral parts of competitive behaviour and beneficial for consumers as well. Thus, it stands to reason that prohibiting zero-rating in the absence of proof of any anticompetitive objective or effect restricts competition, and most probably diminishes social and consumer welfare.

The positive effects of zero-rating on consumer welfare and content and applications service providers • Consumers who choose a zero-rating tariff receive an extra service at a favourable price, which they can use at zero marginal data cost. Some portion of their base data allowance is "freed up", and thus they can use other applications and content services more without incurring extra costs. For them, the zero-rating is worth the price, as indicated by the decision to purchase it. The increase in welfare is clear. It should also be noted that the zero-rated CAP services are generally popular and sought after, so these offers can be potentially attractive to a large number of consumers.

For consumers who are not interested in zero-rating plans, the end result is basically neutral, but they can indirectly profit from the more intensive ISP competition made possible by differentiation. If positive network externalities apply to the ISP service – i.e. if the increase in the number of users makes the network more valuable to its subscribers – then even the customers of the network in question who do not opt in to a zero-rated plan can benefit from it.

The provider of the zero-rating content or application, whether it makes its revenue from content fees, from advertising or a combination of both, clearly benefits from increased demand. Increased consumption/use makes the service more viable and profitable.

CAPs whose services are not covered by the zero-rating do not suffer either: when zero-rating is an addition to the chosen data package, compared to the baseline, consumers can use their services more too, because their contents do not need to compete for the data allowance with the contents that are available without limitations. It is the positive side-effect of zero-rating that it increases the data allowance available for consuming other content. Thus, zero-rating in its direct effects cannot be exclusionary, in fact, just the opposite, it increases the market for other services too, by the amount of data allowance that it frees up.

It is possible that the content made available with zero-rating could become more attractive compared to other similar content that is not covered by zero-rating, and this could have some negative impact on their providers. This cannot be ruled out as a hypothetical scenario, but it is difficult to estimate its scale, and compare it to the tangible benefits to consumers and operators that zero-rating brings. Moreover, the markets of information goods operate differently than those of traditional goods. The role of differentiation is different, and it is not at all unlikely, even in a competitive environment, for a product to become the market itself, and for its provider to become essentially a monopolist (see for example *Shapiro–Varian* [1999] and *Jones–Mendelson* [2011]). In this competitive environment, a zero-rating offer from a specific mobile operator in a specific country can only exert a noticeable influence on the market under very special circumstances.

AN ECONOMIC ASSESSMENT OF TELENOR HUNGARY'S ZERO-RATING CASE

Telenor's zero-rating offers

In its investigation the Hungarian regulatory authority found that two schemes offered by the second largest mobile operator in the Hungarian market, Telenor, violated the provisions of the Net Neutrality Regulation.

The operator offered the MyChat and MyTalk&Chat "fee reduction" options with its MyStart and MyStart Expressz plans, which were designed for customers with low usage. Both supplementary options contain 1 GB of data, and MyTalk&Chat also includes 100 minutes of calls. The first supplementary internet service cost HUF 1849, and the fee for data traffic for the second option is the same. Thus, the two can be said to be the exact same offer, with an extra 100 minutes of calls paid at a flat rate added to the second for what can be interpreted as a separate fee.

In terms of data traffic, both tariff packages provide unlimited access to the continuously expanding set of chat applications included in the terms and conditions.[33]

[33] Initially: Facebook, Facebook Messenger, WhatsApp, Instagram and Twitter, with Viber being added later.

Telenor does not count the data usage of the chat services covered by the offer towards the customer's data usage. Additionally, customers can continue to use these chat services without limits even when the data allowance is exhausted and all other traffic is slowed down or blocked as per the basic terms and conditions of the tariff package.

Telenor offers a similar zero-rating scheme to consumers who like music. The MyMusic supplementary service,[34] available with a data package or renewable data ticket, includes the following options: MyMusic Start offers 500 MB data allowance for specified music services[35] at a price of HUF 269, MyMusic Nonstop offers unlimited use of the same music services for HUF 920, and MyMusic Deezer includes the same and a Deezer subscription for HUF 2226.[36]

MyMusic Nonstop and Deezer work as classic zero-rating plans: the traffic is not counted towards the music data cap and the music services included in them remain available when the original data cap has been reached.

These Telenor offers provide a customised service to consumers who are intensive users of chat or online music services. This offer targets and meets the specific demands of these groups, allowing them to satisfy their data usage preferences without worry and without limitations. Moreover, because the use of these services is not counted towards the consumer's data allowance, it does not displace other services – in fact, more of the allowance is left over for them.

Based on its investigations, NMHH found that Telenor's service violates the Net Neutrality Regulation – specifically, the provisions of Article 3(3) of *EU* [2015] – as it discriminates between different types of traffic without due justification based on reasonable traffic-management considerations as per regulation 2015/2120, or meeting the criteria for other traffic management exceptions. In its decision of the second instance issued in March 2017, the authority prohibited the illegal conduct – that is, offering the services under the existing terms.[37] Telenor appealed the decision in court.

The assessment of the case from the competition point of view

After reviewing the welfare effects of zero-rating above, it is reasonable to ask whether or not banning Telenor's zero-rating offers is justified from a competition point of view. We are not discussing whether the authority's decision is legally well-grounded and justified; determining that is up to the courts. The question here is whether

[34] As a special offer, the MyMusic service was included in Telenor's Blue tariff option.

[35] Only for using the music services listed on www.telenor.hu/mymusic.

[36] The fee includes a subscription for the advertisement-free Deezer Premium+ service, but no other subscriptions. According to the operator's communication, the portion of the total fee that covers data traffic is HUF 836.22.

[37] Decisions of the first instance: *NMHH* [2017*b*], [2017*c*], decisions of the second instance: *NMHH* [2017e], [2017f].

decisions of this sort serve the interests of consumers, the public good, and the development of online markets, or, more broadly, the internet ecosystem.

When assessing this Hungarian case, it is important to keep in mind that the authority has to apply the law; its job is to enforce the provisions of the current net neutrality regulation. The Hungarian Communication law requires the authority to protect the interests of Hungarian consumers, increasing the choice of services available, promoting competition and generally improving the functioning of the Hungarian market.[38] However, promoting higher objectives and enforcing existing legislation are sometimes at odds. The authority's decision was in line with the letter of the Regulation. In this, the authority could rely on the *BEREC* [2016] guidelines, which clearly state that zero-rating offers where zero-rated content continues to be available without restrictions once the general data cap is reached are in violation of Article 3(3) of the *EU* [2015] regulation. The authority's decision can therefore be legal on this basis. Nevertheless, the question remains: does it serve the interests of consumers, or the public good in any way? From an economic point of view, i.e. based on its effect on welfare, the results are clear: the decision is harmful to society. This is because the ban does not allow the positive welfare effects discussed above to be realised, and it does not prevent any potential harm in return. It is easy to see that there is no harm to speak of with regard to Telenor's zero-rating offers, and none of the theories of harm described in section *Concerns raised regarding zero-rating offers* above apply, even in theory, for the following reasons:

- Telenor's offers do not relate to specific applications but certain types of applications, and thus consumers are free to choose among virtually all chat and music download apps. Thus, there is no question of consumer choices being influenced. The BEREC Guidelines also accept that the chance of negative effects is lower in such cases. We feel that firmer wording is justified here: there are no negative effects in such cases.
- Telenor is not present in the CAP markets in any way that would support any claim that its intention was to promote its own service.
- The theory of harm based on vertical foreclosure, apart from the arguments in the previous point, is also not valid because Telenor does not have a dominant position on the ISP (nor the mobile broadband) market.

Therefore, no economic assessment of the merits of the case could have come to the conclusion that Telenor's zero-rating plans qualified as anticompetitive business practices.

However, based on the *BEREC* [2016] Guidelines, the authority cited Article 3(3) of the *EU* [2015] and condemned the zero-rating practice under examination on the grounds that there is no reasonable justification for the discrimination.

[38] See Act C of 2003 on Electronic Communications, especially Section 2.

The case in court

Telenor's appeal against the decision by NMHH was lodged at the Budapest-Capital Regional Court. The court asked the Court of Justice of the EU (CJEU) to decide whether zero-rating business practices of the type used by Telenor were compatible with Article 3(2) and/or Article 3(3) of the Net Neutrality Regulation.

According to the September 2020 judgment by the *CJEU* [2020], the business practice in question includes measures that block or slow down traffic associated with certain applications and services. As the measures applied do not respond to the objectively different technical quality of service requirements of specific categories of traffic, but rather business considerations, they come under the scope of Article 3(3) of the Net Neutrality Regulation. The CJEU also found that the relevant practice is not covered by any exemptions either, as there is no evidence that the measures fall within one of the three exceptions listed in Article 3(3) of the Regulation (legal obligation, preserving the integrity and security of the network, and preventing network congestion).

Based on its interpretation of the questions, the CJEU came to the conclusion that the zero-rating practice that allows end users to use certain specified applications and services without restriction while the service provider applies measures to block or slow down traffic to other applications and services available are incompatible with Article 3(2) of Regulation 2015/2120, as this practice limits the exercise of end users' rights, and it is incompatible with Article 3(3) of the Regulation, in that the measures blocking or slowing down traffic are based on commercial considerations.

In sum, the CJEU determined that any form of zero-rating in which the traffic of applications and services not covered by the zero-rating arrangement is restricted after the data cap has been reached while the traffic of those that are covered by the zero-rating arrangement is not, is incompatible with the European Net Neutrality Regulation, irrespective of whether or not it has a positive impact on welfare.

AN ASSESSMENT OF THE EU'S NET NEUTRALITY RULES IN LIGHT OF THE TELENOR HUNGARY CASE

A brief assessment of the Net Neutrality Regulation and the BEREC Guidelines

The EU's net neutrality rules adopted in 2015 clearly indicate that the arguments of the side concerned about the internet – which were voiced more loudly, but were not necessarily better grounded – won out (*EU* [2015]). It appears that, instead of rational analysis and consideration and a deeper understanding of the technical and economical characteristics of internet access services and the relationships between the players in the complex internet ecosystem, decisionmakers were focusing on other considerations.[39]

Clearly, drawing a parallel between unrestricted and indiscriminate physical access to internet content as an inalienable consumer right and freedom of speech had an adverse effect on regulation. It was even more problematic that this consumer right was extended to cover content providers as well. Net neutrality regulation is basically a one-sided regulation of ISPs, and it protects content and applications providers as much as it protects consumers – if not more. The issue is not that the regulation asserts the right of consumers to contents, applications and devices when it comes to the ISP-end user relationship; the issue is that it interferes in a one-sided manner in the relationship between two actors in the internet service value chain, ISPs and content and applications providers, clearly on the side of the latter.

Regulation 2015/2120 on net neutrality (*EU* [2015]) was written without giving adequately examining the technical, economic and business considerations that are vital to telecommunications networks and services. The rules are too general and brief considering the complexity of the issues at hand; thus, the categorically phrased principles and the needs arising from technical and business considerations inevitably clash. Due to the misunderstood and flawed handling of the issue of discrimination, the regulation itself contained the problems and inconsistencies that surfaced with regard to the zero-rating cases.[40]

Before the regulation was adopted, Andrea Renda wrote about the errors that can be made with regard to regulating net neutrality, and unfortunately, his concerns were vindicated: regulation was introduced in areas that regulators could easily handle (ISPs) instead of thinking about whether regulation is truly justified in some part of this vertical chain (*Renda* [2013] p. 4).

The *BEREC* [2016] guidelines tried to make the contents of the Net Neutrality Regulation easier to apply, taking into consideration the provisions of the articles, the contents of the recitals and general regulatory practice. At the same time, this took BEREC to uncharted territory, as in many instances – unlike in the case of traditional competitive assessments – there were no international standards based on cases and/or a consensus of professionals to rely on when choosing the evaluation criteria (as described in the section *The content of net neutrality regulation*). Thus, in the course of their application, too much scope is left for arbitrary and dubious interpretations.

39 As Andrea Renda writes: "reality suggests that no politician feels comfortable when standing against the 'neutrality' totem" (*Renda* [2015] p. 2).

40 Narrow-minded regulation causes another issue that is not discussed in the present paper: the regulation does not allow ISPs, which operate as two-way platforms connecting end users and content services, to apply optimal pricing. This would require them to be able to collect fees from end users on one side and CAPs on the other side in a manner that is optimal for the entire platform either statically or dynamically. We do not discuss this topic in detail here.

In light of the aims of the Regulation, enforcing net neutrality rules intelligently is a task that requires new methods and a new approach. There are numerous considerations (such as promoting innovation and the development of the internet ecosystem) that were not included in the mandate of national regulatory authorities at all, and that lack any established practice.

The guidelines attached to EU legislation on competition and sectoral regulation generally summarise previous experience and build on practices that have proven successful. However, the Net Neutrality Guidelines do not rely on any tried and tested practice or experience and analysis from real cases that occurred in the market. The Guidelines were drawn up before there were any legal cases in which the principles and rules in question were tested. There had been no zero-rating cases before the introduction of net neutrality rules, and complaints were only raised informally, as confirmed by the study conducted by the DotEcon consultancy for the European Commission (see *DotEcon* [2017] p. v.).

Zero-rating and non-discriminatory traffic management

When assessing the issue of zero-rating, Article 3(3) of the *EU* [2015] Regulation deserves close attention. This paragraph contains a general ban on discrimination in the context of traffic management. What does this distinction mean when it comes to zero-rating? Unlimited zero-rating traffic and regular traffic are handled equally by the ISP up to the point when the data cap is reached. After this, non-covered traffic is slowed down or blocked, and traffic covered by zero-rating is allowed to go through without limitation. The blocking or slowing always lasts until the start of the next billing period. In some specific cases, the blocking or slowing may not happen in practice. It may happen on the last day of the billing period, or it may happen earlier. In any case, consumers have a choice: they can buy more data, or they can wait until the start of the next billing period. The blocking or slowing is predicated on the consumer's decision; it can be seen as voluntarily undertaken with regard to content not covered by the zero-rating. The absurdity of the logic encoded in the Regulation is illustrated by the fact that the business practice whereby the traffic covered by the zero-rating is also blocked or slowed down would meet the letter of the regulation.

However, we believe that the literal application of Article 3(3) of Regulation *EU* [2015] to zero-rating is against the spirit of the regulation and the objectives laid down in the recitals. The recitals make it clear that the goal of the regulation is to protect the freedom of choice of consumers and prevent anticompetitive and otherwise harmful practices. It is easy to see that blindly applying the above-mentioned paragraph to zero-rating does not serve these objectives; in fact, it has the opposite effect.

Let us take as an example an offer that meets the Regulation's other requirements, and thus passes BEREC's proposed assessment filter. (We do not need to concern ourselves with truly problematic practices, as those are banned even without Article 3(3)).

The application of the paragraph in question can only be sensible if we first decide, at least in principle, whether there could be situations in which the zero-rating offer, which otherwise has no negative effects before the general cap is reached, causes negative effects. It is quite unlikely for the ISP's zero-rating offer, which does not otherwise cause issues on the ISP or the CAP market, to become anticompetitive just because the zero-rating traffic continues freely after the data cap is reached. With sufficient attention, consumers can use the two offers with the same end result, by not using other content when getting close to the data cap except for the contents and applications covered by the zero-rating offer. If they do reach the data cap, they can purchase a small extra data package and keep using the zero-rated content without limitations up to the start of the next billing period. Naturally, this is an inconvenience and/or an extra cost for the consumer, and it erodes one of the main draws of the zero-rating offer, which is carefree, uninhibited use of the content or service in question, with the assurance of not losing access to it.

Presumably, the ban on blocking applications was originally put in place in order to prevent selective blocking (as in the case of online voice calls and text messages), where ISPs intended to protect their own traditional services through blocking others. Banning blocking ensures that consumers can access all services. By applying the ban to zero-rating without considering the nuances of the situation does not result in consumers accessing more content that they want, but rather in consumers accessing nothing: after the data cap is reached, the ISP has to block or slow down the zero-rated traffic as well. Therefore, it is clear that applying Article 3(3) of regulation *EU* [2015] to zero-rating has clear adverse effects on consumers and it reduces the freedom of choice; and as a consequence, it is contrary to the regulation's objectives. Article 3(3) is a tool in the hands of the authorities that allows them to ban without examination all zero-rated offers that apply after the data cap has been reached.

Thus, according to the current net neutrality rules, there is no way to offer unlimited access to something – only to nothing or to everything. It is difficult to conceive whose interests this measure serves, when it limits the freedom of choice of consumers, reduces the efficiency of the functioning of the market and weakens competition. The Regulation's ban on traffic discrimination based on commercial considerations does not even benefit CAPs in reality, as it limits consumer freedom in the name of equality and may result in lower consumption overall.[41]

[41] Although the "Trabant syndrome" as described by *Renda* [2013] as a danger of net neutrality legislation is not specifically related to zero-rating, it still fits the situation very well: "The underlying idea is that, if bits are not discriminated on the Internet, end users will have the possibility to access all services and content they wish, through any device, anywhere, any time. In my opinion, under current conditions this assumption is heroic at best. To the contrary, a fully standardised, neutral, unmanaged Internet would serve users' interests just as the grey "Trabant" served consumer preferences in Eastern Germany under the Communist regime. Since no one should be discriminated against, let's give a bad, affordable car to everybody, with no possibility of upgrade." (p. 4)

Based on the above, it is easy to see that the paternalistic approach of net neutrality rules only hinders voluntary agreements between consumers and ISPs seeking efficient market solutions – that is to say, it hinders the functioning of the market – by senselessly banning traffic discrimination, all for some nebulous idea of public good that is not supported by strong economic evidence. These rules seem to protect the interests of certain, unidentified and possibly imaginary CAPs at best, but this supposed positive effect has never be proven in practice.

Zero-rating and the issue of discrimination

The provision in net neutrality regulation whereby operators cannot block contents or degrade the quality of any content makes it practically impossible for internet service providers – whether or not they are integrated – to use negative discrimination with the aim of market foreclosure. Positive discrimination may affect consumer decisions, but – as described in section *Concerns raised regarding zero-rating offers* above – there is no consistent theory or empirical evidence that would prove foreclosure in a real-life situation. The relevant elements of the Net Neutrality Regulation, the associated BEREC Guidelines and explanation are all based only on assumptions without a solid basis either in theory or in practice. In principle in some special situations the incentive to foreclose cannot be excluded, but this is certainly the exception rather than the rule, and a thorough examination of the merits of a specific case could easily identify it.

As there is no direct harm, those concerned about net neutrality cite only indirect harm, but that indirect harm is difficult to identify as well. One of the arguments is deterring future entry into the CAP market and the associated negative impact on innovation in contents and applications. Again, we have to note that there is no empirical evidence or realistic theoretical model on such effects. Even if there were, it is far from clear why the overall balance of benefits and harms would be negative.

The word 'discrimination' has negative, or at the very least, ambiguous connotations in everyday language and also in sociology and politics. However, it is decidedly damaging to allow ill feelings related to the word to affect the fundamentally neutral economic interpretation of the concept of discrimination. In the engineering sense (in traffic management, for instance), discrimination is a neutral concept. It means prioritising technical efficiency and quality of service, as opposed to applying indiscriminate traffic management, which results in much poorer overall quality and level of service. In net neutrality regulation, the legal concept of discrimination is too restrictive. Discrimination in the economic or technical sense is necessary for managing network efficiency and also for the proper functioning of the market (*Howell–Layton* [2016]). At best, net neutrality regulation is ineffective, and at worst, it leads to negative effects on welfare (see e.g. *Eisenach* [2015]).

Based on the above, we believe the theory of harm underpinning the regulation of zero-rating is highly questionable. We should note that this does not mean that a given practice could not be harmful; however, as shown above, this is very unlikely. Clearly, this means that decisions should be based on the assessment of the merits of each potentially problematic case.

The regulation in force and the BEREC Guidelines chose a general ban on some types of zero-rating instead of an examination of the merits of each case. Why this regulatory decision was made is probably better explained by political economy models that examine the influence wielded by interest groups than any assessment of the chance of potential competitive concerns arising or the economic impact of business behaviours seen in practice.

This brings us back to one of the questions posed in the introduction: Is *ex ante* regulation necessary in the first place? This question is also worth examining from the standpoint of regulation theory.

Do we need ex ante regulation?

The need for *ex ante* regulation arises when there is a clearly identified, frequently occurring, serious market problem that cannot be effectively handled by *ex post* regulation. In market situations when there are doubts about whether there is a market problem at all, and/or the cases are highly heterogeneous, there is serious risk of non-discretionary, inflexible regulation causing harm by limiting the functioning of the market and stifling innovation. In such situations, it is much more efficient to intervene based on an *ex post* examination when necessary. Testing various business practices and experimenting with them helps innovation and strengthens competition, which is fundamentally beneficial to consumers. Hindering them, on the other hand, reduces welfare.

Ex ante regulation is justified if:

- We have empirical evidence regarding the behaviour in question from previously examined cases showing that it is highly likely to be harmful;
- The harm caused by the behaviour is significant;
- The *ex post* handling of cases and resolving of problems would be too costly compared to *ex ante* regulation, or the harm would be irreparable;
- There is little risk of non-harmful behaviours being treated as harmful (*Geradin–Sidak* [2005].)

A review of these criteria and the examples makes it clear that none of the criteria are fulfilled in the case of zero-rating. The use of zero-rating tariffs may be common, but evidently, the number of instances raising competition concerns would be far lower. Additionally, *ex post* intervention also has an impact on the future. This is because market players can be expected to avoid practices that have been declared harmful, to avoid potential legal issues.

It is evident that the lobbying of various interest groups played a greater role in the emergence of net neutrality regulation than actual problematic cases, significant harm or the impossibility of handling them *ex post*.

CONCLUSION

Zero-rating is a scheme whereby services preferred by the consumers who choose the zero-rating offer enjoy positive discrimination, such that the traffic associated with their use is not counted towards the data cap. A distinction should be made between negative and positive discrimination. The former includes measures like blocking or slowing down some traffic, and the latter includes allowing continued access (or full-speed access) to zero-rated content after the data cap is reached. The regulatory approach that considers zero-rating to be negative discrimination confuses the possible indirect effect of the consumer's decision and action with a presumed clear negative effect of the ISP's deliberate action. The rules were not made based on evidence seen in practice, but based on assumptions; there were no previous cases serving as precedent and converging on some type of consistent practice to follow. The EU's net neutrality regulation adopted in 2015 was a result of political hype and was not based on solid theoretical or empirical underpinnings.

It should be noted that the issue with the net neutrality rules is not that they declare that consumers have the right to access content and applications and to choose their terminal equipment. Rather, the issue is that they ban commercial practices by which consumers can decide explicitly and voluntarily to consent to the ISP discriminating between different types of traffic temporarily, partially and in a manner that can be rescinded at any time. As we showed above, this is how zero-rating works. Consumers who choose a zero-rating plan clearly declare their preference by choosing access to content that they like and find valuable. The ban on traffic discrimination for commercial reasons contained in Article 3(3) of the *EU* [2015] regulation is clearly a paternalistic intervention in the market, which causes direct damage, as demonstrated by the fact that the law intends to protect consumers from their own voluntary decision – a decision that, according to our analysis, has demonstrably positive effects.

The net neutrality rules exaggerate the likelihood of consumer choices distorting competition and negatively impacting entry into the content and applications market, innovation and the entire internet ecosystem. Under realistic market conditions, there is no serious empirical or theoretical economic evidence to support the validity of these theories of harm. The rationale cited by the Regulation is contrary to the logic of competition, which is based on competing players wishing to differentiate themselves from others. These differences drive competition. Limiting differences limits competition itself, which leads to reduced welfare. ISPs set zero-rating tariffs in order to differentiate themselves in the competition through content preferred by consumers.

As we showed, zero-rating can very rarely be done with the intention to foreclose. The chance of actually achieving foreclosure is minimal even if the intention is there, as competition in the ISP market – which is especially strong in the case of mobile broadband services – severely limits the possibility for a foreclosure effect. Despite the harm presumed by the Regulation, competition on the *downstream* ISP market essentially makes market foreclosure on the *upstream* content market impossible.

The real winners of net neutrality regulation are not consumers but CAPs, and especially large global ones. Google, Netflix, Facebook and other similar global players managed to avoid a situation where ISPs can charge them a fee for forwarding the significant network traffic generated by them. At the same time, they can make their services available to consumers in better quality than their competitors through private solutions, such as developing and operating content delivery networks,[42] and interconnecting their network of servers with ISPs' local networks, while ISPs are not allowed to engage in behaviours or provide services that lead to the same result. Moreover, ISPs are not the only gatekeepers in the broader internet ecosystem. As *Easley et al.* [2017] point out, this important role can be played by search engines, browsers or operating systems (and even popular social networks). All this can have a powerful impact on consumer choices. Meanwhile, global CAPs continue to be unregulated; but the concerns around the freedom of consumer choice or the vertical leverage of market power that feed net neutrality regulations apply at least as much, if not more, to them than they do to ISPs.

Overall, our conclusion is that requiring traffic non-discrimination without any regard to the context of application is essentially the forcing of a false and abstract vision of the legal and social concept of equality onto physical and commercial reality, without considering the technical and economic characteristics of the operation of networks. One might say that net neutrality regulation, or, more specifically, the excessive and unreasonable elements of net neutrality regulation discussed here, represent the least well-founded, most derailed regulatory approach in the last quarter-century of EU telecommunications regulation.

We can only hope that the negative effects will not be too great, and that the regulation itself will not remain in force very long, and this regulatory episode will seem irrelevant a decade from now. We hope that analysts of the future will attach no importance to it, apart from perhaps shuddering when noting that once upon a time, there existed regulation by which service providers who did not have significant market power were banned from using a service package and pricing scheme that was largely beneficial to consumers.

[42] Content delivery networks (CDNs) are private data networks made up of data servers, used by content providers to store their contents in multiple geographic locations closer to users, thus shortening the path of the content to the user, significantly improving service quality. Among others, Google, Microsoft, Amazon and Netflix all have their own CDNs; Akamai even offers CDN capacity for rent as a service (see *Stocker et al.* [2017]).

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• *Vivien Csonka* •

AN ANALYSIS OF THE INTEGRATION OF MOBILE NETWORK OPERATORS: EFFICIENCY GAINS AND DISTORTIVE EFFECTS ON COMPETITION

Can the efficiency gains resulting from the integration of mobile network operators offset distortive effects on competition? Can the level of innovation and, thus, social welfare increase as integration incentivises companies to invest more? The present paper offers an overview of the relevant theoretical models and case law, concluding that network sharing agreements can bring about major static efficiency gains that play a key role in the individual exemption of agreements. This also means that the arguments of merging parties on static efficiency gains might not offer adequate justification for mergers, as the static efficiency gains are not merger-specific. At the same time, from the perspective of dynamic efficiency gains, mergers – given that strong synergies may improve the level of investment – can perform better than network sharing agreements. This means that network sharing agreements can be regarded as an alternative to mergers only to a limited extent. However, relevant case law also shows that (and this is the key competition policy conclusion) long-term benefits have not been properly substantiated so far, and they are usually not sufficiently demonstrated by the parties for the authorities to take them into full consideration.

INTRODUCTION

For the regulators and competition authorities, it is of key importance to identify those market structures where market players are in the best position to offer extensive mobile services for subscribers in an efficient manner. In other words, how many operators with an infrastructure of their own does it take to ensure competitive services in the mobile telecommunications market? Every OECD country has at least three national mobile network operators (MNO), and some have as many as four or five independent networks (*OECD* [2014] p. 5).

However, opinions differ as to which environment contributes most to the efficient operation of the market. Some say that the further dynamic development of the mobile telecommunications market requires close cooperation between operators (including mergers and network sharing agreements) which benefits subscribers through synergies, incentivises investments through maintaining profit levels and promotes the deployment of new technologies (*Frontier–GSMA* [2014], *ESMT* [2014], *HSBC* [2014], [2015]).[1] By contrast, others opine that several independent networks must be maintained given that high levels of concentration and cooperation agreements between operators can lower competitive pressure, which, in turn, can result in higher prices and undermine innovation incentives.[2]

Given the major consolidation process which is currently taking place in the European mobile markets and given the agreements between mobile network operators on sharing networks to different extents (whose number is expected to grow with the rollout of 5G), competition authorities find the question ever more urgent. Can the efficiency gains resulting from integration offset the negative impacts of decreasing competition which inevitably results from mergers and network sharing? The issue is topical for the Hungarian market as well: the Hungarian Competition Authority is investigating the 4G network sharing agreement between Magyar Telekom and Telenor within the framework of a competition proceeding (case number: VJ/18/2015).

To analyse the issue, the present paper describes the mobile market and the mobile network sharing agreements, then discusses the negative market impacts of integration and examines static and dynamic efficiency arguments cited by the parties to justify integration. Static arguments are mostly related to quality, technical or financial gains, while dynamic arguments pertain to investment growth. Having laid down a theoretical basis, the present paper overviews the relevant European case law.

THE MOBILE TELECOMMUNICATIONS MARKET

Market trends and characteristics

The telecommunications market is marked by fast technological development, which results from the innovation dynamics of the market. Investments are cyclic, and a new technology always offers opportunities for further innovation and for the deployment of more advanced versions of the same technology. The telecommunications sector (and especially the mobile telecommunications market) is characterised by an exponential technological development, as new mobile technology generations are introduced commercially, which, in turn, open up the path for yet newer technologies, above all, in the fields of capacity, quality and data transmission, which are of key importance for consumer welfare.

[1] *Frontier–GSMA* [2014] argues that direct competition has not played major role in the price decrease on the market, while innovation does have a significant impact.

[2] *OECD* [2014] found that MNOs are more likely to deploy and maintain more competitive and innovative services in countries where there are more MNOs in the market.

In the mobile telecommunications market, the first real breakthrough was the rollout of the second generation (2G) networks[3] in the 1990s. It replaced the analogue system of 1G with digital data transmission to ensure a better sound quality in calls. 2G technology made the introduction of the first data-type services (text or sms) possible, and, due to the technological developments within the same generation, mms and mobile Internet service were also introduced during 2G. With the launch of 3G technology (more specifically, the 3G infrastructure that uses High-Speed Packet Access or HSPA[4]), data transmission speed and network capacity increased significantly, which, in turn facilitated the introduction and wide take-up of Internet-based services of higher data demand. Consequently, data traffic has been growing each year since then. Based on the data in *NMHH* [2019*a*] and *KSH* [2019], the majority of the traffic[5] takes place through a 4G/LTE system.[6] 4G technology offers larger network capacity, more stable connections and faster and cheaper data transmission for users, which means that it is suitable for the transmission of high-definition (HD) content.

Due to the feedback process (namely that with the launch of an increasing number of higher-quality Internet-based services, the data traffic of consumers is increasing dynamically, which, in turn, encourages operators to roll out new services) the deployment of high-speed mobile networks has become a key priority. The rollout of 5G started in this context. The development of 5G technology allows the spread of applications which require real-time data exchange of very low latency between a large number of devices (such as driverless cars and remote sensors), increases the speed of data transmission and improves network reliability significantly (*NMHH* [2019*b*]). The sale of the 700 MHz and 3600 MHz bands (designated for the launch of 5G technology by the European Union as a "pioneering bands") via tendering procedures has already taken place in several European countries, while in other countries (for example, in Hungary) it is still ongoing.

Nowadays subscribers pay lower prices while enjoying a higher quality that results from the development of technology. Nowadays, Europe is experiencing a decrease in the Average Revenue Per Unit (ARPU),[7] which, to some extent, is offset

[3] In mobile telecommunications, one generation refers to a change in the basic nature of the service, a transmission technology that is not backward compatible, with higher peak rates, new frequency, wider channel frequency bandwidth and higher-capacity simultaneous data transmission.

[4] An advanced 3G technology, which increased data transmission speed and network capacity, while reducing latency.

[5] As shown by the data in *KSH* [2019] from the end of the first quarter of 2019, 92% of data traffic was already going through a 4G/LTE system in that quarter.

[6] 4G/LTE: 4th-generation mobile phone technology (Long Term Evolution, LTE).

[7] Above all, this is attributable to competition and changing consumer preferences. Since serving an additional subscriber involves negligible costs, operators were reducing their prices as the network capacity was improving due to new technologies. Moreover, the decrease in voice and sms revenues has not yet been fully offset by the fees charged for data traffic or for other new services (*OECD* [2014] p. 9 and p. 24).

by the growing number of subscribers. At the same time, if mobile operators wish to remain competitive, they must keep pace with their competitors in a market environment that is constantly changing and evolving. This calls for significant investments in the deployment of new mobile networks and in the rollout of new technologies within a given generation, and therefore necessitates significant capital expenditure (CAPEX) from operators. In the context of such a market environment, the competitiveness of companies depends partly on their capital base, and partly on the return on their investments.

These competitiveness requirements and the significant fixed operating costs (which result in significant economies of scale) made an important contribution to the evolution of ever-closer forms of cooperation between operators, from sharing parts of their infrastructure to mergers. In recent years, during the consolidation wave that swept through the sector, the European Commission examined several mergers in the mobile market. At the same time the number of procedures for examining network sharing agreements between operators (as a possible alternative to mergers) also went up.

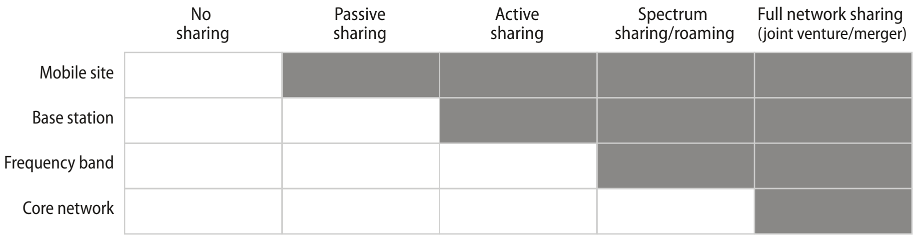
Forms of cooperation between operators; the depth of integration

The deployment of mobile networks entails a significant cost for mobile network operators, while the market processes incentivise market players to decrease those costs. This resulted in the emergence of cooperation agreements on mobile infrastructure sharing (as an alternative to mergers), intended to reduce costs.

There are two major types of network sharing. Depending on which parts of the network equipment are shared, there is a passive and an active form of network sharing (*EC* [2014*a*)]. Both types entail the sharing of passive network elements, that is, of basic infrastructure. These are the devices (towers, cabinets, power supplies, air conditioning systems) which provide location and power for active devices. Active network sharing covers, besides passive devices, active radio equipment (Radio Access Network, RAN), including base stations, antennas and, depending on the technology, controllers. The role of RAN equipment is to directly contact or "communicate" with the devices of subscribers. Therefore, active devices play a major role in determining the quality of the mobile service provided (e.g., coverage, data transmission speed) and, thus, are of paramount importance for competition.

Some active network sharing agreements cover, besides the sharing of passive devices and RAN, the joint use of the parties' spectrums[8] as well. This means that

[8] Spectrums are civilian telecommunications frequencies distributed by the regulator which offer a "way" for communication between mobile subscribers.



Source: EC [2014*b*] p. 31.

FIGURE 1 • **The depth of integration in the various forms of cooperation between operators**

operators can use the available spectrum in the individual bands as a joint resource, which can significantly increase their capacity *(Figure 1)*.[9]

As a rule, network sharing agreements do not cover the sharing of network intelligence, that is, the core network, which contains, for instance, subscriber data and manages network resources. When cooperation covers the core network, it is generally regarded as full integration or merger.

THE ROLE OF EFFICIENCY GAINS GENERATED BY MERGERS AND NETWORK SHARING IN PROCEDURES

During the wave of consolidation in the European mobile market, in procedures launched (mainly by the European Commission) to investigate mergers, particular attention was paid to the assessment of the efficiency arguments presented by the parties to support mergers. The key issue was whether the potential efficiency increase was merger-specific.[10] The analysis of this issue raised another critical question in the same field: whether network sharing agreements can deliver the potential efficiency gains of a merger while ensuring that competition between the given parties is reduced to a smaller extent. If yes, the efficiency arguments in favour of the merger should not be taken into account as factors that offset distortive effects on competition, given that there are other ways to achieve efficiency gains which distort competition to a lesser degree.

[9] In addition to these forms of cooperation, operators sometimes opt for using each other's networks for service provision, which allows them to serve their subscribers outside their own coverage area. This form of cooperation is national roaming, which can be regarded as a form of active sharing. However, it does not require joint network elements, given that one operator forwards its entire traffic to the network of another operator.

[10] When assessing a concentration, a competition authority takes into account efficiency gains arguments when an efficiency gain 1) is verifiable, 2) is linked to the concentration (merger specificity), and 3) benefits consumers (*EC* [2004]).

In addition, the European Commission and many European competition authorities are examining or have examined agreements between mobile service operators on sharing networks of various levels, typically aimed at the joint deployment of 3G networks in the initial period. In such cases, the question is whether the unfavourable impacts of decreased competition (which, as discussed later, is an inevitable consequence of such agreements) can be offset by the efficiency gains resulting from the agreement.

These two issues introduced above are basically identical. Once they are combined, they boil down to the following questions: Which of the three scenarios (*status quo*, network sharing, merger) offers the highest efficiency gains? Can efficiency gains offset the unfavourable effects of cooperation, such as mergers or network sharing agreements?

Anticompetitive effects

When two mobile operators merge, they cease to compete with each other. Before the merger, if one party had increased its prices, it would have lost some of its subscribers to the other party. However, once merged, the parties take into account that in the case of a potential price increase, some of those subscribers who are lost due to higher prices will flow back to the merged entity through the other merged party, or that, in the event of a full merger,[11] those subscribers who otherwise would have opted for the other merging party will remain with the merged entity. This means that the losses resulting from the price increase are lower than they would have been before the merger, which incentivises the parties to raise their prices after the transaction. The same mechanism can be identified with regard to innovation. As the innovating party generates a profit at least partly at the other party's expense (cannibalisation), the profit generated by innovation will be lower after the transaction. Therefore, after the merger, the innovation level agreed on by the parties will be lower than the level they would have opted for independently of each other.

The upward pressure on the prices and the downward pressure on innovation exerted by the transaction (and, consequently, the relevant concerns voiced by the competition authorities) depend, among other things, on how much the competitive pressure is weakened and on the characteristics of the market. Due to the characteristics of the segment (high entry costs, high fixed costs, a high degree of economies of scale), mobile telecommunications markets are highly concentrated in most countries. This means that an increase in concentration is expected to exert a significant upward pressure on prices. Nevertheless, unfavourable effects may be offset by the efficiency gains that result from mergers through synergies.

[11] The merged entity may decide to keep the original names of the two companies and appear as two separate "brands" in the market, or to fully merge the two businesses (typically through the integration of the acquired company).

Such efficiency gains may push prices downwards, typically through the reduction of variable costs. However, the mobile telecommunications market is characterised by negligible variable costs, and synergies typically result in fixed cost savings in this market. It is questionable whether such savings can affect the pricing of companies.[12]

In the framework of network sharing, the parties, to a certain degree, use a joint infrastructure to "produce" the service, but retain their independence in other segments of service provision (for example, service portfolio development, pricing, marketing). Therefore – albeit the parties to the agreement decide jointly on investments and the operation of the infrastructure – network sharing agreements do not fully eliminate the competitive pressure exerted by the operators on each other. As a result, the parties are incentivised to continue to compete in the retail market. This is the main difference between a network sharing agreement and a merger.

With regard to the theories of harm raised in the procedures launched by the Commission and European competition authorities to investigate network sharing agreements, a typical key concern is that, in the case of a shared network, the independent control of the parties is reduced, because cooperating operators decide jointly on several network parameters. This may limit infrastructure-based competition and the parties' ability and motivation to differentiate their services.

As a result of the former fact, the parties do not implement all network expansion, development or upgrade measures which they would perform if they operated their networks independently. This is attributable, among others, to reduced incentives. The expected return on innovation is lower, since the investment has an impact on the subscribers of both parties, which means that it also benefits the operator that continues to act as a competitor at the retail level. Yet when the roll-out of a new technology or service calls for the deployment of a joint network, the innovating operator must consult the other party, which eliminates the factor of first mover advantage from the innovation process. In addition to reducing incentives, such cooperation may reduce the abilities of the parties to innovate, given that typically both parties need to approve the development of a joint network, which means that they can hinder each other.

In some cases, the structure of cooperation may act as a barrier to unilateral developments as well which are independent of the joint network. This is attributable, on the one hand, to technical difficulties (for instance, the integration of independent network components into the joint network) and, on the other hand, to the cost structure of the joint network, which undermines incentives. As a consequence of the latter, unilateral development is less cost-effective for operators, given that the costs of jointly implemented unilateral developments are shared by the two parties.

[12] Fixed costs do not change when the level of production changes, which means they are incurred even if a company is not engaged in production at all. Consequently, fixed costs play a much less significant role in pricing than variable costs do.

The quality of service as perceived by subscribers (for example, data transmission speed), which is a key dimension of competition besides price, is largely dependent on the coverage, capacity and functionality of the network, which, in turn, are mostly determined by the active elements of the network (RAN). When the parties engage in network sharing (especially active network sharing), they typically decide on such parameters together and use RAN jointly. This reduces their ability to offer their subscribers services of substantially different quality, and their services become increasingly similar. Service differentiation would still be possible with unilateral development performed independently of the joint network. But, as explained above, network sharing agreements can restrict such development as well.

To challenge the Commission's concerns about reduced differentiation ability, the parties to the agreements often argue that network sharing allows both parties to offer their subscribers the best quality, and, therefore, differentiation would be possible only in a negative direction, which then would lead to impaired consumer welfare. As far as static considerations are concerned, this argument is difficult to dispute. However, in a dynamic approach and as a consequence of the rapid pace of technological development (due to things like – to cite a current example – the emergence of applications that require real-time data exchange), it is indispensable to keep up competition in service quality in the market, given that operators are capable of improving service quality continuously.

Therefore, network sharing reduces the capacity and incentive to innovate and engage in service differentiation, and thus decreases competition between cooperating operators in the retail market, to the subscribers' detriment.

A potential additional concern pertains to the flow of information between the parties. The flow of information, to some extent, is essential for infrastructure sharing, but it makes the other party's strategy and market position more predictable, and may help the parties establish and maintain coordination even with regard to prices.[13]

Static efficiency arguments related to mergers and network sharing agreements

As a rule, operators put forth two arguments to substantiate the efficiency benefits of mergers. The first argument concerns cost savings that can be achieved with a merger, and the technical gains that stem from access to the other party's infra-

[13] Other case-specific theories of harm also emerged during investigations performed by competition authorities. These include the following: 1) the reduction of the number of antennas and sites within the joint network may result in coverage problems for those competitors who lease antenna space at the sites of the parties, 2) the parties may acquire a large amount of frequency resources together obtaining a long-term advantage over their competitors, 3) the cost-sharing and settlement system used by the parties may modify the cost structure of the network and, consequently, may create anticompetitive incentives; 4) such agreements may increase the risk of collusion in wholesale markets (*DCC* [2012], *FCCA* [2015]).

structure. The parties generally argue that due to these two factors the transaction may allow the company to increase its coverage rapidly and improve service quality (mainly through capacity increases), and pass the cost savings on to subscribers in the form of lower prices. The second argument says that the extra profit generated through consolidation boosts innovation and investment in infrastructure and in new services, which will eventually decrease prices and benefit consumers in the long term.[14] The first one is largely a static efficiency argument, while the second one is dynamic in nature.

However – as shown by the case law discussed later – the static quality (coverage, capacity) and cost benefits of mergers that stem from joint infrastructure can also be achieved through network sharing. The reason for this is that, depending on the depth of integration, infrastructure sharing can ensure significant cost savings for operators. Passive sharing makes it possible to reduce the construction, operating and maintenance costs of passive devices, given that sharing stations reduces the total number of stations required. The amount of savings typically increases as integration deepens. Consequently, active network sharing agreements offer greater savings, as operators also share the operating costs of active assets. Moreover, sharing, similarly to mergers, can increase the network coverage and capacity of operators. It becomes possible to take advantage of the economies of scale that is characteristic of this market, and, provided that spectrum is also shared, to offer a solution to spectrum scarcity.

In the light of the above considerations, the majority of arguments on static efficiency put forward by merging parties will most likely fail to meet the criterion of merger specificity, as – given the fact that retail competition remains in the case of network sharing agreements – the same gains can be achieved in a different way that is less distortive of competition. It should also be mentioned that another requirement for efficiency improvement to be taken into account by competition authorities is that such improvement must serve the interests of consumers (for instance, in the form of lower prices). This means that even if cost savings prove to be merger-specific, it is still uncertain whether they meet this criterion as they typically affect fixed costs, which are less likely to reduce consumer prices than variable costs.

Therefore, in the event of a merger, parties should not focus on such arguments – however, they typically do. Some possible reasons for this approach are discussed below. By contrast, in procedures launched to investigate network sharing agreements, static efficiency arguments may (depending on the depth of the

[14] Innovation enhances the efficiency of production and service delivery, and, therefore, reduces marginal costs and the optimal price, which benefits consumers. Nonetheless, if there is market power, efficiency gains are transferred to consumers only partially, which means that the profit margin of producers/operators also increases (that is, companies do not use up their producer surplus for competition).

given agreement and on market structure) play a major role in offsetting the unfavourable competitive effects, provided that they meet the criteria of individual exemption.[15]

Dynamic efficiency arguments related to mergers and network sharing agreements

As shown in the market overview above, investments are of paramount importance for the efficient functioning of the mobile telecommunications market. Operators need infrastructure investment and innovation in order to differentiate themselves from the competition through the data transmission speed, reliability and network coverage. In merger controls, the importance of innovation, enhanced consolidation and the fact that similar static efficiency gains can be achieved through network sharing shifted the debate towards dynamic efficiency issues. One of the important questions is whether network sharing can be comparable to mergers in terms of dynamic efficiency as well. If not, efficiency arguments of this type can be taken into consideration, but it remains uncertain if they are able to offset the negative competitive effects of the transaction.

The relevant literature continues to be divided about whether the consolidation of the mobile telecommunications market increases investment and, if so, whether it enhances consumer welfare as well. There are few theoretical papers on the impacts of network sharing on investments, as it was only in recent years that the issue became of vital importance. So far, no empirical studies have been conducted. The next section gives an overview of the major sources in the literature.

The relationship between innovation and consolidation

The literature devotes much attention to the impact of market competition on innovation, but, for a long time, the various studies seemed to contradict each other. *Schumpeter* [1942/2010] highlighted that the size and profits of monopolies increase a company's ability and incentives to innovate. By contrast, *Arrow* [1962] called attention to the necessity of competition, given that it encourages companies to make innovative efforts through the profit increase that is expected to be generated with innovation.

It was *Shapiro* [2011] who reconciled these two seemingly contradictory views. Shapiro opines that Arrow is right in the sense that if a market is 'contestable', then intense competition for the market encourages innovation. Still, a company must be able to protect its competitive advantage that results from innovation, because

[15] For a cooperation to be granted exemption, all four of the following criteria must be met: 1) the anti-competitive agreement must contribute to efficiency gains; 2) the restrictions must be indispensable to the attainment of the efficiency gains; 3) consumers must receive a fair share of the resulting efficiency gains; and 4) the agreement must not afford the parties the possibility of eliminating competition in respect of a substantial part of the products in question (*EC* [2011]).

the "appropriation" of innovation gains serves as an important incentive. However, this requires obtaining and maintaining a certain degree of market power, which is in line with Schumpeter's idea.

Shapiro's study also falls in line with the theory of *Aghion et al.* [2002], who describe the relationship between innovation and competition as being of an inverted U shape. On the one hand, they emphasise that competition has a positive effect on innovation, as the profit that can be generated by the investing company increases due to the 'escaping from competition effect'. On the other hand, when competition is too intense, it may reduce the level of innovation (due to the 'Schumpeter effect'), as low-level appropriation undermines companies' incentives to innovate.

In view of the contradictory theoretical and empirical evidence on the relationship between competition and innovation, and given the complexity of the issue, economists started to investigate a more specific question: how does consolidation impact innovation efforts and incentives in specific industries?

Shapiro's paper analyses the impacts of mergers using a framework based on the ideas of 'contestability', 'appropriability' and synergies resulting from mergers. According to the paper, a merger which significantly reduces market contestability undermines incentives to innovate, but this impact can be counterbalanced by synergies that result from the transaction. Synergies increase the ability and incentive of the merged entity to invest by combining complementary corporate assets.

Genakos et al. [2015] empirically analyse the relationship between investment level and market structure in the mobile telecommunications market. The results show that a merger that reduces the number of market players from four to three results in higher market prices, while investments implemented by the individual operators also increases. However, given that mergers reduce the number of operators, the impact of consolidation on market-level investments is questionable. The analysis failed to find any significant result in that regard.

The papers presented above do not tell us where network sharing agreements fit within this framework; networks sharing agreements also allow savings in operating expenditures (OPEX) and capital expenditures (CAPEX), which, in turn, can incentivise mobile operators engaged in network sharing to maintain or deploy a better network. In summary, the question is which of the three scenarios (*status quo*, network sharing and merger) offers a higher level of investment and consumer welfare.

Motta–Tarantino [2016] were the first to prepare a theoretical study that compares innovation and consumer surplus in the three scenarios. As shown by the results of the model, if the synergies resulting from consolidation are weak, then network sharing and mergers will both lead to a lower-level market investment than the status quo (with mergers outperforming network sharing). This means that the highest consumer surplus (and total surplus) is achieved when companies are completely independent. Mergers and network sharing rank second and third, respectively.

But results change once strong synergies result from the cooperation of parties. As far as investments are concerned, mergers seem to rank first, followed by network sharing and then by the *status quo*. By contrast, in terms of the impacts on consumers, network sharing brings the largest consumer surplus, followed by the *status quo* and mergers. As far as mergers are concerned, *Motta–Tarantino* [2016] conclude from the above facts that, when putting forward efficiency arguments, merging parties must demonstrate that the same results would not be achievable through network sharing.

Conclusion on static and dynamic efficiency arguments

The first issue to be examined is whether network sharing agreements can achieve the same efficiency gains as mergers do with significantly weaker competition-distorting effects. The second is whether efficiency gains resulting from a merger or a network sharing agreement can offset the negative effects on competition.

To analyse this, two main efficiency arguments put forward by the parties to substantiate mergers or network sharing agreements were presented: static arguments (cost savings, economies of scale and technical gains) and dynamic arguments (higher level of investment). In terms of static efficiency arguments, relevant evidence consistently shows that significant gains can be achieved with network sharing agreements. One of the two consequences of this is that, in mergers, the parties' arguments on such gains are unlikely to be sufficient to justify the merger, given that the same gains can be achieved with agreements, that is, in a manner which is less distortive of competition. The other consequence is that, in procedures launched to investigate network sharing agreements, these arguments may have an important role in the examination of individual exemption, may offset the unfavourable effects and thus, may justify the agreement.

As for dynamic efficiency arguments, it must be noted that, according to the theory, when synergies are significant, the merger can bring about a higher level of investment than network sharing does. In this regard, the *status quo* ranks last. This means that dynamic efficiency arguments can be important for network sharing agreements, given that network investments may increase as a result of cost reductions and better return on capital. However, more importantly, the above indicates that efficiency arguments of merging parties should focus on dynamic efficiency gains (rather than static ones), showing that the same gains cannot possibly be achieved through network sharing. The reason for this is that these are the gains which may justify transactions in the mobile telecommunications market, offsetting the anti-competitive effects.

The section below reviews relevant case law and examines whether the merging parties employ this strategy. To this end, we analyse three mergers that play a key role in mobile telecommunications and illustrate the Commission's approach to dynamic efficiency arguments. The second part of the case law summary reviews some procedures on European network sharing agreements in order to identify circumstances under which efficiency gains can outweigh the unfavourable effects of such agreements. The position of the Body of European Regulators for Electronic Communications (BEREC) on these issues is also discussed (*BEREC* [2019]).

THE ASSESSMENT OF THE EFFICIENCY GAINS OF MERGERS AND NETWORK SHARING IN CASE LAW

Merger control

Telefónica/E-Plus merger, Germany (*EC* [2014*a*])

Telefónica Germany submitted a merger application in 2013 to acquire the German operator E-Plus. The Commission cleared the transaction in 2014, with commitments. The Commission raised concerns that the transaction would eliminate the competitive pressure exerted by these close competitors on each other and would weaken the competitive position of mobile virtual network operators (MVNO) to the consumers' detriment. The Commission found that the accepted commitments address competition concerns through facilitating the market entry of new competitors and strengthening the position of existing competitors.[16]

Given that at the time there were no network sharing agreements on the German market, the Commission, when investigating the efficiency gains of the transaction, analysed whether such an agreement can serve as an alternative to the merger.

The efficiency arguments put forward by Telefónica fall into the categories of demand-side and supply-side benefits. Telefónica argued that the transaction offered additional capacity and coverage, which would improve the quality of the service provided by the merged entity via 2G, 3G and 4G technology. As for the supply side, Telefónica pointed out that the joint rollout of 4G technology would entail lower expenses compared to those that the parties would incur should they deploy and operate the new technology parallel to each other. The parties argued that the consolidation of their 2G and 3G networks would also result in significant savings. Telefónica claimed that this efficiency growth was merger-specific and could not be achieved to the same extent through a network sharing agreement.

That is, the parties did not cite the dynamic efficiency gains, as increased investments attributable to the consolidation; instead, they focused on cost savings. However, with regard to the consolidation of 2G and 3G, the Commission found that the same savings could be achieved via network sharing. As for 4G networks, the

[16] First, Telefónica committed to sell up to 30% of the total network capacity of the merged company to one or more (but maximum three) German MVNOs to ensure the market entry or expansion of new competitors. Second, Telefónica committed to offer a spectrum and certain network assets either to a new entrant MNO or to the MVNO(s) using a part of the network capacity mentioned above. Third, Telefónica committed to extending its existing wholesale contracts with MVNOs and operators and to offer 4G wholesale services to all interested parties.

Commission pointed out that most of the cost savings deriving from the proposed transaction could also be achieved through network sharing covering all technologies. In terms of the demand side, the Commission found that a 2G/3G/4G network sharing agreement would improve network quality to roughly the same degree as the proposed transaction.

Hutchison/Telefónica merger, Ireland (*EC* [2014*b*])

In 2013, the Commission received a notification of a proposed concentration by which Hutchison would take over control of Telefónica Ireland by purchasing its Irish shares. The Commission cleared the merger, with the commitment package[17] submitted by Hutchison. Similarly to the commitments in the German case, the package was intended to help the entry of new competitors into the market.

At the time of the assessment of the transaction, all four operators in the Irish market were parties to network sharing agreements: there was one between Telefónica and Eircom (Mosaic agreement), and another between Hutchison and Vodafone (Netshare agreement). These network sharing agreements played a major role in the Commission's analysis, albeit in a way different from that of the German case, where there were no similar cooperations in the market. In the Irish case, during the assessment of efficiency arguments, the key issue was to establish whether the merger would result in an enhanced efficiency not yet ensured by the existing agreements. Another important question was how the transaction would impact the already existing agreements.

The two main efficiency arguments of Hutchison related to the economies of scale achievable with the merger and the more efficient deployment of LTE. As for the former, Hutchison quantified the net cost savings (deducting the expected gains from Netshare and Mosaic), and argued that such gains cannot be achieved through network sharing. However, the Commission claimed that the parties had failed to take into full consideration the savings expected to result from the Netshare and Mosaic agreements. This was corroborated by the fact that internal documents of the parties showed that the savings expected to be achieved with the implementation of the agreements would be very significant.

Moreover, the Commission had serious concerns that the merged entity could terminate or hinder the Mosaic agreement concluded with Eircom, given that after the transaction Telefónica's profit deriving from the agreement would significantly decrease. In the light of all of this, the analysis of the Commission found that the merger would not achieve higher savings than the two existing network sharing

[17] First, the short-term market entry of two MVNOs is ensured (similarly to the German case, through the sale of capacity), with one of them allowed to acquire the whole spectrum at some later point and thus become a mobile network operator. The second commitment package was intended to ensure the competitiveness of Eircom; to that end, Hutchison committed to maintain the network sharing agreement under more favourable conditions.

agreements do. Again, this corroborates the inadequacy of the static efficiency arguments of the parties.

With their second efficiency argument, the parties claimed that the merger would significantly speed up the deployment of LTE and would result in a higher coverage, given that full independent coverage of the rural areas of Ireland would be very expensive and that the funding restrictions imposed by the Telefónica group would hinder investment in network deployment in Ireland. Nevertheless, the Commission did not consider it plausible that in the absence of the merger Telefónica would undermine its own business interests in Ireland by not investing in an LTE rollout, and concluded that in the absence of a merger a similar 4G network would be deployed. Therefore, Hutchison quantified the consumer surplus deriving from the dynamic efficiency gains to no avail. The Commission largely ignored it on the grounds that it cannot be verified and/or it is not merger-specific.

Hutchison–Telefónica (O2) merger, United Kingdom (*EC* [2016])

The parties submitted their merger application to the Commission in September 2015. In May 2016, the Commission blocked the transaction due to concerns about price increases and a decreased level of innovation.

In its decision, the Commission called attention to the fact that the given transaction was different from the previous "from four to three" mergers (including the German and Irish mergers), given that the market of the United Kingdom is characterised by extensive network sharing agreements. The merged company would have an agreement with both of its remaining competitors (EE and Vodafone); consequently, the merger would affect the entire mobile infrastructure of the United Kingdom. One of the Commission's main concerns was, besides the price effects of the merger, the reduced level of investment.

The Commission's analysis shows that the merged company would get a complete picture of the network deployment plans of its remaining competitors and that the planned implementation of the network sharing (as shown to the Commission) may increase the competitors' maintenance and investment costs, thus weakening the competitiveness of EE and Vodafone. This means that the decreasing competitive pressure exerted by the competitors, coupled with a reduction of market-level investments, would hinder the future development of mobile telecommunications infrastructure in the United Kingdom, including, for example, the rollout of next-generation (5G) technology.

The efficiency arguments of the parties pertained to capacity increases deriving from technical efficiency, improved network quality, an increased network speed and a price reduction resulting from cost savings. They also claimed that the economies of scale and fixed cost savings brought about by the transaction would enhance the merged entity's ability and incentive to implement investments in the future. The parties cited the study discussed above (*Genakos et al.* [2015]), which illustrated that consolidation leads to an increased investment level for each operator. The study concludes that the consolidation does not have a significant impact on the market investment level, but the parties claim that they would use the same investment amounts in a more optimised manner, given that there would be no need to double the same fixed costs.

In the Commission's view, the technical efficiency gains are neither verifiable nor merger-specific (given that they can be achieved with the *status quo* or with spectrum sharing, both of which are less distortive). The Commission found that the arguments on the increased investment level were not verifiable or merger-specific as the parties had failed to provide documentation of adequate detail on relevant evidence and on the assumptions and calculations they had used for the estimation of expected cost savings. The Commission also found that consumers would not perceive the efficiency gains anyway, as the fixed cost savings would not lead to reduced prices.

Conclusions based on case law

As for static efficiency arguments, relevant literature and case law consistently find that most benefits of mergers can be achieved through network sharing, as it allows the parties to make optimal use of networks and to exploit the benefits resulting from the economies of scale. The Commission finds that, on markets where there are such agreements in place, a possible alternative to the merger is to extend them. Nevertheless, in some cases, the extension of existing complex agreements may not be feasible or may not be adequate to achieve gains equal to those achievable through mergers and, therefore, in theory, mergers may lead to additional efficiency. Still, in the case of complex network sharing, the Commission may find (just as it did in the case of the United Kingdom) a theory of harm with regard to the fact that the merged company may terminate or hinder such agreements, which is unlikely to be offset by additional efficiency gains. It should also be noted that, as shown above, it is not clear by what mechanism the reduction of fixed costs (intended to offset the negative impacts) would lead to price reduction.

As for dynamic efficiency arguments, it must be noted that, according to the theory, when synergies are significant, the merger can bring about a higher level of investment than network sharing does. In that regard, the *status quo* ranks last. Most probably, the synergies achievable with the transaction were significant in the first case, on the German market, given that at the time no network sharing agreements were in place there. However, the parties failed to put forward arguments for dynamic efficiency gains (increased investments) resulting from consolidation. Instead, they focussed on cost savings, which, in the Commission's opinion, were not merger-specific. In the two other cases, the synergies achievable with the merger were presumed to be less significant due to market structure. Still, the parties presented some arguments related to higher levels of investment, which they substantiated with references to *Genakos et al.* [2015] (discussed above). However, the Commission rejected these potential benefits, largely on the grounds that they were not verifiable. The Commission discussed the paper by *Genakos et al.* [2015] in a separate Appendix to the Hutchison-O2 UK decision, arguing that the study's finding that reducing the number of operators from four to three would not have any significant effect on market-level investment did not necessarily imply that investment would be "better spent" in more concentrated markets to the benefit of consumers. However, the Commission did not examine how the investment structure of the market would change after the transaction, nor has an empirical analysis been made on the impacts of some market distributions of investment.

Recently, the Commission received a lot of criticism for not focusing more on dynamic efficiency arguments in its decisions, when, in fact, long-term considerations play a key role in a given market. The Commission's reluctance is attributable, on the one hand, to the fact that theoretical models and empirical analyses have not offered much in the way of consistent evidence on the effects of mergers on investment, and on the other hand, to the fact that future efficiency gains are, by their nature, difficult to quantify or verify, given that they are surrounded by significant uncertainty. In the light of all this, the parties do not seem to have any incentive to rely on dynamic arguments or present them robustly, although as for robust presentation, it is to be noted that the options of the parties depend very much on the degree of the uncertainty surrounding their arguments.

Procedures initiated to investigate network sharing agreements

In the period from 2012 to 2017, many national competition authorities investigated existing network sharing agreements in the mobile telecommunications market, and several competition and regulatory authorities issued guidelines on such practices. The following section gives a short overview of the cases that have been closed so far and of the Czech procedure carried out by the Commission, where the Commission sent the parties the Statement of Objections in August 2019. The chapter concludes with an overview of the guidelines issued by the French competition authority and the position of the Body of European Regulators for Electronic Communications (BEREC).[18]

The Danish case (*DCC* [2012])

On the Danish market, which has four market players, Telenor and Telia Denmark (the second and third biggest operators by market share, respectively) set up a joint venture by which they jointly own, control and develop their RAN infrastructure for all mobile technologies (2G, 3G, LTE). The active sharing agreement entails the

[18] BEREC contributes to a consistent application of the EU regulations to ensure the adequate operation of the single market of electronic telecommunications. BEREC comprises a Council of Regulators, consisting of the heads of the national regulators of the EU member states (www.europa.eu).

sharing of both physical RAN infrastructure and frequency resources, but does not cover the core network.

The parties submitted commitments to resolve five of the six concerns raised by the Danish Competition and Consumer Authority (DCC). The sixth and main concern of the DCC is that the agreement reduces competition on the retail mobile telecommunications market on significant parameters such as coverage or the launching and deployment of new network technologies. However, regarding that concern, the DCC found that the parties provided sufficient proof that their efficiency arguments fulfil the conditions set out in Article 101(3) of TFEU and in the relevant article on the Danish Competition Act. The reason for that is that network sharing ensures that both Telia and Telenor can continue to provide their independent services via a better and more efficient network, which will benefit subscribers through better coverage and better performance offered by the various technologies.

The Finnish case (*FCCA* [2015])

In Finland, two of the three market players (DNA and TeliaSonera, the businesses with the second and third largest market share) set up a joint venture. The cooperation entails active network sharing without spectrum for 2G and 3G, and with spectrum sharing for 4G. The cooperation extends only to rural areas, and therefore affects only 15% of the population (50% of Finland's area).

The main potential competition concern raised by the Finnish competition authority was that, due to the reduced differentiation ability of the parties, the agreement would weaken competition in quality parameters (coverage, speed and other features). The competition authority also claimed that the parties would be less motivated to invest in the network and that the exchange of sensitive business information would facilitate market collusion.

To address these concerns, the Finnish competition authority required DNA and TeliaSonera to implement the commitments[19] that they offered. The Authority also highlighted that cooperation would result in, besides costs savings, a faster and more efficient network for subscribers in Eastern and Northern Finland; however, the benefits would only be achieved if the parties continue to engage in strong competition as ensured by their commitments.

As the BEREC common position, to be discussed later, explains, the possibility of infrastructure-based competition (which depends very much on the characteristics of the areas concerned) is an issue of key importance when it comes to the

[19] The Finnish competition authority accepted the following commitments: 1) the parties restrict information exchange with each other, 2) both parties will have their own unilateral network and business plans, and will be entitled to introduce new functions or additional capacity in the joint network, 3) the parties will provide mobile virtual network operators (MVNOs) access to all wholesale services under conditions similar to the current ones, 4) the parties will not remove sites that become redundant as a result of the cooperation, but offer them for lease for competitors under market terms.

assessment of the impacts of network sharing. The reason for this is that in sparsely populated areas, the deployment of a network owned by a single party can entail significant costs, and operators may not be incentivised to do so. In such cases, network sharing can have significant benefits, in some cases even increasing the number of infrastructures of the given technology deployed in the area.

The Spanish case (*CNMC* [2015])

The Spanish competition authority (CNMC) investigated several agreements between Telefónica and Yoigo, the first and fourth largest operators (out of four) in the Spanish market. Under the mutual national roaming agreements, Yoigo may use the 2G, 3G and 4G mobile networks of Telefónica, while Telefónica has access to the 4G network of Yoigo. In the view of the CNMC, the latter form of cooperation restricts the parties' differentiation ability with regard to coverage and network quality, and, thus, restricts competition between the parties, reducing the parties' motivation to invest in the deployment of their own network. The CNMC did not accept the efficiency arguments presented by the parties in those areas where both operators have deployed or could potentially deploy a network of their own.

As for the passive network sharing agreement between the parties, the CNMC established that, given the efficiency gains, the agreement was granted exemption under Article 101(3) of TFEU.

The Czech case (*EC* [2019])

This case, investigated by the Commission, is about the cooperation of the two biggest operators of the Czech market, T-Mobile and O2/CETIN. The network sharing covers all technologies (2G, 3G, 4G), but does not include spectrum sharing, and it covers the whole territory of the country except Prague and Brno, covering 85% of the national population.

While investigating the case, the Commission took into account several factors that result from the structure of the Czech market, for example, the high concentration of the three-player market, where the networks of the parties serve approximately three quarters of subscribers. The latter fact makes for an important difference between the Czech case and the Finnish one presented above, inasmuch as the Finnish agreement was limited to sparsely populated areas and, therefore, affected only 15% of the Finnish population. In the Czech case, however, it is more difficult to see, for example, why in the absence of the agreement T-Mobile and O2 would not be incentivised to invest if promoting their business was their market interest.

In the Statement of Objection issued in August 2019, the Commission concluded that the network sharing agreement restricted competition and, therefore, limited innovation. According to the Commission, network sharing in this case is likely to eliminate the incentive for the two mobile operators to develop their networks and services instead of achieving better efficiency and higher service quality. This clearly shows that the Commission rejected any efficiency arguments that parties may have put forward.

Positions on the impacts of network sharing

In 2013, the French competition authority issued a guidance document on conditions under which networks sharing between operators may be approved (*Autorité de la concurrence* [2013]). In its opinion, the Authority highlighted the importance of infrastructure-based competition which incentivises innovation and product differentiation. The Authority also noted that the rollout of new technologies requires significant investment and that cost-sharing can allow a faster deployment and a better coverage. The Authority also noted that the alternative of sharing, that is mergers, are not to be supported given the significant level of concentration in the French market.

The French competition authority considers that the impact of network sharing agreements on competition should be assessed on the basis of three main criteria. The most important is the nature of the cooperation (passive, active or spectrum sharing). The competition authority considers spectrum sharing as particularly restrictive of the parties' differentiation ability. The second criterion is the market power jointly acquired by the operators involved in the sharing, and the ability of other competitors to offset the impacts. The third and last criterion specified by the competition authority is the characteristics of the areas covered by the agreement, particularly their population density, given that in densely populated urban areas cost savings are less likely to be achieved.

The common position issued by BEREC offers guidance for national regulators on the criteria to be taken into account in the assessment of mobile network sharing agreements. *BEREC* [2019] identified numerous parameters that are relevant for the impact on competition and for the assessment of the efficiency arguments submitted by the parties; therefore, the common position provides useful guidance for competition authorities, too. Such factors include market share, the number of operators involved in the sharing, the technologies involved and the geographic scope and the time frame of the sharing.

BEREC finds that the impacts of sharing differ according to the depth of infrastructure integration. Passive sharing has little impact on competition in the market, while active sharing may significantly reduce infrastructure-based competition and the operators' incentive to engage in infrastructure development. Nevertheless, the feasibility of infrastructure-based competition depends very much on the geographical circumstances of the areas concerned. The promotion/protection of infrastructure-based competition is of paramount importance in areas of high population density as it incentivises investment, infrastructure and efficient competition. By contrast, in sparsely populated areas, stand-alone deployment can be very costly, and network sharing can help reduce the costs, leading to efficiency gains that noticeably benefit subscribers.

In general, according to BEREC, passive infrastructure sharing should be encouraged given that, in most cases, it creates only minor distortions of competition while offering significant efficiency gains (cost savings, faster deployment, greater coverage). As for active network sharing agreements, the impact of cooperation depends to a great extent on the specificities of the area and, therefore, on the feasibility of infrastructure-based competition. However, such cooperations have a greater impact on the market, with the specific benefits and drawbacks varying from case to case. According to BEREC, national roaming agreements give rise to most concerns, as they may limit investment incentives considerably. This means that long-term roaming agreements should be restricted to specific areas; for example, to areas where infrastructure-based competition is not a feasible option.

Conclusions based on case law

A general conclusion on network sharing agreements is that the more extensive the form of cooperation opted for by the parties, the more significant its unfavourable impact on the market. Yet, at the same time, the efficiency gains resulting from sharing also increase with the depth of asset integration; therefore, in the case of active network sharing the assessment of efficiency arguments plays an important role. Such arguments tend to centre around static arguments (related to costs savings) rather than around dynamic ones, and, as a rule, they are thoroughly analysed by competition authorities. As for active network sharing, the benefits are more likely to offset potential unfavourable impacts of the agreement in those typically sparsely populated areas where it would be expensive to deploy a parallel infrastructure in the *status quo*, and, in the absence of the cooperation, the parties would achieve less coverage and capacity.

CONCLUSION AND OUTLOOK

This study examined whether the efficiency gains resulting from integration can offset the unfavourable impacts of the reduction in competition caused by mergers and network sharing agreements. In the light of our analysis, it appears that arguments relating to static efficiency gains are not successful in merger cases, because the same gains can typically be achieved through network sharing and because in some cases there is no clear mechanism through which these efficiencies would lead to consumer benefits. However, in procedures launched to examine network sharing, such arguments can prove more convincing as far as offsetting the potential negative impacts are concerned. By contrast, dynamic efficiency arguments are more likely to justify a merger, but dynamic efficiencies are generally characterised by a high degree of uncertainty and, consequently, are difficult to verify and quantify. Therefore, the authorities typically ignore such arguments, should the parties submit any.

Overall, the Commission's doubts about efficiency arguments are justified, because, due to the specific characteristics of the industry, mergers are expected to exert a significant upward pressure on prices, while the realisation of efficiency gains is uncertain. In this context, the Commission is sending somewhat mixed messages to the market in an environment where, with the introduction of 5G, consolidation efforts and agreements on network sharing of different degrees are becoming increasingly important. The Commission, which (with the exception of the merger prohibited in the UK in 2016) was relatively permissive with regard to notified mergers e.g. in the German, Irish and Italian market, now appears to be taking a tough stance on the Czech network sharing agreement.

According to José Perdomo Lorenzo, CEO of T-Mobile Czech Republic, the Czech case may destabilise 5G investments which are of paramount importance for all European telecommunication operators (*Aranze* [2019]). However, it is most likely that the preliminary position of the Commission only serves to inform the market of the fact that (as BEREC presented in its position) network sharing can achieve more efficient market outcomes only in certain market environments, while in other cases the protection of infrastructure-based competition is seen as a priority.

Moreover, it is difficult to draw conclusions on the effects of 5G cooperations from relevant existing case law, because 5G is a fundamentally new technology, and the technical and other conditions for future network sharing are still unclear. In any case, it can be concluded that if operators aim to realise the efficiency gains deriving from cooperation, then they should keep in mind that the Commission and the European competition authorities are still more likely to approve network sharing than a merger, until new evidence emerges to substantiate that mergers promote innovation.

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COMPETITION LAW INTERVENTIONS BY THE EUROPEAN COMMISSION ON ENERGY MARKETS

This article examines the European Commission's competition interventions on energy markets between 2004 and 2019. We analyse antitrust and merger procedures according to the competition concerns investigated and the competition intervention applied. Antitrust investigations often focused on market foreclosure and market sharing; to address these concerns, the Commission frequently concluded cases with commitment decisions, applying both behavioural and structural remedies. In merger control, one merger was prohibited and remedies were applied in ten cases.

INTRODUCTION

This article reviews competition law procedures by the European Commission (hereafter Commission or European Commission) on energy markets concluded after May 1st, 2004 until the end of 2019, in which the European competition authority settled for some kind of intervention on the market.

We first examine the Commission's antitrust procedures related to anti-competitive agreements and dominance cases[1] and provide a detailed analysis of procedures that ended with infringement or commitment decisions. Next, we examine mergers where the Commission decided in favour of intervention, either through a prohibition or by applying remedies.

Our analysis aims to give a comprehensive overview of the competition concerns identified by the European Commission on energy markets and to show how the competition authority addressed these concerns. Accordingly, we examine antitrust and merger interventions based on the various competition concerns, types of intervention (structural or behavioural), remedies applied and, in selected cases, according to other procedural aspects related to geographic markets or the particularities of the market concerned.

[1] The term *antitrust* is used in a broad sense here, covering dominance cases, vertical and horizontal anti-competitive practices, including cartels.

RELEVANT CHARACTERISTICS OF ENERGY MARKETS

Energy markets have certain characteristics with a big impact on what theories of harm arise on these markets as well as which competition solutions can be applied when it comes to both merger and antitrust procedures.

During the initial period examined, the energy markets of European Union member states were typically highly concentrated. Also, these markets had a high degree of *vertical integration*, whereby services offered on competitive markets such as electricity production or retail trade are vertically linked to concentrated, often monopolistic (and regulated) activities such as electricity transmission or distribution. Production and distribution have not been adequately separated either when it comes to the natural gas or electricity markets. Furthermore, demand for electricity is highly inelastic, but fluctuating in time (on a seasonal basis, across the week and during the day). This, alongside the market's structural particularities (varying marginal costs of production technologies, strong capacity constraints), allows certain market players to achieve price increase through withholding capacities. Another interesting horizontal effect when it comes to mergers is the strong network effect whereby the electricity supplier in some regions may be the most credible competitor of the natural gas provider, and because the two products complement each other, their joint provision is efficient (*Talus* [2011]).

EU energy markets have undergone major changes in the last few decades.[2] Energy production and transmission, earlier dominated by national monopolies, have seen notable structural developments, paving the way for a single European energy market envisioned by the EU. *Ex ante* regulated markets have opened up for competition. Still, the transformation of energy markets is far from complete: the single energy market holds promise for further efficiency gains (see *e.g. Booz & Company* [2013]).

The competition sector inquiry into energy markets played an important role in the liberalization process. The Commission's report released in 2007 (*EC* [2007]) followed an investigation launched in 2005 that found key deficiencies such as high concentration, vertical integration, limited transparency and a low level of integration in the markets of member states. New competitors entering the market were impeded by low liquidity and extant long-term contracts, as well as the scarcity of balancing markets and limited access thereof (*Wäktare et al.* [2007]). Several competition proceedings examined below were closely linked to this sector inquiry.[3]

The conclusions of the sector inquiry contributed to the EU's third energy package adopted in 2009, which contained several new provisions regarding the elec-

[2] The start of changes is often linked to the adoption of the first energy market directive in 1996 (96/92/EC Directive).

[3] Even before the publication of the final report of the sectoral inquiry, several unannounced on-site inspections (dawn raids) were carried out in the energy sector. Such dawn raids were conducted for example in May 2006, among others, in the case of E.ON, ENI, Gaz de France or RWE.

tricity and natural gas markets (see *e.g. Vince* [2011], *Sütő* [2014]) – ownership unbundling in particular, i.e. the separation of production and transport/transmission[4] with a view to eliminating the adverse competition effects of vertical integration.[5]

OVERVIEW OF CASES EXAMINED

The current study examines European Commission competition law proceedings on energy markets completed after May 1, 2004. There are several reasons for choosing this starting date. Regulation 1/2003/EC (*European Council* [2003])[6] regulating antitrust procedure entered into force on this day, introducing also commitment decisions (which frequently featured in energy markets)[7] and the new Merger Regulation, Regulation 139/2004/EC (*European Council* [2004]) also came into effect that year.[8]

The European Commission has several tools to protect and promote competition. We focus on individual competition proceedings below. *Antitrust procedures* control the conduct of undertakings, focusing on potential abuse of dominance cases and anti-competitive agreements; *merger control* procedures aim to prevent the negative competition effects of structural changes in the market.

Sector inquiries represent another potential element in the competition toolbox in addition to individual proceedings. (As mentioned, such a sector inquiry was conducted between 2005 and 2007 in the energy sector.) Furthermore, advocacy work could also contribute to improving the markets where competition authorities like the European Commission's Directorate General for Competition (DG Comp) try to influence regulation for a pro-competitive outcome.

[4] For energy transmission, important market actors include the transmission system operator, TSO and the distribution system operator, DSO. Transmission system operator means a natural or legal person who is responsible for operating, ensuring the maintenance of and, if necessary, developing the transmission system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the transmission of electricity. Distribution system operator means a natural or legal person who is responsible for operating, ensuring the maintenance of and, if necessary, developing the distribution system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the distribution of electricity (*European Parliament and Council* [2009]).

[5] The third energy package allowed member states to fulfill the above goals in several ways, with a hierarchy among the options available. The most beneficial is ownership unbundling; second is the independent transmission system operator (where the ownership of the producers might remain), while the third option is the independent transmission system operator.

[6] The original text of Regulation 1/2003/EC still refers to Articles 81 and 82, because the changes in numbering were introduced by the Lisbon Treaty signed in December 2007.

[7] Regarding the practical experience related to the application of Regulation 1/2003/EC please see also *EC* [2014].

[8] Regulation 139/2004/EC of the Council replaced the earlier (first) merger regulation. A key part of the new regulation is the change in the substantive analysis from the dominance test to the significant impediment of effective competition *(SIEC)* test.

Antitrust procedures

During the period investigated, 16 antitrust procedures were concluded, eight of these in the electricity market and eight in the natural gas market (until the end of 2019). A large number of the proceedings were conducted shortly after the European Commission's energy sector inquiry between 2007 and 2010, while a further six procedures were carried out between 2013 and 2018.

The majority of antitrust procedures examined were *abuse of dominance cases*, and all, except for one, concluded with *commitments*. The application of commitment decisions means that the procedures concluded without a formal finding of infringement – the parties adjusted their behaviour based on the European Commission's preliminary competition concerns.[9] The Commission concluded these proceedings by making the (either structural or behavioural) commitments offered by the parties binding (*Nagy* [2012], *Bellis* [2016], *OECD* [2016]).

Besides the commitment decisions, two cartel investigations were carried out, and in one case – somewhat related to one of the cartel procedures – an abuse of a dominant position was established. In the following chapters, we present a detailed analysis of the competition concerns and the remedies applied to them. It is worth noting that in the first part of the examined period the procedures concentrated primarily on larger, western European member states, while procedures after 2013, with one exception, affected markets of member states that joined after 2004 *(Table 1).*

TABLE 1 • **Overview of examined antitrust procedures**

Electricity market procedures			Gas market procedures		
name of the procedure	geographical market	time of decision	name of the procedure	geographical market	time of decision
E.ON-wholesale	Germany	2008	Distrigaz	Belgium	2007
E.ON-balancing market	Germany	2008	E.ON–GdF-agreement	Germany, France	2009
EDF	France	2010	RWE	Germany	2009
			Gaz de France Suez	France	2009
			E.ON	Germany	2010
Svenska Kraftnät	Sweden, Denmark	2010	ENI	Italy	2010
CEZ	Czech Republic	2013			
Power exchanges	EU	2014			
Opcom	Romania	2014			
BEH	Bulgaria	2016			
TenneT	Germany, Denmark	2018	Gazprom	Central and Eastern Europe	2018

[9] Regarding the controversies related to commitments see for example *Italianer* [2013], *Marsden* [2013] and *Jenny* [2015].

Mergers

Regarding mergers in energy markets, the European Commission opted for some kind of intervention in 11 merger cases by the end of 2019.[10] Contrary to the antitrust procedures discussed above, only a small part of these mergers can be purely classified as either electricity or natural gas market mergers. The majority of procedures were conducted between 2004 and 2010, with one exception: the E.ON–INNOGY-MERGER (2019) inquiry which the Commission concluded in September 2019.[11]

Out of the examined cases, one *merger was prohibited,* while in a further ten cases *remedies* were applied (conditions and obligations were imposed). Besides the mergers with competition intervention, 300 other procedures launched by the Commission affected energy markets; these were usually cleared by the Commission in Phase I. For Phase II procedures (in complex cases),[12] remedies were imposed or the application was withdrawn.

In the first intervention case discussed here, the Commission issued a prohibition decision after a lengthy inquiry into the ENI–EDP–GDP-MERGER (2004).[13] From the earlier cases, three procedures were closed in Phase II.[14] These cases seem to have offered some guidance for the evaluation of later procedures as well as for market participants for structuring transactions. Accordingly, other procedures examined between 2004 and 2011 could be concluded in Phase I, even with remedies.

The E.ON–INNOGY-MERGER in 2019 – partly because of the complexity of the transaction – was cleared in Phase II.[15]

Regarding their geographical markets, merger cases give a more varied picture compared to antitrust procedures. *(Table 2)* One early case, a Phase II merger (E.ON–Mol), concerned the market of a new EU member state, Hungary, meaning

[10] The search engine on the website of the Commission, based on NACE codes, includes the case COMP/M.4141 (Linde/BOC merger) among natural gas mergers, which was also cleared with remedies. However, this merger concerned the market of industrial gas, thus, it is not discussed in this article.

[11] COMP/M. 8870 E.ON/Innogy. Having regard to the fact that the public version of the decision in this case was not published until the beginning of December 2019, we rely on publicly available information when presenting this merger, primarily on the press release issued by the Commission: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_5582.

[12] The European Commission must decide in a merger procedure within 25 (35) working days of the commencement of the procedure decision whether the concentration (potentially with the remedies offered) is compatible with the common market, or whether there is need for a complex procedure (where remedies could also be applied) (*European Council* [2004] Articles 6 and 8).

[13] The merger was assessed based on the earlier merger regulation (*EEC Council* [1989]).

[14] If a merger raises serious concerns in relation to its compatibility with the common market, the decision is made after a complex Phase II analysis. The deadline for this procedure is 90 working days, as opposed to the 25 working days deadline of Phase I procedures (extendable by 15 days).

[15] Parallel with the case COMP/M.8870 there was another procedure (COMP/M.8871), examining the other side of the asset exchange between the two groups – the acquisition of E.ON's production capacities by RWE. This latter procedure was cleared by the Commission without remedies.

TABLE 2 • **Overview of mergers examined**

Parties to the procedure	Geographical areas affected by competition problem	Year of the decision	Phase I/II
ENI–EDP–GDP	Portugal	2004	II (prohibition)
Total–Gaz de France	France (regional)	2004	I
E.ON–Mol	Hungary	2005	II
DONG–Elsam–Energi E2	Denmark	2006	II
Gaz de France–Suez	Belgium, France	2006	II
EDF–British Energy	Great Britain	2008	I
Vattenfall–Nuon Energy	Germany (local)	2009	I
RWE–Essent	Germany	2009	I
EDF–Segebel	Belgium	2009	I
GdF Suez–International Power	Belgium	2011	I
E.ON–Innogy	Germany, Czech Republic, Hungary	2019	II

that for mergers, the pattern seen in antitrust procedures (earlier cases tend to be in western European markets, later cases in new member states) does not apply.

From a procedural perspective, it is worth noting that the Belgian competition authority requested a (partial) referral in two cases (EDF–Segebel and GdF Suez–International Power) in relation to the effects on the Belgian market. In the former case, the Commission refused the request, while in the latter case the authority withdrew the request following the submission of a modified commitment by the parties.[16]

COMPETITION CONCERNS IN ANTITRUST CASES

The majority of the antitrust procedures reviewed here relate to *abuse of dominance;* accordingly, competition concerns mostly relate to abusive conduct. Given that many procedures were conducted during the liberalization process, these were *mostly exclusionary abuses*, and only in one case an *exploitative abuse* (excessive pricing) was investigated. The two cartel cases primarily focused on market sharing and segmentation of the internal market.

Competition concerns most frequently arose in relation to *market foreclosure*, where a dominant undertaking restricts competition on the market. Below we classify the typical examples of market foreclosures into the following categories: *long-term contracts*, *capacity management*, *import restriction*, *restriction of cross-border capacities*, and *resale restrictions*, acknowledging and indicating possible overlaps.

[16] See Commission Decision of 12.11.2009 rejecting the request of the competent authorities of Belgium asking for the partial referral of case No COMP/M.5549 – EDF/Segebel, and also item 10 of the decision in case COMP/M.5978 GdF/International Power.

Market sharing partly overlaps with foreclosure; however, we consider it to be a self-standing competition concern, especially when related to *partitioning the internal market along national borders*. In the examined cases, the Commission investigated market sharing primarily in the cases of restrictive agreements, resale restrictions, and restriction of cross-border capacities.

In one of the foreclosure cases, an exclusionary behaviour, *margin squeeze* was also scrutinized. Finally, in one case, using different reference prices, *excessive pricing* was also investigated; this procedure also featured other foreclosure and market-sharing behaviours.

Foreclosure

In the case of antitrust[17] procedures, competition concerns are most frequently related to foreclosure issues where a (generally) dominant undertaking engages in restrictive practices in order to foreclose access to a part of the market, thereby reserving it for itself or related undertakings. Foreclosure on the energy markets most frequently manifests itself in the restriction of access to distribution/transport grids; this is complemented by consumer and input foreclosure issues. This analysis presents some of the foreclosure cases.[18]

Market foreclosure concerns in energy markets commonly arise as a consequence of *long-term contracts* which presented a special challenge in the period of energy market liberalization. In Distrigaz (2007), the Commission concluded that in the Belgian natural gas market, due to long-term and large-scale contracts (see also *Svetiev* [2014]) concluded by Distrigaz, competitors could not compete for Distrigaz's customers. (Regarding exclusivity provisions in this case see also *Schweitzer–Bay* [2016].) The quantitative restrictions would prevent customers from switching, thereby limiting the scope of other gas suppliers to conclude contracts with customers. In the case of Electricité de France (EDF, 2010), the Commission concluded that the contractual clauses by the French electricity supplier EDF (taking into account their scope, duration and nature) significantly limited the possibilities of competitors to acquire EDF's customers. Moreover, these contracts contained explicit *exclusivity clauses*, or other provisions resulting in de facto exclusivity. In CEZ (2013), according to the preliminary competition concerns of the Commission, CEZ, the incumbent undertaking on the Czech electricity market, may have pursued a strategy of preventing new market entry by making pre-emptive reservations on the Czech electricity transmission system. Consequently, CEZ's competitors were

[17] *Table A1 of the Appendix* chronologically lists examined cases according to the number of the procedure, name of the procedure and the year of decision.

[18] Foreclosure cases could be differentiated whether they generally restrict access to the market, or the access to certain consumers or inputs. Accordingly there is market, consumer, or input foreclosure.

prevented from accessing the transmission network system even though CEZ had no intention of making use of these capacities.

A very detailed and extensive investigation into refusal to grant access to the gas transmission network featured in the ENI-case (2010) in respect of the Italian natural gas market (*Hjelmeng* [2013], *Botteman–Patsa* [2013]). Italy is a net gas importer, and when the inquiry got under way, 87 percent of domestic consumption came from imports. All relevant gas pipelines related to imports were fully or partially owned by ENI. The Commission concluded that ENI's infrastructure for importing gas should be considered as indispensable, since access to them was objectively necessary for competing in Italy's gas supply markets. With regard to the adverse market structure, the Commission's preliminary competition concerns suggested that ENI's complex conduct, including capacity management,[19] may be considered as refusal of access.

In the RWE-case (2009), according to the Commission's findings, the RWE transmission system operator (TSO) 'may have refused access to its network, and may have pursued a strategy according to which it tried to systematically keep the transport capacities on its own network for itself'. RWE booked almost all capacity on its transmission network on a long-term basis, making it almost impossible for competitors to access this network.

A special area of foreclosure cases are *import restrictions*. Below, we present cases in which import restrictions played an important role in the theory of harm of the Commission.

In the GdF Suez-case (2009), the subsidiary of GdF Suez, GRTgaz, owned and operated all the important entry points on the French natural gas market. The Commission objected to GdF Suez's protracted foreclosure of access to gas import capacity in the GRTgaz network through its reservation of French import capacities over the long term. In some cases the refusal to access was explicit – though more often implicit – when these capacities were sold in an insufficiently transparent manner. The aforementioned conduct by ENI relating to capacity management had similar effects to the GdF Suez case.

Similar conduct was investigated in respect of E.ON (2008) on various electricity markets. Here, the investigation found that the system operator (E.ON), being also responsible for balancing markets, had prevented producers from other member states from exporting electricity into the E.ON balancing market, in order to reserve these for German generation capacities (and in particular, for its own capacities).

[19] The first element of refusal of access was capacity hoarding, where ENI prevented other service providers from using existing and unused capacities, often communicating lower capacities than available to restrict competition. The second element is capacity degradation: ENI providing access to its network with unfavorable conditions, such as deferred or short-term access. And finally, the third element is strategic underinvestment: despite significant and genuine demand, ENI did expand capacities, thereby restricting competition on the downstream market for natural gas supply.

Market sharing

Segmentation of the internal market was the key competition concern in respect of two cartel proceedings. In the case of E.ON–GdF-agreement (2009), the Commission found that the non-compete clauses in the agreement divided the market when it came to the import of Russian natural gas. In the power exchanges procedure (2014), the Commission investigated a restrictive agreement between French-German company EPEX Spot and a company owned by Scandinavian and Baltic enterprises, Nordpool Spot (NPS), where the parties also divided their current and future European markets among themselves. According to the agreement, countries north of Poland belonged to the interest sphere of NPS, while countries to the south of it belonged to the sphere of EPEX.

Internal market segmentation was also investigated in a case featuring Romanian power exchange operator Opcom (2014), where Opcom required a Romanian VAT identification number to get access to spot transactions at the power exchange. Thus, foreign traders from the European Union had to have two active VAT identification numbers on Opcom's trading platforms, while for Romanian traders one such number was sufficient. The Commission concluded that this behaviour, discrimination based on nationality/place of establishment, amounted to an abuse of dominance by Opcom.

The Commission also investigated internal market segmentation in several dominance cases, some related to interconnectors, others to resale restrictions. Cross-border interconnectors play an important role in the functioning of the single market by connecting markets in different member states.[20] In the Svenska Kraftnät-case (2010), the system operator of Swedish interconnectors, Svenska Kraftnät, restricted the export capacity of Swedish interconnectors, thereby discriminating between different (typically Danish and German) network users and segmenting the internal market (*Sadowska-Williams* [2013]). Similar issues were examined in the TenneT-case (2018), where the Commission had concerns that the operator of Danish-German interconnector TenneT restricted interconnector capacity, especially during periods when wind energy production on the German market was high, thereby placing Danish energy producers at a disadvantage, while resulting in higher prices on the German electricity wholesale market and higher end-user prices.

Destination clauses and *resale restrictions* can also lead to foreclosure or the segmentation of the internal market. In the BEH-case (2016), according to Commission's preliminary assessment, Bulgarian Energy Holding (BEH) abused its

[20] Interconnector is a transmission line which spans over two countries border, and connects national transmission grids. The allocation of cross border capacities is the task of national transmission system operators, which typically cooperate in the allocation of the capacities on the two sides of the border.

dominant position on the free wholesale market for the supply of electricity in Bulgaria by entering destination clauses into contracts for the wholesale supply of electricity with freely negotiated prices.[21] These clauses stipulated where the electricity should be used and where it can be resold. The Commission found similar concerns (among others) in the Gazprom-case (2018). In several cases, Gazprom contracts contained *direct re-export bans*, while in other instances they contained *take-or-pay* provisions that gave Gazprom the right to increase annual minimum capacity when it came to re-exports, thereby hindering the profitability of re-export operations.[22] This was a clear example of dividing the internal market along member states' borders in the case of several central and eastern European countries.

Other competition restrictions – margin squeeze and excessive prices

In the RWE-case (2009), further competition concerns, besides the refusal of access, related to *margin squeeze*. According to the theory of harm, the vertically integrated RWE on the upstream natural gas transmission market probably set network access fees sufficiently high to discourage competitors from entering the downstream market. RWE paid lower fees for the use of the network and could also take advantage of several other benefits.[23]

In the Gazprom-case (2018), in addition to market-sharing practices, the Commission also established in its preliminary competition concerns that in five member states (Estonia, Latvia, Lithuania, Poland, Bulgaria) Gazprom charged *excessive prices*. In this regard, the Commission compared prices to Gazprom's expenses as well as to prices on other competing markets. Regarding expenses, a 170 percent profit margin was established by the Commission, while compared with the German natural gas market, a 9-24 percent surplus was established. Table 3 provides an overview of antitrust procedures on the various energy markets.

[21] Electricity supply in Bulgaria is provided in a hybrid system, where some transactions are completed based on regulated prices, and others on a free market. In the regulated market, four providers supply electricity to small customers, while in the wholesale market the only supplier is NEK, the subsidiary of BEH. Free market trade is possible both for small customers and for large customers; this represented 43.4% of the Bulgarian consumption in 2014, when the above procedure started.

[22] Further indirect tools were the control of some measuring locations (Bulgaria), or the refusal of natural gas transmission to alternative points of transfer (Poland).

[23] Regarding competition concerns see COMP/B-1/39.402 – RWE foreclosure of natural gas market case items (22)–(37).

TABLE 3 • **Competition concerns in antitrust procedures on energy markets**

Competition issue	Examples for relevant procedures
Foreclosure	
Long-term contracts	Distrigaz (2007), EDF (2010), CEZ (2013)
Capacity management	ENI (2010)
Import restrictions	GdF Suez (2009), ENI (2010), E.ON wholesale (2008)
Division of the internal market (and foreclosure)	
Non-competition clauses, market sharing	E.ON–GdF-agreement (2009) Power exchanges agreement (2014)
Discrimination based on establishment	Opcom Romania (2014)
Cross-border capacities	Svenska Kraftnät (2010), TenneT (2018)
Resale restrictions	BEH (2016), Gazprom (2018)
Margin squeeze	RWE (2009)
Excessive pricing	Gazprom 2018)

Note: Table A1 of the Appendix chronologically summarizes the antitrust procedures examined here.

COMPETITION CONCERNS IN MERGER CASES

Concentrations can be classified according to whether participants carry out their activities on the same relevant market or on different markets.[24] The former are called *horizontal*, the latter *non-horizontal, mergers* (*EC* [2004]). Non-horizontal concentrations can be further classified into vertical and conglomerate mergers (*EC* [2008*a*]).[25]

Both horizontal and non-horizontal mergers can be sub-divided based on the implications they have to the relevant market. Effects can be either non-coordinated (also called unilateral) or coordinated.

Given the specificities of the energy markets presented above, five of the mergers below can be considered "hybrid" cases mainly because the natural gas and electricity markets are closely related: here, the Commission investigated *both* the (potential) horizontal and non-horizontal relations of the merging parties.[26] Four intervention cases are clearly horizontal mergers, while two cases are vertical. Below we present these cases based on the competition concerns raised by them.[27] (For the analysis of certain cases see also *Federico* [2011].)

[24] *Appendix Table A2* chronologically summarizes examined merger cases according to the number of the procedure, name of the procedure and the year of decision.

[25] Shortly after the publication of the Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, the European Commission issued its new guidelines on the assessment of horizontal mergers (*EC* [2004] – horizontal guidelines). The guidelines on non-horizontal mergers were published four years later, following several decisions examined in this article (*EC* [2008*a*] – non-horizontal guidelines).

[26] Section 7, footnote 6 of the non-horizontal guidelines (*EC* [2008*a*]) refers to this, mentioning Case/COMP/M.3440 – EDP/ENI/GDP as an example.

[27] Given that substantive vertical coordinative or conglomerate effects were not raised, we do not discuss theories of harms related to these.

Unilateral horizontal effects of concentrations

When it comes to horizontal concentrations, there are two ways for horizontal unilateral (non-coordinated) effects to take place. The primary effect of the merger will be the loss of competition between the merging firms. A secondary effect is that non-merging firms in the same market can also benefit from the reduction of competitive pressure resulting from the merger, since the merging firms' price increase may switch some demand to the rival firms, which, in turn, may find it profitable to increase their prices. The reduction in these competitive constraints can result in a price increase in the relevant market (*EC* [2004]).

The cases examined below featured the following horizontal unilateral competition effects: 1) loss of actual or potential competitors 2) increased ability to withhold capacity (hence increasing profits) 3) hindering the expansion of competitors.

1. Loss of actual and/or potential competitor(s)

An obvious unilateral effect of a horizontal concentration is the loss of competition because of the disappearance of actual and/or potential competitor(s). Accordingly, this concern was frequently featured in these cases. The ENI–EDP–GDP-case (2004) concluded with a prohibition decision; here, the Commission investigated the proposed joint acquisition of control over the incumbent company in the Portuguese natural gas market (Gás de Portugal, GDP) by Energias de Portugal (EDP), the incumbent electricity provider in Portugal, and ENI, an Italian energy company. One of the Commission's concerns was that as a result of the merger, a potential competitive constraint on the Portuguese natural gas wholesale market exercised by EDP would be removed. On the other hand, the Commission was also concerned about the removal of the potential competition constraint exercised by GDP on EDP (which was the incumbent provider on the electricity generation market), as GDP was a potential market entrant as a builder of CCGT[28] power plants.[29] (For more details see *Conte et al.* [2005].)

In the Gaz de France–Suez-case (2006), the Commission objected to the strengthened dominant position of the parties on both countries' markets because of the high entry barriers on the Belgian and French natural gas wholesale markets and on the Belgian electricity generation and wholesale markets.[30] Competition

[28] Combined cycle gas turbine (CCGT).

[29] Furthermore, the concentration would have resulted in the reduction of actual competition on the natural gas retail market (having regard to EDP's market presence in one of the distribution network areas), and it would have caused a potential loss of competition on the electricity retail market (given the potential market entry of GDP). The Commission attributed the horizontal effects to the fact that the most likely and effective market entrant to the other product's market would have been the incumbent company of the natural gas wholesale market and the electricity wholesale market, respectively, especially taking into consideration that the consumer base was given for both companies, and the entry would also have enabled bundled offers (dual fuel).

[30] Companies belonging to the Gaz de France–Suez-group put increasing competition pressure on each other before the transaction. In Belgium, the new entrant Gaz de France (GDF) through its

concerns were also raised regarding the French district heating market, where the largest player was Suez, and the second largest was GDF. (For more details see *Bachour et al.* [2007].)

In the DONG–Elsam–Energi E2-case (2006) the two largest Danish electricity producers (Elsam and E2) were actual and/or potential competitors of the Danish state-owned natural gas company (DONG) on the Danish natural gas wholesale market, so their disappearance from the market would have resulted in a substantial loss of competition. Furthermore, the Commission also considered Elsam and E2 as (potential) competitors in the retail markets for the supply of natural gas to large industrial customers as well as to households and small businesses. (For further details see *Bengtsson et. al.* [2006].)

In the Vattenfall–Nuon-merger (2009), the Commission identified harmful competition effects only on the local markets of Hamburg and Berlin, where Vattenfall held an incumbent position (with a 70-90 percent market share) on the retail electricity market for households, and Nuon was a significant entrant – although it was only able to gain less than a 10 percent market share. (For further details see *Lo Nardo et al.* [2005].)

In the RWE–Essent-case (2009), the Commission identified horizontal unilateral effects on the German wholesale electricity markets. Essent had a controlling stake in a local utility provider (Stadtwerke Bremen AG, swb), which was primarily active on the German electricity wholesale market through its coal power plants, where RWE held a joint dominant position with E.ON.[31] The transaction would have resulted in a significant competitor disappearing from the market, thus strengthening RWE's (joint) dominant position. Furthermore, the notified transaction would have led to horizontal unilateral effects in Bielefeld, which belonged to the distribution zone of RWE, and where on the low calorific gas (L-Gas) supply market of industrial large consumers the only competitor of RWE before the transaction was Stadtwerke Bremen. (For further details see *Driessen-Reilly et al.* [2009*b*].)

subsidiary SPE, which was jointly controlled by GDF and Centrica, generated actual competition on the natural gas wholesale market with Distrigaz, which was Suez's natural gas market incumbent subsidiary. Furthermore, SPE was the most important competitor of Electrabel, Suez's incumbent subsidiary on electricity markets (it was also present to a lesser extent on natural gas markets). On the French natural gas wholesale markets, Distrigaz put the most competition pressure on the incumbent Gaz de France before the transaction. At the time of the transaction, SPE was under the joint control of Gaz de France and Centrica, and it was the second largest market player on both electricity and natural gas markets in Belgium.

[31] The parties had joint dominant position based on the consistent practice of the federal competition authority (Bundeskartellamt), to which the Commission also referred in its decision. RWE and E.ON together held 30 to 40 percent of the installed power plant capacity, together with Vattenfall and EnBW it was even 50-60 percent. The four incumbent companies controlled all of the baseload generation and provided two-third of the total electricity production in Germany. See section 237 of decision in Case/COMP/M.5467 RWE–Essent (https://ec.europa.eu/competition/mergers/cases/decisions/m5467_20090623_20212_en.pdf).

In the EDF–Segebel-case (2009), the Commission expected that, as a result of the transaction, a significant potential entrant, France's EDF, would have been less motivated to enter the Belgian electricity wholesale market via the development of new production capacities. Before the transaction, EDF planned to build two plants which would have accounted for 10 percent of Belgian production capacities. Segebel was a holding company which among its interests held a 51 percent stakes in SPE, a company active on the Belgian electricity wholesale market. (For details see *Asbo et al.* [2010].)

In the GDF Suez/International Power-case (2011), the Commission identified competition concerns on the Belgian electricity generation and wholesale markets. GDF Suez was a dominant player on the Belgian electricity market, while International Power had stakes in the T-Power gas power plant, whose production capacities (0-5 percent of the Belgian capacities) were committed to RWE in a long-term contract.[32] Furthermore, International Power had an operation and maintenance contract with T-Power. The theory of harm suggested that after the transaction, International Power's share in T-Power would have made it possible for GDF Suez to use sensitive information related to the operation of T-Power (natural gas purchase, patterns of electricity production, maintenance schedules, etc.) in its business decisions-making related to its own power plants. Ultimately, these would have made it possible for GDF Suez to raise prices, while also putting its competitor, RWE, at a competitive disadvantage. (See *Gatti* [2011].)

In the E.ON–Innogy-case (2019), the Commission found that the merger would significantly reduce competition on the German market for the supply of electricity for heating purposes, as the parties were the largest players on the supply side before the transaction, while smaller firms typically faced significant entry/expansion barriers. The parties had a strong position on the Czech markets for the retail supply of natural gas and the retail electricity supply to households and small businesses, as well as on the Hungarian market for the retail supply of electricity to unregulated businesses, and they were at the same time close competitors. Thus the transaction in its original form would have resulted in the loss of competitive pressure on each other. Similar effects could be expected in respect of electric charging stations on German highways, as only a few market players operate (or plan to operate) these, and in several instances the charging stations of the parties were situated in close proximity.

2. Capacity withholding

In the EdF–British Energy-case[33] (2008), the Commission identified horizontal unilateral effects in the British electricity generation and wholesale market. Before the merger, the capacities of British Energy were based on baseload (primarily nu-

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[32] Before the transaction, T-Power was a full-function joint venture under the joint control of Tessenderlo (33.3%), Siemens (33.3%) and International Power (33.3%).

[33] COMP/M.5224 EdF/British Energy (https://ec.europa.eu/competition/mergers/cases/decisions/m5224_20081222_20212_en.pdf).

clear) power plants, while Electricité de France (EdF) had a more flexible generation portfolio, with coal and natural gas-fired power plants. The Commission was of the opinion that the merged entity would have an incentive to withdraw part of its baseload capacities in order to increase the market price of its infra-marginal production units (situated on the *merit order* curve representing short-term supply on the left from the intersection point with the short-term supply curve).[34] The Commission found the potential effect significant, despite the fact that the merging parties' cumulative market share on the generation and wholesale market was less than 30 percent, and the market was not concentrated (HHI was under 1000[35]). (For further details see *Driessen-Reilly et al.* [2009*a*].)

A similar theory of harm was formulated in the RWE–Essent-case (2009), where RWE would have had greater incentives to withhold its electricity production capacities and thus increase prices following the transaction in which its capacities were extended with Essent's coal-fired power plants.

3. Hindering the expansion of competitors

In the EdF–British Energy-case (2008), the Commission expected an increased concentration in the ownership of sites suitable for new nuclear plants as a consequence of the merger. Furthermore, the parties were expected to hold significantly more (limited) connection rights to the electricity transmission network than necessary to realize their capacity expansion plans. Based on this, the parties would have been able to prevent, or at least delay, potential entry into the electricity production market.

Horizontal coordinated effects of concentrations

There is only one case in this sample where horizontal coordinated effects were considered, the RWE–Essent-merger (2009). Although the Commission primarily focused on horizontal unilateral effects, the reference to a joint dominant position in this decision implies that the Commission also found coordinated effects potentially problematic. However, the decision did not analyse the potential coordinated effects in detail.

[34] The merit order curve can be created in the way that we assign to the marginal costs (short-term variable costs) of different production units the production capacities of these units, and then arrange them in an ascending order of the costs. Baseload production capacities are at the beginning of the curve, while gas-fired power plants are at the end. For the explanation on the curve and capacity withholding see for example the article of *Chauve et al.* [2009] related to the aforementioned *E.ON* (2008) antitrust procedure (COMP/39388).

[35] Herfindahl–Hirschman-index (HHI) is used for measuring market concentration. HHI is the sum of the square of the market shares of the market participants, and it can be between 0 and 10 000. Markets with value under 1000 are not considered concentrated.

Vertical effects of concentrations

Within non-horizontal concentrations, the most typical unilateral effect of a vertical merger is *market foreclosure*. Foreclosure may happen where the merger is likely to raise the costs of downstream rivals by restricting their access to an important input (input foreclosure), or where the merger is likely to foreclose upstream rivals by restricting their access to a sufficient customer base (customer foreclosure) (*EC* [2008*a*] sections 29–30).

Of the cases examined here, some form of input foreclosure was a concern in five cases, while customer foreclosure arose in three cases.

Input foreclosure on energy markets may arise between different levels of the vertical chain if there is no (full) ownership unbundling. This implies that adverse non-horizontal effects may arise if monopolistic activities (e.g. transmission on electricity markets or transportation and storage on natural gas markets) and competitive market activities (e.g. electricity generation or natural gas retail) end up owned by the same company. Even with effective price regulation of monopolistic activities, this may result in a situation whereby the merged entity has the incentive to restrict competition by the degradation of the quality of services provided to downstream competitors.

Competition concerns regarding the lack of ownership unbundling were raised in several cases such as the ENI-EDP-GDP prohibition case and the E.ON-Mol, DONG-Elsam-Energi E2 and Gaz de France-Suez cases approved in Phase II with remedies, furthermore in the Total-Gaz de France, which was approved in Phase I.

In the ENI–EDP–GDP-case (2004), before the transaction, GDP was present on every level of the natural gas market vertical chain (import, storage, transportation, distribution, wholesale), and the transaction would further strengthen this position somewhat. In the Gaz de France–Suez-case (2009), Suez had a very similar position on the Belgian natural gas market.

In the E.ON–Mol-case (2005), after acquiring Mol's natural gas supply contracts and storage capacities, E.ON would have been present in the whole vertical chain of the natural gas market, except for natural gas transmission and domestic production. The resulting input foreclosure concerns would have been further enhanced by the transactional arrangements of the parties, according to which Mol would have kept a 25 percent minority shareholding in its subsidiaries in the natural gas wholesale market and storage. Therefore, Mol would have had an incentive to discriminate against E.ON's competitors in accessing its transmission and storage infrastructure, taking into consideration the remaining structural relationship of the parties. (For further details see *Bartók et al.* [2006].)

In the DONG–Elsam–Energi E2-merger (2006), the competition concern was related to DONG's pre-existing dominant position on the natural gas storage market, which is considered to be the most important factor in ensuring flexibility for natural gas producers. Before the merger, Elsam and ENERGI E2 could provide flexibility for natural gas producers both seasonally and in the short term, due to the easy controllability of their CCGT power plants. Thus, they could exercise a certain competition constraint on DONG's storage operations, which would have disappeared as a result of the merger.

In the Total–Gaz de France-case (2004), Total would have had a strong market share after the acquisition of Gaz du Sud Ouest (GSO) from GDF on the retail natural gas market for eligible customers in southwestern France.[36] In addition, Total would also be in a dominant position in the markets for natural gas transmission and storage.

Furthermore, *input foreclosure* may also arise in cases where the merged entity disposes with non-network inputs if, say, the merged entity is active both in the wholesale of natural gas as well as on downstream markets where natural gas can be used as an input (e.g. in natural gas retail or electricity production). In these cases, a vertically integrated supplier may have the incentive to raise the price of the input of the downstream market in order to put its subsidiary into a better position in downstream competition. This kind of input foreclosure theory of harm arose in the *ENI–EDP–GDP*, *E.ON–Mol* and *Gaz de France–Suez* cases.[37]

In the E.ON–Mol-case (2005), the merged entity would have been vertically integrated both on the natural gas wholesale and retail markets, as well as the markets of electricity generation, wholesale and retail. Thus the merged entity would have had the ability and incentive to foreclose its actual and potential competitors from the natural gas retail market and the electricity generation and wholesale markets because the competitors would have been dependent on E.ON when purchasing natural gas. A similar concern was also present in the ENI–EDP–GDP-merger (2004), where after the merger actual (and potential) competitors operating natural gas-fired power plants could have purchased natural gas only from their competitor, the merged entity. The same competition issue also arose in the Gaz de France–Suez-case (2006), related to the purchase of natural gas by Belgian electricity market players.

[36] Eligible customers can form an independent market. According to the regulation, these customers purchase electricity from the liberalized (competitive) market and not through public utility contracts.

[37] *Federico* [2011] has an interesting discussion on the complex relationship of horizontal unilateral effects and this method of input foreclosure. By increasing input costs of price determining electricity production units of the merit order curve (CCGT power plants), thereby foregoing profit on the natural gas wholesale market because of the lost sales resulting from the price increase of the natural gas, the merged entity can still generate profit on the electricity generation market from the increased price of its electricity production units. According to the author, this is a similar behaviour to the situation when the merged entity withholds its capacities to achieve higher profits through its infra-marginal production units. Hence, the two strategies can substitute each other to some extent, thus, according to Federico, related horizontal and vertical effects should not be evaluated cumulatively. If one of the strategies (for example, input foreclosure) is especially strong, then the other will be typically weaker. (According to Federico, cumulative evaluation should be treated in the same way also in relation to the customer foreclosure theory of harm.)

TABLE 4 • **Competition issues in merger cases on energy markets**

Investigated competition issues/procedures	Relevant markets
HORIZONTAL UNILATERAL EFFECTS	
Loss of actual competitor	
GdF–Suez	Belgian and French natural gas wholesale Belgian electricity generation and wholesale
Vattenfall–Nuon	Hamburg and Berlin electricity retail
RWE–Essent	German electricity wholesale
EDF–Segebel	Belgian electricity wholesale
E.ON–Innogy	German electricity supply for heating purposes Czech natural gas retail Certain segments of Czech and Hungarian electricity retail
Loss of potential competitor	
ENI–EDP–GDP	Portuguese natural gas wholesale Portuguese electricity generation and wholesale
DONG–Elsam–Energi 2	Danish natural gas wholesale
GDF Suez–International Power	Belgian electricity generation and wholesale
Capacity withholding	
EDF–British Energy	British electricity generation and wholesale
RWE–Essent	German electricity generation and wholesale
Hindering expansion of competitors	
EDF–British Energy	market of British sites suitable for building nuclear power plants market of electricity grid access connection points
HORIZONTAL COORDINATIVE EFFECTS (ONLY IN THEORY)	
RWE–Essent	German electricity generation and wholesale
VERTICAL EFFECTS	
Input foreclosure	
ENI–EDP–GDP	Portuguese natural gas transportation and storage Supply of Portuguese power plants with natural gas
E.ON–Mol	Hungarian natural gas transportation and storage Supply of Hungarian power plants with natural gas
DONG–Elsam–Energi E2	Danish natural gas storage and flexibility market
Gaz de France–Suez	Belgian natural gas transportation and storage Supply of Belgian power plants with natural gas
Total–Gaz de France	French regional natural gas transportation and storage
Customer foreclosure	
ENI–EDP–GDP	Portuguese natural gas wholesale
DONG–Elsam–Energi E2	Danish natural gas wholesale
RWE–Essent	Regional supply of low calorific value natural gas (wholesale)
OTHER VERTICAL EFFECTS	
EDF–British Energy	British electricity wholesale (decrease of liquidity)

Notes: Table A2 of the Appendix chronologically summarizes examined concentration cases.

Customer foreclosure, as a theory of harm, states that the merged entity can prevent upstream market entrants from accessing competing downstream market customers, with a possible deterrent effect on market entry or a foreclosure effect on actual upstream competitors through raising barriers to entry. Concerns related to customer foreclosure were raised in the *ENI–EDP–GDP*, *DONG–Elsam–Energi E2* and *RWE–Essent* cases.[38]

Concentrations also can have *other vertical unilateral effects*. The Commission investigated one of these: a rather novel, vertical unilateral theory of harm in the *EdF–British Energy* merger. The notified merger, according to the analysis, could have led to a fall in liquidity on the electricity wholesale market. British Energy was in a "long" position on the generation and wholesale markets, as it produced more electricity as a vertically integrated company than it sold to end customers on retail markets. The opposite was true for EdF, which acquired some electricity on wholesale markets, which it then sold on retail markets to end customers. The Commission found that the merged entity would have had the ability and incentive to internalize the sales that earlier went through wholesale markets, thereby (not necessarily intentionally) decreasing liquidity of the market, which would in turn raise prices on wholesale markets, thus raising entry barriers on wholesale and/or retail markets. *Table 4* gives an overview of the merger cases on energy markets.

COMPETITION INTERVENTIONS IN ANTITRUST PROCEDURES

Antitrust procedures by competition authorities generally seldom result in *structural interventions*. The European Commission adopted only one infringement decision in antitrust proceedings where a structural measure was applied.[39] *Commitment* decisions, on the other hand, featured structural or access measures in about half (about 20 cases) of the procedures (*Wils* [2015]).

[38] In the ENI–EDP–GDP-case, the natural gas demand of Portgas (a company belonging to EDP), that was earlier satisfied from the competitive market would have been satisfied by the new merged entity as the result of the merger, thus, foreclosing the players of the natural gas wholesale market. The Commission identified a similar effect in respect of the Danish markets: following the merger, ELSAM and ENERGIE E2's CCGT plants would have been supplied by DONG, an incumbent company in the natural gas market. In the RWE-Essent case, following the merger, Stadtwerke Bremen would have purchased the low-calorie natural gas from RWE.

[39] A structural measure was applied in the procedure against the Austrian Altstoff Recycling Austria (ARA) in 2016. ARA was collecting household packaging waste for recycling, and its unique waste collecting infrastructure was indispensable for other competitors to compete on this market. ARA was fined for setting unfair conditions, and the Commission obliged ARA (based on the suggestion of ARA) to divest part of the household waste collecting infrastructure. [AT.39759 – ARA Foreclosure case OJ (2016) C 432/6. – https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2016:432:FULL&from=ET].

Structural measures are frequently applied in energy markets: both divestitures and other structural measures were applied in several of the procedures below (*Tóth* [2016]). In addition to structural interventions, several behavioural measures were taken, and in three cases prohibition decisions with fines were adopted.

Divestitures

In a divestiture process, an undertaking or part of an undertaking is sold to an independent buyer with the aim of creating a new competitor or strengthening existing competitors (*EC* [2008*b*] point 63). Divestitures are clearly considered the preferred solution by competition authorities in merger cases, when the authority reacts to a structural change in the market with a structural measure – the application of divestitures in antitrust procedures is rather infrequent.

Several divestitures have been applied in energy-related antitrust procedures, enhancing competition in various ways (*Hjelmeng* [2013]). A common type of divestiture is the unbundling of production and transmission capacities, preventing the leverage of dominance from one submarket to another. Further divestiture of certain production or transmission capacities in a given submarket is also featured in several cases. In commitment decisions, the *unbundling of production and transmission capacities* was first applied in the E.ON-procedure (2008). In this case, E.ON, seeking to remedy the competition concerns related to electricity balancing capacities, agreed to the divestiture of the electricity transmission network (the sale of its high-voltage grid) to a new independent buyer. As a consequence of this decision, E.ON was no longer able to favour its own production units during the allocation of balancing capacities.[40]

Another example of the unbundling of transmission and production capacities is the *RWE*-procedure (2009), in which the Commission established a likely dominant position by RWE both in the market of high-pressure transmission (upstream) and the regional distribution (downstream) market. In order to address the competition concerns, RWE agreed to divest the entire gas transmission network *(Thyssengas).* RWE also committed to making support services available for the buyer and to providing the experts necessary to operate the business.

In the aforementioned E.ON-procedure (2008), production capacities were also divested when a part of E.ON's electricity producing capacities (5,000 MW power plants) were divested to independent buyers. A similar divestiture happened in the procedure against the incumbent operator of the Czech electricity market, České Energetické Závody (CEZ) (2013). CEZ – similarly to E.ON – committed to selling one of its power plants (or a combination of its power plants with about 800-1000 megawatt capacity), to an eligible buyer approved by the Commission.

[40] As a supplement to the above commitments, E.ON also undertook not to re-acquire divested transmission or production capacities for the next ten years.

In the ENI-case (2010) *transmission capacities were divested*; here the Commission tried to address concerns arising from ENI's dominant position on the Italian wholesale natural gas market. The company agreed to divest its share of the most important import pipelines (TAG, TENP and Transitgas) in favour of an independent buyer.[41] ENI also committed not to extend or renew its transmission contracts from the time of the decision until the closure of the divestiture process, and not to enter into new transmission contracts which would serve its own interests as a supplier on the aforementioned pipelines (*Sadowska* [2011]). This measure covered such a significant part of ENI's import capacities that it can be even considered an unbundling of production and transmission capacities.

Other structural measures

In addition to divestitures, the Commission took several additional pro-competitive measures which had an effect on the market's structure. Some examples of these include the creation of new bidding zones, the extension of interconnector capacities, and the creation of the Bulgarian power exchange.

The aim of the *creation of new bidding zones* is to foster more flexible and market-oriented electricity supply and prices. In the Svenska Kraftnät-case (2010), the operator of the Swedish electricity transmission grid (both a public authority and an undertaking in this market) restricted the export capacity of Swedish interconnectors. Svenska agreed to perform considerable developments in the market: it subdivided the Swedish transmission system into bidding zones, and, further to their implementation, agreed to manage congestion in the Swedish transmission system without limiting trading capacity on interconnectors.[42] This led to improvements such that prices were based on a more balanced demand-supply relationship, allowing greater flexibility in electricity supply, thereby avoiding artificial restrictions of cross-border capacities. Where there was insufficient capacity for the operation of these bidding zones in the Swedish network, a new transmission line was created.[43]

[41] The pipeline TAG was actually sold to an entity which is under direct or indirect control of the Italian state. (The buyer was Cassa Depositi e Prestiti, an investment bank, in which the Italian Ministry of Economy has 83 percent ownership.)

[42] Electricity within Sweden typically flows from north to south, as the majority of production capacities are in the north of the country, while the majority of consumers are in the south. During the examined period, the transmission grid of the country had four bottlenecks, where congestion was common. The Swedish system operator, in order to avoid (increased) congestions within the country, restricted exports, thus keeping the price of electricity lower in the country.

[43] It is also interesting that one observation received during market testing highlighted that in the southern part of Sweden prices will actually increase as a consequence of the commitment decision. The Commission found this consequence acceptable in order to end discrimination between Swedish and non-Swedish consumers.

Eight years after the procedure described below, focusing on Swedish-Danish interconnectors, a somewhat similar procedure was conducted regarding the Danish-German interconnectors in the TenneT-case (2018). TenneT, a large German system operator, also committed to making maximum capacity available at the Danish-German interconnection points and to gradually increasing these capacities until 2026.

In the BEH-case (2016) (Bulgarian Energy Holding (BEH) the former state oil and gas company's successor), the Commission identified several competition concerns.[44] The key commitment BEH undertook was to create and operate a power exchange in Bulgaria, where market participants could buy and sell electricity products on an hourly basis for delivery next day. It agreed to do so within three months of the decision.[45] The Bulgarian Energy Holding also agreed to provide liquidity for the operation of the exchange and to transfer ownership within six months of the decision.

Behavioural measures

Together with divestitures and other structural measures, competition intervention measures often contain provisions on the future behaviour of the parties. These behavioural measures by the competition authority usually directly target the conduct that led to a competition concern.

In the Distrigaz-case (2007), the intervention *limited the volume and duration of contracts*. Distrigaz offered commitments stipulating that for each calendar year, on average 70 percent of the gas volumes it supplied to industrial users and electricity producers in Belgium would return to the market under market terms. Contracts with industrial consumers and electricity producers would be concluded for a maximum of five years. In addition, Distrigaz undertook not to conclude any gas supply agreements with its resellers for a duration exceeding two years, and not to include usage restriction clauses in the contracts.

In the EDF-case (2010), French electricity provider Electricité de France also agreed *not to conclude contracts for a duration longer than five years*, and that it would conclude only non-exclusive contracts, allowing consumers to buy electricity from other providers. To avoid any concerns on foreclosure, EDF also agreed to make at least 65 percent of the electricity supplied to large industrial customers available to alternative providers under market terms,[46] and to terminate any re-sale restrictions.[47]

[44] According to preliminary competition concerns of the Commission, subsidiaries controlled by BEH generally included 'destination clauses' in the contracts during electricity tenders.

[45] The power exchange was in the beginning operated by the subsidiary of BEH together with Nord-Pool Spot.

[46] The 65 percent provision is valid for the whole duration of the commitment, while in each calendar year at least 60 percent should be made available for alternative providers.

[47] The duration of commitments was for ten years, both regarding the contracts and re-sale restrictions; commitments regarding contracts were applicable only in the case EDF's market share does not fall below 40 percent in two consecutive years.

TABLE 5 • **Antitrust intervention measures on energy markets**

Competition authority intervention	Examples for relevant procedures
Divestitures	
Unbundling of production and transmission capacities	E.ON electricity, RWE
Divestiture of production capacities	E.ON electricity, CEZ
Divestiture of transmission capacities	ENI
Other structural measures	
New bidding zones, enhancement of interconnector capacities	Svenska Kraftnät, TenneT
Creation of power exchange	BEH
Termination of restrictive provisions	
Restriction of volume and duration of contracts	Distrigaz, EDF
Price revision clause	Gazprom
Prohibition and fines	
Market sharing, restrictive agreements	E.On–GdF, electricity exchanges
Discrimination, abuse of dominant position	Opcom

As mentioned above in the Gazprom-case (2018), the Commission also investigated an exploitative abuse (excessive pricing) and included a *price revision clause* in its decision. Here, Gazprom introduced a bi-annual price revision mechanism allowing each contractual party to request a gas price revision in the event of a change of economic circumstances in European gas markets, or if the contract price failed to reflect the development of certain prices in certain western European countries. If an agreement was not forthcoming, the commitments opened up the possibility of referral to arbitration.

As seen above, in the case of two anti-competitive agreements and one abuse of dominance case, infringements were established. During these procedures, certain behaviours were prohibited and *fines imposed*. However, other structural measures were not taken. Table 5 lists the antitrust procedures according to the type of intervention measure taken.

Effectiveness and review of antitrust interventions

Whereas a comprehensive study of the effectiveness of antitrust interventions has yet to appear, it is widely acknowledged that the sector has undergone significant development and important efficiency gains can be met through further market integration (*Booz & Company* [2013]). Some cases also show how market developments allowed the review and early termination of the commitments. In the E.ON-case (natural gas, 2010), at E.ON's request, the Commission 're-assessed the market situation and concluded that, due to this material change in the structure of German gas market, the commitments were no longer necessary.'

COMPETITION INTERVENTION IN MERGER CASES

If a merger raises competition concerns, the parties may seek to modify the concentration in order to resolve them and obtain clearance of their merger. It is the responsibility of the parties to put forward commitments; the Commission may not unilaterally impose any conditions. If the parties do not propose valid remedies to eliminate competition concerns, a prohibition decision is adopted (*EC* [2008*b*] sections 5–6).

Structural commitments are generally preferable, given that such commitments prevent competition concerns related to the merger permanently and do not require monitoring measures. Nevertheless, other types of commitments may also be suited to preventing the significant impediment of effective competition.

The Commission notice (*EC* [2008*b*] – henceforth, Notice) draws a general distinction between 1) *divestitures* and 2) *other (structural) remedies,* such as granting access to key infrastructure or inputs on non-discriminatory terms, and 3) *commitments relating to the future behaviour* of the merged entity. The Commission clearly prefers divestiture commitments as a remedy. Other structural measures may be also suitable to resolve competition concerns if those remedies are effectively equivalent to divestitures. However, behavioural commitments may be acceptable only exceptionally in very specific circumstances.

For the sake of consistency, our discussion of cases henceforth pays heed to the categorization established by the Notice, even though this was published at the end of 2008, after several procedures discussed in this study were concluded. It is important to note that due to the complexity of energy market mergers, different types of remedy often existed in parallel in these cases. Accordingly, besides divestitures, the Commission often used other (quasi-structural) remedies as well.[48]

Structural remedies (divestiture of a viable and competitive business, removal of links with competitors) were applied in nine cases, while other (quasi-structural) measures were established in four cases by the Commission. In line with the priorities of the Commission, behavioural commitments were accepted only in a complementary manner.

Structural remedies

The Commission understands structural remedies primarily as divestitures. The Notice differentiates between two basic forms of divestiture: 1. divestiture of a viable and competitive business (divestiture), 2. removal of links with competitors (*EC* [2008*b*]).

Almost in all merger cases discussed in this study which raised horizontal competition concerns and were cleared with remedies, assets of the merging parties

[48] Section 63 of the *EC* [2008*b*] also refers to the fact that sufficient lowering of entry barriers often is not achievable by individual measures.

were *divested*. The Commission accepted the separation of network elements as a structural commitment also in vertical mergers, where foreclosure resulting from the lack of ownership unbundling was a relevant competition concern (except the *Total-Gaz de France* case).

The E.ON–Mol-case (2005) was the first to conclude with a divestiture. In order to remove input foreclosure concerns, the Commission cleared the merger on condition that Mol divests its remaining 25 percent shareholdings in the wholesale and storage subsidiaries within six months of the closure date. In addition, MOL shall not acquire direct or indirect minority stakes in these companies for a period of 10 years as long as E.ON is a majority shareholder of these companies. This condition achieved the ownership unbundling in the natural gas vertical chain.

In the DONG–Elsam–Energi E2-merger (2006), in order to solve the input foreclosure concern related to the flexibility issues of the natural gas storage market, DONG offered to sell the larger of its two natural gas storages in Lille Torup (Jutland), and, it undertook not to acquire direct or indirect control over the whole or part of the storage for ten years.

In the Gaz de France–Suez merger (2006), among other commitments, the parties offered to relinquish Suez's control over Fluxsys, a company operating the transmission network and the Zeebrugge LNG terminal. This commitment served to eliminate the input foreclosure resulting from the lack of ownership unbundling.[49] To solve the unilateral horizontal concern on the Belgian markets, Suez divested its shareholdings in Distrigaz and SPE (which was controlled jointly by Suez, GDF and Centrica). Furthermore, GDF divested Cofathec Coriance, to solve the horizontal concern on the French district heating market.

In the EdF–British Energy-merger (2008), the remedies applied by the Commission were relatively intrusive, considering that the merging parties' market shares did not seem to be significant.[50] To solve the horizontal competition concern related to capacity withholding, the parties offered to divest one of British Energy's coal-fired power plants (Eggborough) and another CCGT power plant of EdF (Sutton Bridge). Furthermore, to solve the horizontal concern related to the restriction of entry, the parties offered to sell one of the sites suitable for building a nuclear power plant (Dungeness or Heysham) to an independent operator.[51]

[49] Besides this the parties (as a behavioral commitment) undertook to expand their Belgian and French natural gas infrastructure capacities. Among their commitments, they offered to create a joint entry point on the Zeebrugge terminal in order to solve the difficulties resulting from the lack of access capacity at the hub.

[50] The EdF–British Energy-merger is also interesting from the point of view that following a market test, the Commission did not accept the first commitment package submitted by the parties because it considered that competition concerns related to the capacity withholding and the decrease of liquidity were not solved by the commitment. Therefore, the merger was cleared only after the parties amended the commitment.

[51] Besides this the parties offered the commitment to terminate the connection contract concluded with the transmission system operator regarding Hinkley Point.

In the Vattenfall–Nuon-merger (2009), in order to solve the horizontal competition concerns, the parties offered to sell Noun's German subsidiary, including temporary rights to use trademarks related to Noun. Considering the fact that no competition concerns were identified outside Berlin and Hamburg, Vattenfall was offered the option to carve out and keep for itself customers' contracts unrelated to the retail supply of gas and electricity in Berlin and Hamburg, and two of Noun's German subsidiaries which were not active in the electricity retail segment.

In the EdF–Segebel-merger (2009), the parties committed to selling one of EdF's two project companies set up to implement EDF's planned CCGT construction projects. In addition, the parties offered to divest the assets of the other company in the event that, by a certain date, the new entity did not take a positive investment decision to construct the CCGT project in question or decided not to proceed with the investment. The aim of the commitment was to ensure that investment projects started by EdF would continue on the Belgian electricity market *(invest or divest).*

In the GDF Suez–International Power-merger (2011), the parties offered the commitment to divest International Power's share in T-Power and to transfer T-Power's operation and maintenance agreement to third parties.

In the E.ON–Innogy-merger (2019), in order to solve horizontal competition concerns, the parties offered to divest most of E.ON's customers supplied with heating electricity in Germany, including all assets necessary for effective market operation. Moreover, they offered the commitment to divest E.ON's business in the retail supply of electricity to unregulated customers in Hungary as well as Innogy's entire business in the retail supply of electricity and gas in Czechia. The parties also offered to cease operating 34 electric charging stations located on German motorways in favour of an independent buyer later.

Besides divestments, *removal of links with competitors* is another means of structural intervention. In the RWE–Essent-merger (2009), the commitment of the parties to divest Essent's 51 percent controlling share in Stadtwerke Bremen solved both the horizontal and the customer exclusion theories of harm.

Quasi-structural remedies[52]

Although the Commission prefers the above-mentioned structural remedies (divestiture, removal of links with competitors), it may also accept other types of commitments, but only in circumstances where the other remedy proposed is at least equivalent in its effects to a divestiture (*EC* [2008*b*] section 61). Regarding the energy

[52] The Notice, in its section 17, classifies remedies of other types also to structural measures, however, based on sections 61 to 70 which focus on these remedies, it seems that these are at most quasi-structural measures, therefore we discuss these separately. (*EC* [2008*b*])

market mergers reviewed here, two types of quasi-structural remedy were imposed as conditions: 1. access provided to basic inputs (natural gas, electricity), 2. access to infrastructure, networks. Quasi-structural interventions were more typical for vertical concentrations.

1. Natural gas-/electricity release

Besides the termination of structural relationships through ownership unbundling in the E.ON–Mol-merger (2005), the Commission cleared the transaction only on condition that the merged entity committed to a natural gas release program and a capacity release program in order to resolve the input foreclosure concerns. The aim of the remedy was to ensure market liquidity. Through these programs, E.ON released roughly 14 percent of Hungarian natural gas consumption over nine years (until July 2015).

In the DONG–Elsam–Energi E2-merger (2006), in order to solve the horizontal competition concerns related to wholesale markets, DONG offered to release natural gas equalling 10 percent of Danish annual consumption for six years (until 2011) as part of a natural gas release program. Furthermore, to solve vertical concerns related to customer foreclosure, the commitments contained a clause according to which existing direct customers of DONG who take part in the auctions of the gas release program or buy from a wholesaler who acquired gas via such an auction are entitled to reduce their contractual obligation to purchase from DONG.

In the EdF–British Energy-merger (2008), to address the fall in liquidity, the parties offered commitments to release significant volumes of electricity in the same way as they currently sell electricity on the wholesale market, i.e. through OTC trades and/or structured trades agreements.

2. Access for third parties

In the Total–Gaz de France-merger (2004), which was the first case with a conditional clearance decision among those examined in this paper, the Commission applied a quasi-structural measure to solve competition concerns related to the lack of vertical separation on the local market. As part of the commitment, Total agreed to introduce several measures ensuring non-discriminatory access for third parties to the natural gas transmission network and storage capacities in the distribution area of the acquired Gaz du Sud Ouest (GSO). The remedy first of all ensured that if the consumer changes supplier, transmission and storage capacities related to the supply of the customer are transferred from the old supplier to the new one.

In order to ensure adequate liquidity, in the E.ON–Mol-merger (2005), E.ON also offered to ensure access to storage capacities with regulated prices and under regulated conditions for large customers and traders participating in the natural gas and capacity release programs.

Prohibition

One of the examined energy market cases, the ENI–EDP–GDP MERGER (2004), was concluded with a prohibition decision. Taking into consideration that the merger would have resulted in both significant horizontal and vertical effects; furthermore, that according to the view of the Commission the commitment submitted by the parties would have not adequately eliminated competition concerns, the Commission decided to prohibit the merger. *Table 6* contains competition interventions by the Commission in energy market mergers.

TABLE 6 • **Competition interventions in energy market mergers**

Remedies applied	Examples for the application of remedies
STRUCTURAL MEASURES	
Divestitures	
Divestiture of a business	Vattenfall–Nuon GDF Suez–International Power
Divestiture of wholesale unit, transmission network	E.ON–Mol Gaz de France–Suez
Divestiture of power plants	EdF–British Energy EdF–Segebel
Divestiture of natural gas storages	E.ON–Mol DONG–Elsam–Energi E2
Divestiture of consumer portfolio	E.ON–Innogy
Termination of relationship with competitors	RWE–Essent
QUASI-STRUCTURAL REMEDIES	
Access to infrastructure, Networks	
Access to transportation network and storage capacities	Total–Gaz de France
Access to storage capacities	E.ON–Mol
Access to basic inputs (natural gas, electricity)	
Release of 14 percent of the annual natural gas consumption (HU)	E.ON–Mol
Release of 10 percent of the annual natural gas consumption (DK)	DONG–Elsam–Energi E2
Release of electricity	EdF–British Energy
Prohibition	ENI–EDP–GDP

CONCLUSIONS

The European Commission concluded several (27 according to the criteria used here) procedures in the examined period on the energy markets where some kind of competition intervention took place. A considerable number of these procedures was conducted close in time to sector inquiries by the European Commission (2007), and the adoption of the European Union's third energy package (2009). However, we have found several examples of procedures which were more recently closed or still pending.

Due to the particularities of energy markets, the majority of antitrust procedures are related to abuse of dominance. Additionally, the European Commission completed two cartel cases. In the case of antitrust procedures, the most typical competition concerns were market foreclosure and segmentation of the internal market.

The European Commission generally concluded the dominance cases with *commitment decisions*. Thus, in these cases, there was no finding of infringement but parties addressed the competition concerns by offering commitments which altered their behaviour or changed the market's structure.

The frequent application of commitment decisions resulted in several structural interventions in the markets. While in infringement cases there is only one example of structural intervention (none in the energy sector), commitment decisions resulted in several divestitures and other structural interventions in the energy markets.

In the period examined there were 11 mergers regarding which the European Commission applied remedies, and in one case the merger was prohibited. In 2005 and 2006, three mergers were cleared in complex Phase II procedures, while between 2011 and 2019 the Commission applied no remedies in respect of energy mergers.

Regarding mergers triggering intervention by the Commission, the most common competition concerns were the loss of effective or potential competitors, the withholding of capacities, or the hinderance of expansion by competitors. Vertical competition concerns mostly related to market foreclosure, generally hindering access to inputs or customers.

The Commission typically used divestitures to handle competition concerns in merger cases. Different types of business units were subject to these divestitures (transmission network, power plant, natural gas storage facilities or customer portfolio). In addition to divestitures, quasi-structural access measures were applied, granting access to grids or basic inputs.

In summary, the Commission's antitrust proceedings significantly contributed to the development and integration of energy markets. However, this integration process is on-going, and there is still plenty of room for efficiency gains. The application of remedies in energy mergers is not very frequent, and generally focuses on the elimination of regional competition concerns. Most competition concerns are addressed in Phase I procedures, and this is likely thanks to the lessons learned from previous procedures as well as well-designed transactions.

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APPENDIX

Cases examined

Tables *A1 and A2* chronologically summarize examined cases according to the number of the procedure, name of the procedure and the year of decision. Decisions related to these procedures can be found through the case finder of the European Commission, where the summary published in the Official Journal can be also found, we also indicated this.

TABLE A1 • **Antitrust procedures**

Number of the procedure	Name of the procedure	Year of decision	Accessibility in the Official Journal
37966	Distrigaz	2007	OJ (2008) C 9/8
39388	E.ON wholesale	2008	OJ (2009) C 36/8
39389	E.ON balancing market	2008	OJ (2009) C 36/8
39401	E.ON–GdF-agreement	2008	OJ (2009) C 248/5
39402	RWE	2009	–
39316	Gaz de France Suez foreclosure	2009	OJ (2009) C 57/13
39317	E.ON natural gas market foreclosure	2010	–
39315	ENI	2010	–
39386	EDF	2010	OJ (2010) C 133/5
39351	Svenska Kraftnät	2010	OJ (2010) C 142/28
39727	CEZ	2013	OJ (2013) C 251/4
39952	Power exchanges	2014	OJ (2014) C 334/5
39984	Opcom	2014	OJ (2014) C 314/7
39767	BEH	2016	–
40461	TenneT	2018	OJ (2010)
39816	Gazprom	2018	OJ (2010)

TABLE A2 • **Merger procedures**

Number of the procedure	Name of the procedure	Year of decision	Accessibility in the Official Journal
M.3440	ENI–EDP–GDP	2004	OJ (2005) L 302/69
M.3410	Total–Gaz de France	2004	OJ (2005) C 4/03
M.3696	E.ON–Mol	2005	OJ (2006) L 253/20
M.3868	DONG–Elsam–Energi E2	2006	OJ (2007) L 133/24
M.4180	Gaz de France–Suez	2006	OJ (2007) L 88/47
M.5224	EdF–British Energy	2008	OJ (2009) C 38/8
M.5496	Vattenfall–Nuon Energy	2009	OJ (2009) C 212/16
M.5467	RWE–Essent	2009	OJ (2009) C 222/1
M.5549	EdF–Segebel	2009	OJ (2010) C 57/9
M.5978	GdF Suez–International Power	2011	OJ (2011) C 60/9
M.8870	E.ON–Innogy	2019	–

• *Péter Kotek – Adrienn Selei – Borbála Takácsné Tóth* •

THE IMPACT OF THE CONSTRUCTION OF THE NORD STREAM 2 GAS PIPELINE ON GAS PRICES AND COMPETITION*

The study makes use of gas market modelling to analyse the impact of the Nord Stream 2 gas pipeline on the wholesale prices of European countries and the European gas market competition. It is also inspected how the expected return of infrastructural projects planned in the Central and Eastern European region is impacted by this new development. According to the results, the expansion of Nord Stream – due to the modification of the long term contracted transmission routes – will reduce those capacities that enable the region to access liquid Western gas markets. This will increase the current spread between the Eastern and Western European prices, hindering the integration of gas markets. On balance, the welfare impacts of the expansion will be negative, and most of the drop in welfare will have to be endured by Central and Eastern European consumers and system operators. The analysis also shows that the East-West bottlenecks that are likely to arise due to the modification of the long term contracted routes will warrant the construction of new transmission paths, requiring almost one billion euros of supplemental investments within the Central and Eastern European region.

INTRODUCTION

In 2015, the European Union covered 80% of its gas supply through imports from Russia, Norway, North Africa and countries like Qatar and Nigeria which export Liquefied Natural Gas (LNG). As a result of declining European production, the share of import is expected to further grow. The International Energy Agency (IEA) forecasts that by 2040 it may reach 83 percent of consumption (*IEA* [2015]).

For the last few years the need to build transmission lines crossing several countries (Nabucco, South Stream, Turkish Stream, Trans Adriatic gas pipeline etc.) has been widely discussed. These pipelines would have transported natural gas to European markets from the South-Eastern direction. The proposals for these transmission routes have all failed, except for the Trans Adriatic Pipeline (TAP) which – if built – will, after 2020, annually transmit 10 billion cubic meters (bcm) of Azerbaijani gas through Turkey, mainly to Italy.

* The study is partly based on the report "Opportunities for LNG within the Danube Region", prepared for the Ministry of Foreign Affairs. The authors would like to thank *Enikő Kácsor* and *Péter Kaderják* for their critique and advice. Translation of the study published in the *Verseny és Szabályozás 2016* (ed. by Pál Valentiny, Ferenc László Kiss, Csongor István Nagy).

The focus of the article paper, the high pressure gas pipeline project called Nord Stream 2, would by 2020 double the capacity of the Nord Stream 1 line, which has been in operation since 2012.[1] The Nord Stream is a 1,200 km long subsea gas pipeline, directly linking Russian production with one of the largest European gas consuming market, Germany.[2] The total enlarged capacity of the pipeline will reach 110 bcm, comparable to the total volume of Russian gas export to Europe and Turkey, which totalled 160 bcm in 2015.[3]

Gazprom would transmit gas to Europe through the expanded new pipeline, bypassing Ukraine. Gazprom and the other companies[4] within the consortium claim that the main benefit of the project is satisfying the increased demand for gas – arising from dwindling European natural gas production – and improving the security of supply. The project, however, faces substantial political headwind. In March 2016 the prime ministers of nine Eastern European EU member states signed a letter in which they request that the leaders of the European Commission and the European Council take action against the project, citing in particular security of supply considerations.[5] The fierce reactions are understandable especially in a geopolitical context, including the historical suspicion of Central and Eastern European countries toward Russia, fortified by the Ukraine related developments of the last few years.

One of the most important components of the Russian strategy for diversification is reducing the dependence on Ukrainian transit. In 1990 Russia carried out all its European and Turkish export through Ukraine, by today it has reduced this ratio to 50% in several steps: in 1994 with the launch of the Yamal pipeline, in 2003 with the construction of the Blue Stream, and then in 2012 with the commissioning of Nord Stream 1[6] (*Hafner–Tagliapietra* [2015]). The South Stream would have been the last piece of the transmission routes avoiding Ukraine, but in 2014 it was sus-

[1] In this article Nord Stream 2 and the *expansion* of Nord Stream refer to the same project, doubling the present annual capacity of 55 bcm to 110 bcm.

[2] One third of the total exported volume of Russia to Europe and Turkey – 45 bcm out of 160 bcm in 2015 – is consumed by Germany. As a point of reference, in 2015 Hungary imported 5.9 bcm of gas (Gazprom Export, Eurostat).

[3] Source: http://www.gazpromexport.ru/en/statistics.

[4] The planned ownership structure of the Nord Stream 2 consortium is Gazprom (50 percent), the German Uniper (10 percent) and Wintershall (10 percent), the UK Royal Dutch Shell (10 percent), the Austrian OMV (10 percent) and the French Engie (formerly GDF Suez, 10 percent). Source: http://www.nord-stream2.com/our-company/prospective-shareholders

[5] The signatories are the Czech Republic, Hungary, Poland, Slovakia, Romania, Estonia, Latvia, Lithuania and Croatia (http://uk.reuters.com/article/uk-eu-energy-nordstream-idUKKCN0WI1YV).

[6] The Yamal pipeline transmits gas from North-Western Siberia through Belarus and Poland to Germany, it has an annual capacity of 33 bcm. The Blue Stream transmits gas from Russia to Turkey with a subsea pipeline across the Black Sea. Its current capacity of 16 bcm per year can be doubled in the future. Nord Stream directly links Russia with Germany through a subsea pipeline under the Baltic Sea. As already mentioned, this was completed in 2012 and has an annual capacity of 55 bcm.

pended, being replaced by plans to enlarge the capacity of Nord Stream by 2019. The consortium has already stepped from the planning phase toward implementation by having completed the tendering process for the pipes. The construction is scheduled to start in early 2017. According to current plans, on the new infrastructure Gazprom would transmit mainly the gas volumes needed to supply Western and Central European markets, while the gas demand of Ukraine and the Balkan would continue to be supplied through the existing Ukrainian network even after 2019.

The main question posed by the study is how the construction of the new pipeline and the related changes to routes used by Russian long term contracts impact the wholesale gas prices of European countries and the competition in European gas markets. The next chapter of the article describes the market and regulatory environment, then we apply modelling tools to analyse the impact of the construction of the Nord Stream 2 pipeline on gas prices, gas flows and the welfare of market participants under the long term contractual assumptions that we consider as most likely. The second part of the modelling chapter inspects how the expected return of planned infrastructural projects within the Central and Eastern European region would be affected by the capacity expansion of Nord Stream. Finally, we highlight the impacts of the project on the Hungarian market and make policy recommendations.

THE MARKET AND REGULATORY ENVIRONMENT

One of the principal goals of European energy market regulation is the creation of the uniform internal market, the gas market integration. In addition to the three large energy regulatory packages, with its regulation 347/2013 the EU established the framework to support priority European investment projects from a regulatory perspective (mainly through accelerated permitting) (*EU* [2013*a*]). In particular, those can be viewed as priority projects that bring about the missing West-East and North-South connections, aim to eliminate isolated markets or enable pipelines to handle bi-directional flows. By establishing the Connecting Europe Facility (CEF), Regulation 1316/2013 of the EU (*EU* [2013*b*]) established funding to support the Projects of Common Interest (PCI) fostering the previously mentioned goals.

Since 2010 a lot of infrastructure has been built to improve the security of supply, including the new Hungarian-Romanian, Croatian-Hungarian and Slovakian-Hungarian bidirectional interconnectors, and developing the already existing East-West transmission lines to allow for physical reverse flows. Of these – from the perspective of market integration – the most important are the Czech-Slovakian and the Slovakian-Ukrainian interconnection where the direction of transmission is influenced by market prices – in 2014, dominant flow direction was from West to East. The price of short term (spot) gas sources has also acted as a ceiling, creating competition for Russian gas in the Ukrainian market, materially improving the negotiating position of Ukrainians against the Russians.[7] At the end of 2015 gas from Europe was purchased by Naftogaz for 224 USD/thousand cubic meters. As a result, the 329 USD/thousand cubic meter price of Russian gas was reduced to 227 USD/thousand cubic meter by Gazprom (*Naftogaz* [2016]).

One can observe that the oversupply in European gas markets has subsided and the infrastructure development projects of the last few years have borne fruit, the previous substantial price difference between the Western and Eastern parts of Europe notably shrank, while it virtually disappeared between the best-connected countries. Compared to previous years, there is hardly any bottleneck on the European gas network.

While even today the European Union covers a large part of its gas consumption through imports, this gas import dependency – despite a shrinking demand – may further escalate during the next few years in line with decreasing domestic abstraction. Gazprom has plans to serve this additional import need, especially since it has natural gas fields from which gas can be supplied at competitive prices. To meet this rising import need, however, other sources – mainly LNG – are also likely to compete. Since 2015, as the Asian gas demand declined, the price premium of Asian markets over European prices has disappeared, making European markets relatively more attractive for countries that export LNG. Against this background, we can expect a strategic game to take place, a major action of which will be the selection of appropriate entry points to reach large European markets. By choosing the transmission routes for long term contracts, Gazprom may be able to cut the access of its competitors from the other small markets as well.

The regulation of pipelines

Similarly, to other network industries, a vital element of European gas market integration is Regulated Third Party Access (rTPA) to the network. This is a prerequisite for creating wholesale competition. In case of investments that need a long time to break even, however, an exemption may be requested under specific conditions, e.g. if the investment would not take place without granting the exemption.

In addition to constructing the subsea section of Nord Stream 1, it was also necessary to develop the gas network on land, in order to be able to transmit the large volume of arriving gas to consumers. The exemption from rTPA was granted to Gazprom by the German authorities for 100% of the capacity of the OPAL pipeline connecting Germany and the Czech Republic and also the North European Gas Pipeline (NEL)[8] – essentially the onshore sections of Nord Stream. This exemption,

[7] On this topic and on the role of developing transmission lines to become bidirectional please see the 2014 report of REKK prepared for the IEA (*REKK* [2014]).

[8] North European Gas Pipeline, going from the Nord Stream through the shoreline of Germany to Rehden, connecting areas that have so far been supplied mainly from the North Sea natural gas reserves.

however, was approved by the European Competition Authority only up to 50% of the capacity. Following long negotiations, it seemed likely that an agreement would be reached, according to which Gazprom could use even the full capacity of the pipeline as long as no other applicant bid for it on public auctions. The agreement, however, has not been concluded due to the deteriorating relationship between Russia and Europe in the wake of the events in Ukraine (*Stern et al.* [2016]).

Several articles have addressed the extent to which the European Commission makes use of the regulatory framework, and more specifically, the exemption from rTPA to reach its geopolitical goals (*Pirani–Yafimava* [2016], *Goldthau–Sitter*[2015], *Goldthau* [2016]). In case of projects that reinforce gas source diversification, the Commission typically grants exemption from rTPA, while the procedures on Russian investments get delayed, or even come to a halt when the political relations cool. Indisputably, the infrastructural development projects initiated by Gazprom – also often condemned as geopolitically motivated – receive little EU support, but heavy scrutiny and critique.

Based on the above experience, on the sea section the investor does not anticipate problems with respect to rTPA, since besides the investing consortium there is not any major supplier that would be able to inject gas to the system at the Russian entry point. Regarding the on-shore sections several alternatives prevail:

- Gazprom requests 100% exemption from rTPA (unlikely to be granted),
- Gazprom requests 50% exemption from rTPA, and uses the rest of the capacities as long as other suppliers do not wish to reserve those through public auctions (this is likely to be granted, but it entails the risk of not always getting adequate capacity),
- Gazprom does not request any exemption, but it re-negotiates the long-term contracts with its buyers so that it delivers the gas to Germany at Greifswald (at the entry point of Nord Stream to the German network) and any further transmission is the task of the buyer.

The need to amend the long-term contracts

These days the long-term gas purchase contracts with Russia typically designate the border of the buyer's country as the location for delivery (*Pirani–Yafimova* [2016]). If these contracts expire after the construction of Nord Stream 2 and the corresponding cessation of the Ukrainian transit, then they would have to be amended based on the mutual agreement of the parties to be able to change the route of transmission. This process is rather lengthy, moreover, the renegotiation of the transfer point may presage a number of changes that are disadvantageous for Gazprom. One such risk is that the buyers may take the change of the transfer point as an opportunity to also revise other contractual conditions, especially the price and the price setting methodology.

Based on the above we selected a modelling scenario under which Gazprom delivers long term contracted gas to the border through the changed route – on Nord Stream instead of Ukraine –, and if needed, it will bear all the costs that arise due to a longer transmission path.

MODELLING

Literature background

In this chapter, we briefly introduce the key features of the European Gas Market Model (EGMM) used during the analysis, highlighting the deviations from other models in literature. Afterwards we summarise the conclusions of studies that use modelling tools to examine the impact of the expansion of Nord Stream.

A wide range of gas market models are used to analyse European and global gas markets.[9] One of the most important features of the model used here is that the market barriers generated by long term gas contracts are depicted in more detail than in other models, thereby the contractual changes expected as a result of the expansion of Nord Stream (primarily, changes to the transmission path and the delivery points in the contracts) can be inspected in more depth. While most of the widely used gas models assume some strategic interaction among market participants, the EGMM model used here presumes a price taking behaviour. This simplifying assumption – even though it obviously has some drawbacks – allows a high degree of detail: modelling by countries and months. Considering the input data for the 35 European countries, as well as the barriers posed by the physical infrastructure and contractual conditions, the model computes the equilibrium prices, volumes of production, consumption, injection to and withdrawal from gas storage facilities and the short term (spot) deliveries that together make up the dynamic equilibrium of the perfectly competitive market. Based on these outputs the welfare of specific market participants can also be quantified. Model calculations cover 12 subsequent months, a period for which market participants have perfect foresight. The dynamic relation between the months is assured by the storage activity (any gas to be withdrawn needs to be injected first or set as a starting inventory) and the transmission barriers of long term contracts.[10]

While the gas market impact of the currently operating first phase of Nord Stream was modelled by several previous studies (see for instance *Lochner–Bothe* [2007], *Holz et al.* [2009], *Chyong et al.* [2010]), the consequences of expansion have been inspected with the use of gas market modelling tools by only a few studies. *Abrell et al.* [2016] applied a partial equilibrium model to examine four network expan-

[9] The summary of the various gas market models is contained in for example *Smeers* [2008].

[10] For a more detailed description of the model see *Selei–Takácsné Tóth* [2015].

sion scenarios, including the impacts of expanding the Nord Stream. Their results show that expanding the capacity of Nord Stream reduces European wholesale gas prices by about 6 percent on average, as a result of which we can expect an increase of European welfare by about 1%. Moreover, the expanded capacity will be fully utilised, equivalent to a 20% increase of Russian import. *Dieckhöner* et al. [2013] used the TIGER model to analyse the impact of various infrastructure scenarios, with special attention to the enlargement of the Nord Stream. Their results confirm the expectations that as a result of expansion, the utilisation of other transit pipelines that transmit Russian gas will considerably decrease, and the direction of prevalent gas flows will change, especially in Central Europe. According to their conclusion, despite significant changes of gas flows and the congestion of selected pipelines, in case the planned infrastructure projects are implemented, by 2019 considerable market integration will be possible.

Analysed scenarios and assumptions

As a first step, we analysed the deviations from the reference scenario caused by the capacity expansion of Nord Stream and the simultaneous change of the transmission path used by the Russian long term contracts. We assume that the transmission routes change as follows: with the exception of the gas transmitted on the Trans-Balkan gas pipeline as laid down in the contracts[11] all the gas that had previously been covered by Russian long term contracts and transported through Ukraine will arrive to Europe through the expanded Nord Stream.[12] We assume that the pricing of the contracts is neutral from the perspective of the buyers, in other words, Russian gas will arrive to a given country at the same price as before.

The input data needed for modelling was compiled from publicly accessible sources: the natural gas transmission, storage and regasification infrastructure was assembled based on the capacity map of the ENTSOG *(European Network of Transmission System Operators for Gas)*, demand was determined based on the data published by the Eurostat and other national statistical offices, prices were derived from publicly available exchanges (the Dutch Title Transfer Facility – or TTF – which serves as the decisive price index for European gas markets) and the price signals of statistical offices.

Earlier we showed that in serving the growing import needs of Europe, increasing LNG imports may become the prime competitor of Gazprom. Accordingly, we inspected the impact of the expansion of Nord Stream under two reference scenarios:

[11] The long term contracted volumes of gas to Bulgaria, Greece, Macedonia, Moldova and Romania will continue to be transmitted through Ukraine.

[12] Please see the *Annex* for the detailed changes of the transmission paths of long term contracts.

– the 2015 reference scenario corresponds to current market conditions with a more modest supply of LNG (50 bcm per year)
– under the 2020 reference scenario the global LNG supply plays a stronger role in Europe, with about 100 bcm arriving to the continent.

In order to attain results that are as close to reality as possible, in our reference we slightly altered the actual 2016 European gas infrastructure: in parallel with the expansion of the Nord Stream, we inserted into the model the bidirectional line connecting the Czech Republic and Austria (BACI) with a daily capacity of 195 GWh. All other conditions (especially the marginal price of the Russian contracts, demand, pricing of external sources and the tariff of the infrastructure access) reflect actual data as observed in 2015.

The 2020 reference scenario differs from the 2015 reference scenario along the following points:

– The supply of global LNG rises in Europe: approximately 100 bcm of LNG is imported to the continent versus the 50 bcm in 2015. From the perspective of Europe this does not entail additional investment costs, only the utilisation rate of the currently operating terminals has to increase;
– European demand increases by 7 percent between 2015 and 2020 – based on the "grey" scenario of the Ten-Year Network Development Plan (TYNDP) of the European Network of Transmission System Operators for Gas (ENTSOG);
– Gas production in Europe declines by 15 percent between 2015 and 2020;
– Investments currently in possession of a final investment decision are implemented by 2020;
– With respect to the price of oil, a major driver of the price of long term contracts, we assumed a 2020 price level of 50 USD per barrel[13];
– The Russian long term contracts in effect in 2015 are included in the 2020 reference scenarios with unchanged conditions.

We describe for both inspected years (2015 and 2020) how the intensity of gas market competition changes compared to the reference cases based on the above contractual assumptions. We inspect this partly through the change of prices and partly through the development of the West-East short term (spot) flows, since for the last few years these flows made it possible for gas from Western European countries to reach Eastern European countries at a more favourable price. In addition, we discuss the welfare impacts of the capacity expansion. According to our hypothesis, since on the West-East pipelines the delivered volume under long term Russian contracts is higher than in the reference case, less capacity remains for short term (spot) flows that could enable gas market competition. As a result, the price

[13] *Source:* REKK estimate based on the World Bank Commodity Outlook, January 2016.

difference between the Western and Eastern regions of Europe is likely to increase. The larger price difference may make certain infrastructural projects profitable, projects that under the reference case based on social welfare considerations would not be worth implementing. We inspect this hypothesis by comparing the financial returns of the planned projects of common interest (PCI) of the region with and without the capacity expansion of the Nord Stream.

MODELLING RESULTS

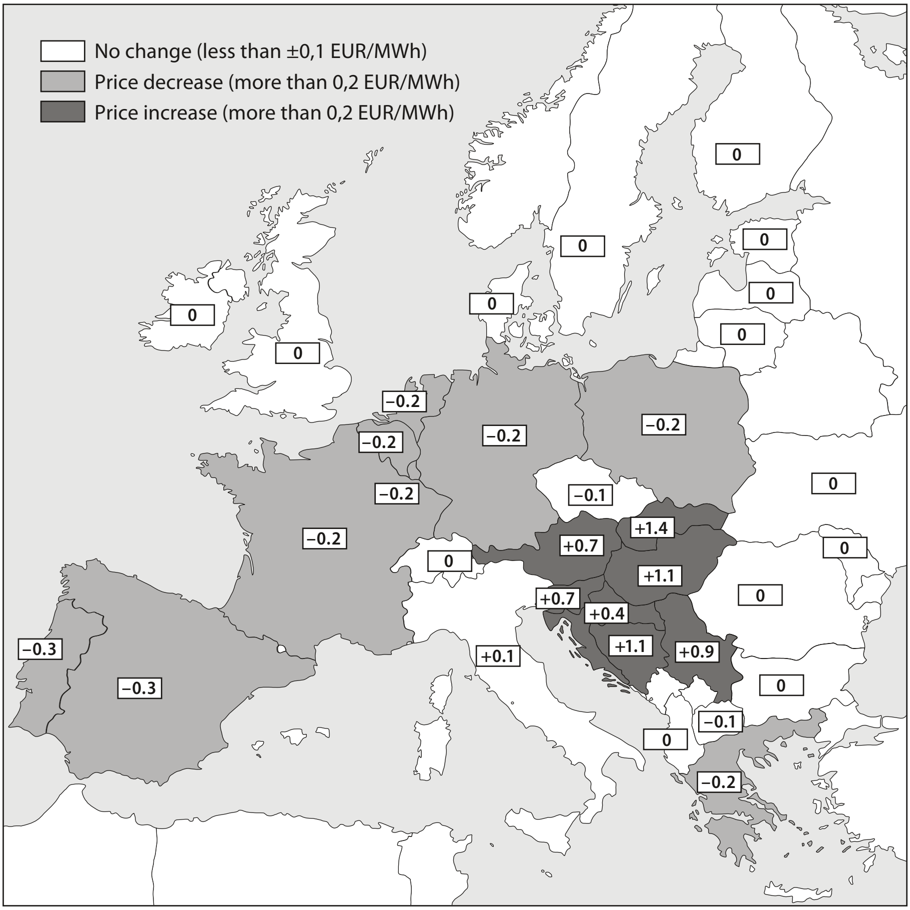
The impact of the construction of Nord Stream 2 on wholesale gas prices and the gas market competition

As depicted by *Figure 1,* the likely change in the path used by the Russian long term contracts due to the expansion of the Nord Stream negatively effects the countries of the East-Central European region (annual average wholesale gas prices increase by 0.4-1.1 EUR/MWh), while the Western European wholesale gas prices moderately decline (by 0.2-0.3 EUR/MWh). As a result, with the expansion of the Nord Stream, the price difference between the Eastern and Western countries of Europe will, *ceteris paribus*, increase. We can also observe that the Balkan countries, the contractual path of which is unchanged, are not impacted by the expansion of the Nord Stream. The only exception is Greece, where prices slightly decline due to increasing LNG imports[14]. Because of the higher volumes of East-West gas flows, every month a bottleneck is formed on the German-Austrian and the Czech-Slovakian pipelines, while in most months also on the Austrian-Hungarian and the Slovakian-Hungarian pipelines. Due to the bottlenecks the volume of cheaper (spot) gas flowing to Eastern countries is insufficient, therefore a price difference takes place between Western and Eastern countries.

Under the 2020 reference scenario the currently existing modest price difference between Eastern and Western Europe persists, even increases a little, since the cheap LNG satisfying surplus import needs is available primarily to Western European countries with regasification terminals. Along this reference framework once again we modelled the impact of building Nord Stream 2, with the above described assumptions. As depicted by *Figure 2*, compared to the 2015 reference scenario the East-Central-European region is more heavily burdened by the construction of the infrastructure, while in the Western European countries we can expect much lower benefits than before, as a result of the increased supply of LNG.

Our hypothesis, according to which the Nord Stream – by making bottlenecks more severe – will further increase the price difference between the

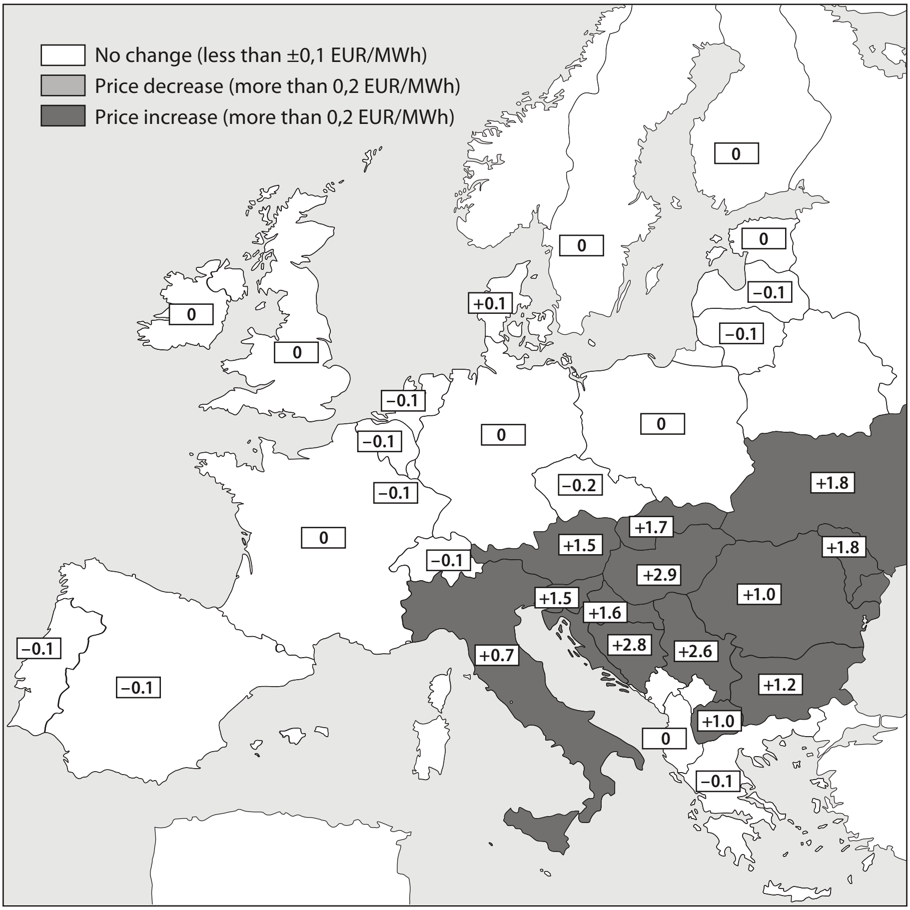
[14] Part of the LNG displaced by the surplus Russian supply arriving to Western Europe is diverted to Greece as a surplus there.



Note: The rectangles represent the price change compared to the reference scenario as a result of expanding the capacity of the Nord Stream.

FIGURE 1 • **The impact of the construction of Nord Stream 2 on European wholesale gas prices, price change compared to the 2015 reference scenario (EUR/MWh)**

Western and Eastern markets of Europe, is confirmed by the modelling results arising from both the 2015 and the 2020 reference scenarios. This situation is further impaired as a much larger portion of the bottlenecks is reserved for the capacity required by contracted gas, leaving lower capacity for short term (spot) gas competition. As an illustration, we show the transmitted volumes through the most important cross-border pipelines of the region (German-Austrian, Czech-Slovakian, Austrian-Hungarian, Slovakian-Hungarian border). The short term (spot) flows arrive to the region through the German-Austrian and the Czech-Slovakian borders.



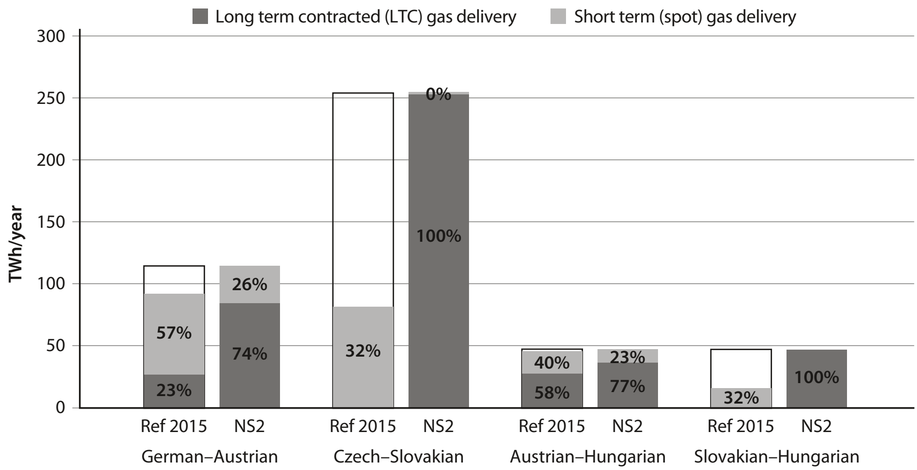
Note: The rectangles represent the price change compared to the reference scenario as a result of expanding the capacity of the Nord Stream.

FIGURE 2 • **The price impact of the expansion of Nord Stream, price change compared to the 2020 reference scenario (EUR/MWh)**

Under the 2015 modelling scenario 57% of the full capacity of the German-Austrian pipeline is reserved for short term (spot) flows, and 23% is dedicated to flows connected to a long-term contract.[15] Following the expansion of the Nord Stream, the Austrian contract, formerly delivered through Ukraine, would be diverted to this border, therefore almost three-quarter of the pipeline would be reserved for long term contracts, reducing short term flows to 26% of the total capacity.

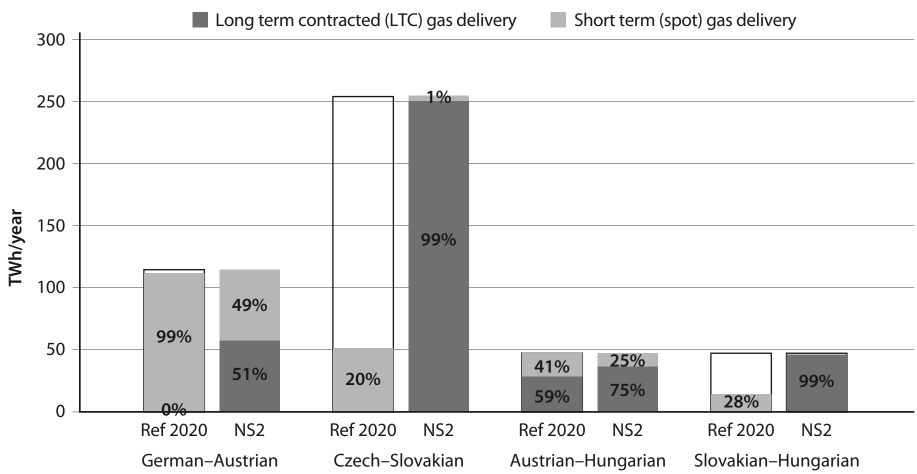
[15] The contract delivers Norwegian, not Russian gas to Austria. By the 2020 reference this contract expires.

We find a similar, but stronger impact for the Czech-Slovakian and the Slovakian-Hungarian cross-border pipelines: under the reference case capacity utilisation is a mere 32%, made up exclusively by short term (spot) flows, while after Nord Stream 2 is constructed, capacity utilisation jumps to almost 100%, representing exclusively flows under long term contracts (see *Figures 3* and *4*).



Note: Ref 2015: Reference scenario 2015; NS2: along the expansion of Nord Stream.

FIGURE 3 • **Long term contracted flows and short term (spot) gas flows with and without the expansion of Nord Stream, 2015**



Note: Ref 2020: Reference scenario 2020; NS2: along the expansion of Nord Stream.

FIGURE 4 • **Long term contracted flows and short term (spot) gas flows with and without the expansion of Nord Stream, 2020**

As depicted by the figures, without the expansion of Nord Stream and the related contract amendments, the capacity utilisation of the selected pipelines from West to East is much lower than in case the expansion happens. This is because the Slovakian, Hungarian, Serbian, Bosnian contracts delivered through Ukraine get relocated to these borders. At the Austrian-Hungarian border – vital for Hungary – the 40% share of short term (spot) flows is halved. The year 2015 modelling *(Figure 3)* indicates that the modified route substantially reduces the access of the region to liquid gas markets, and it hinders integration.

We also carried out our analysis using the 2020 reference scenarios *(Figure 4)* and derived similar conclusions – channelling long term contracts to the expanded Nord Stream materially reduces the access of the region to Western markets. The reason for the differing capacity utilisation, as per the 2020 reference scenario, is the changed market environment (demand, changing European production, LNG supply).

The modelled increasing gas market prices do not reflect the interrelation according to which the pricing of Russian contracts would depend on the negotiating position of the purchasing country – stemming from the diversification of import and transmission structure. This impact cannot be explored under the current modelling framework, since the model covers a one year cycle. Nevertheless, presumably the pricing strategy of Gazprom may change in the medium term due to declining short term trade, since short term (spot) gas cannot be delivered to the destination country, as the capacities have already been reserved for Russian long term contracted volumes.

The impact of the construction of Nord Stream 2 on social welfare

Next, we inspect the impact of enlarging the capacity of Nord Stream from the perspective of social welfare. The change in welfare includes any shift in consumer surplus, producer surplus as well as the change of the net income of infrastructure operators (system operators, storage facility operators, LNG terminal operators) and traders (storage facility arbitrage and the welfare change of the owner of long term contracts).[16]

With respect to the consumer surplus modelled under the 2015 reference scenario, the new infrastructure generates a positive, but unevenly distributed impact: the consumer surplus declines in Eastern Europe, while it increases in Western Europe. Due to their larger demand, Western markets offset the drop in consumer surplus in Eastern markets. However, a substantial loss is generated for infrastructure operators: the loss of long term contracted flows significantly reduces the revenues of Eastern European TSOs. The revenues of the Ukrainian and Slovakian TSOs are affected most seriously,

[16] We do not consider Gazprom as the owner of the long term contract, but its European contracted partner. Today in Hungary this is the Magyar Földgázkereskedő Zrt owned by MVM. Within the modelling exercise we do not inspect the net income of Gazprom.

as they suffer the biggest drop of transit volume. The total European welfare impact of the project is forecasted to be negative, while it will be advantageous for Western European consumers and the Western European infrastructure operators *(Table 1).*

Modelling based on the 2020 reference scenario provides a more nuanced view of the welfare impacts of the investment *(Table 2).* From the perspective of consumers, the investment does not achieve a positive balance in Western Europe either, since under the 2020 reference case we assumed a much larger supply of LNG. The arrival of the new LNG source in itself considerably increases welfare in Western European countries and under these boundary conditions the expansion of the Nord Stream affects prices much less and increases consumer surplus to a lower extent. Similarly to year 2015 results, due to diverted flows, the net income of infrastructure operators increases in case of Western European system operators and declines in Eastern Europe. Overall, the project reduces European welfare, and even the welfare change of Western European market participants takes a negative turn.

TABLE 1 • **Welfare change for different market participants in selected Western European and Eastern European countries compared to the 2015 baseline (million Euros)**

	Change of net consumer surplus	Change of producer surplus	Change of the net income of traders	Change of the net income of infrastructure operators	Total welfare change
All of Europe	155	–112	–479	–1117	–1554
Western Europe	402	–142	–302	415	371
– Germany	133	–16	–78	230	269
Eastern Europe	–247	30	–177	–1532	–1925
– Bulgaria	0	0	–167	0	–167
– Greece	7	0	–130	0	–123
– Hungary	–104	16	41	–16	–63
– Slovakia	–77	0	53	–294	–318
– Ukraine	–2	1	1	–1130	–1130

TABLE 2 • **Welfare change for different market participants in selected Western European and Eastern European countries compared to the 2020 baseline (million Euros)**

	Change of net consumer surplus	Change of producer surplus	Change of the net income of traders	Change of the net income of infrastructure operators	Total welfare change
All of Europe	–1551	442	–279	–761	–2148
Western Europe	–239	–6	–312	381	–176
– Germany	25	1	–18	217	225
Eastern Europe	–1312	449	33	–1142	–1972
– Bulgaria	–48	–53	–245	–65	–411
– Greece	3	0	–128	0	–125
– Hungary	–240	32	156	–9	–61
– Slovakia	–91	0	68	–125	–148
– Ukraine	–588	339	133	–877	–993

Evaluation of the returns of projects of common interest

The impact of the expansion of Nord Stream is compellingly conveyed by the change of the investment need for the European natural gas transmission infrastructure. Below we assess the welfare change of completing the current PCI infrastructure relevant for the Central-Eastern European region under two assumptions: in case the expansion of Nord Stream happens and in the absence of it. Modelling is based on the previously introduced 2020 reference scenario, since most investments would take place at around 2020.

We inspected the welfare impacts of the planned projects of common interest under the 2020 scenarios with and without the expansion of Nord Stream. Since Nord Stream substantially raises the prices and lowers the consumer welfare in the East-Central European countries, we analysed the infrastructural elements of the projects of common interest relevant for this region. The technical parameters of the projects (such as the investment cost and the capacity) have been compiled based on the PCI publications of the Commission (*Table 3, EU* [2016]).

TABLE 3 • **The parameters of the inspected projects of common interest (PCI)**

Project of common interest	Source country	Target country	Capacity (bcm/year)	Capacity (GWh/day)	Investment cost (million EUR)	Planned length (km)	Diameter (mm)	PCI	Planned year of completion
Polish-Slovakian	PL	SK	5.7	152.4	586*	371	1000	TRA-N-190 TRA-N-275 TRA-N-245	2019
	SK	PL	4.7	126.0					
Greek-Bulgarian pipeline (IGB)	GR	BG	5.0	134	220	185	800	TRA-N-378	2018
	BG	GR	5.0	134					
Trans-Adriatic gas pipeline (TAP)	GR	AL	13.0	348	1500	871	1200	TRA-F-051	2020
Romanian-Hungarian	RO	HU	4.2	113.7	550	n. a	n. a.	TRA-N-126	2023
Bulgarian-Romanian	BG	RO	0.5	562	550*	185	800	TRA-N-431 TRA-N-379	2023 2018
Bulgarian-Serbian (IBS)	BG	RS	3.0	80	220*	185	813	TRA-N-137	2018
Slovenian-Hungarian	SI	HU	1.3	34.8	145	174	500	TRA-N-112 TRA-N-325	2020
Croatian-Hungarian	HR	HU	2.8	76	370	308	1000	TRA-N-075	2019
Croatian LNG		HR	4.0	108	300	-	-	LNG-N-082	2019

* Estimated value based on the *ACER* [2015] report.
AL: Albania, BG: Bulgaria, GR: Greece, HR: Croatia, HU: Hungary, PL: Poland, RO: Romania, RS: Serbia, SI: Slovenia, SK: Slovakia.
Source: European Commission.

We evaluated the projects not only on their own, but we also inspected the impact of packages of projects that include projects that complement each other. We considered the welfare impact of the new infrastructure as the benefit of the investment, while the one-time investment cost (capex) stands on the cost side, and we assumed that the latter takes place during the year preceding the completion of the investment. The operating costs (opex) of the investment are covered by the access tariffs according to current business models. Since the model considers actual transmission fees, their impact is included within the welfare indicators (TSO revenue of the system operator), therefore it does not have to be considered as a separate cost item when the investment is assessed. The welfare change – as already described – includes the change of both the consumers surplus and the producer surplus, as well as the change of the net income of infrastructure operators and traders. Based on the modelling results of the 2020 reference scenario, the welfare change has been assumed to be constant for the whole lifetime of the investment. The lifetime of all infrastructural investments has been assumed to be 25 years, and the net present value was calculated with a 4% real discount rate.[17]

According to the modelling results, from the perspective of the countries of the examined region[18] the projects of common interest (PCI) indicate notably higher welfare impacts when gas from Russia arrives to the region through the Nord Stream. In other words, in this environment even some of those investments break even that in the absence of the Nord Stream would not have covered investment costs from the perspective of social net present value as they would not have carried substantial flows; put differently, the market price among the countries would have levelled off even without their existence (up to the level of the cross-border tariff).

Table 4 reveals the net present value and the benefit/cost ratio of the most important investments and packages of investments. In addition to the net present value, the benefit/cost ratio is an important indicator because in case of investments with slightly positive or negative net present value it shows the extent to which the capital investment of the project generates a profit. In case of a benefit/cost ratio that is close to one, with low positive net present value, the investment cannot be regarded as necessary from a welfare perspective (e.g. the Croatian-Hungarian pipeline with the present high tariff).

If Nord Stream was not completed and the Russian transit would continue to take place through the traditional route across Ukraine, then with the construction of the Greek-Bulgarian pipeline (IGB) (with or without the construction of the Trans-Adriatic gas pipeline)[19] and with the construction of the Croatian LNG terminal (especially if the market protecting tariff applied toward the Hungarian

[17] In harmony with the methodology of ENTSO-G, see *ENTSOG* [2015].

[18] Austria, Bosnia and Hercegovina, Bulgaria, Czech Republic, Germany, Croatia, Hungary, Moldova, Romania, Serbia, Slovenia, Slovakia and Ukraine

[19] The Trans-Adriatic gas pipeline is considered only in this scenario.

TABLE 4 • **The net present value and benefit/cost ratio of the infrastructural investments of projects of common interest (PCI) with and without the expansion of the Nord Stream (million EUR)**

	Net present value (million EUR)		Benefit/cost ratio	
	Without Nord Stream expansion	With Nord Stream expansion	Without Nord Stream expansion	With Nord Stream expansion
Polish-Slovakian	–521	–456	0.00	0.13
Polish-Slovakian with low Polish LNG tariff [a]	–702	–514	–0.35	0.01
Greek-Bulgarian pipeline (IGB)	261	1145	2.28	6.63
IGB + Bulgarian-Romanian	–262	495	0.58	1.80
IGB + Bulgarian-Romanian + Romanian-Hungarian	–680	77.3	0.35	1.07
IGB+ Bulgarian-Serbian (IBS)	–46	1296	0.89	4.19
IGB (along with the Adriatic gas pipeline)	236	1677	2.16	9.25
Croatian LNG	373	857	2.40	4.21
Croatian LNG + Croatian-Hungarian with high tariff	44.4	528	1.07	1.89
Croatian LNG+ Croatian-Hungarian with low tariff [b]	64.7	1267	1.11	3.13
Croatian LNG with low tariff + Croatian-Hungarian with low tariff [b]	717	1625	2.20	3.73

[a] The regasification tariff of the Polish LNG is 1 EUR/MWh
[b] The Croatian-Hungarian transmission tariff is 1 EUR/MWh at entry and 1 EUR/MWh at the exit
[c] The regasification tariff of the Croatian LNG is 1 EUR/MWh, the Croatian-Hungarian transmission tariff is 1 EUR/MWh at entry and 1 EUR/MWh at the exit.

direction is reduced to an average level) the backbone network of market integration could be considered as completed within the region.

If, however, the Russian long term contracted gas captures the capacities originally built for competing spot flows to promote security of supply and market integration, then unblocking the artificially created West-East bottlenecks will require the construction of additional capacities. Due to the higher price level, the additional infrastructural development related to the Greek-Bulgarian pipeline (Bulgarian-Romanian, Romanian-Hungarian, Bulgarian-Serbian) will also turn into profitable investments. The construction of Nord Stream 2 therefore indicates almost 1 billion EUR of additional investment need in the region. It is important to highlight that while these investments boost the integration of European gas markets, and are also profitable for the investors, they essentially restore the situation before the construction of Nord Stream 2, and they are unnecessary in the absence of Nord Stream 2.

CONCLUSIONS AND POLICY RECOMMENDATIONS

We can conclude that due to the resulting bottlenecks, the expansion of the Nord Stream increases the already existing price difference between the Eastern and Western regions of Europe. The modified route of the Russian long term contracts notably deteriorates the access of the East-Central-European region to the cheaper Western European gas markets, thereby impeding the integration. With the cessation of the Eastern gas supply route there is a risk that the prices of the South-East-European region stay permanently higher.

The welfare impacts of the expansion of the Nord Stream are overall negative for Europe. The largest loss is suffered by the East-Central-European consumers and system operators. While under 2015 market conditions the welfare increase of Western European consumers can offset the loss of East-Central-European consumers, under the changed market environment of the 2020 scenario – arising from the rising supply of LNG – the expansion of Nord Stream on balance negatively affects the welfare of European consumers.

Our results indicate that if due to the modified routes the Russian long term contracted gas captures the capacities originally built for security of supply and market integration, then managing the artificially created West-East bottlenecks will require the construction of additional capacities. As a result, in addition to the Greek-Bulgarian pipeline and the line that delivers Croatian LNG to Hungary, building the Bulgarian-Romanian-Hungarian and the Bulgarian-Serbian routes will also become profitable. In total, the construction of Nord Stream 2 will require almost one billion euros of supplemental investments in the region. These investments restore the conditions that existed before the construction of Nord Stream 2, without which they would not be necessary.

The European Commission, the Agency for the Cooperation of Energy Regulators (ACER) and the national regulatory authorities – other than firmly enforcing the execution of the prevailing European regulatory requirements – do not have any tool to prevent this investment. Of the available regulatory tools particularly the auctioning of the capacities reserved for short term trading can ensure that competition continues at least with the current intensity, despite the expansion of the Nord Stream.

In August 2016, referring to its own market analysis, the Polish office of competition (UOKiK) concluded that the construction of the pipeline would endanger the gas market competition in Poland and would further improve the negotiating position of Gazprom toward consumers in the Polish gas market (*UOKiK* [2016]). This is why the planned consortium – comprising Gazprom and its five European partners to build Nord Stream 2 – could not be established. Following the news, the Western European companies supporting the investment, but also with stakes in the Polish market, withdrew from the consortium. Through other means of project financing or under an alternative consortium structure Gazprom may be able to execute the project. It is also possible, however, that the various authorities hinder the execution of the project for years to come, until finally it is terminated (as it happened in the case of the South Stream).

In the long run, nonetheless, instead of individual resolutions, the key to market competition may rest with ensuring that new sources of supply (mainly LNG) reach the region and harmonised regulation is established.

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This study is based on modelling carried out in 2015. The article is still timely today. Nord Stream 2 is still not in operation, despite being 94% constructed. There have been developments in terms of new regulatory conditions introduced by the EU in spring 2019, by the amendment of the Gas directive to extend the third party access rules to offshore pipelines entering the EU (Directive (EU) 2019/692 of the European Parliament and of the Council of 17 April 2019 amending Directive 2009/73/EC concerning common rules for the internal market in natural gas). In September 2019 the European Court of Justice ruled that allowing redirecting Russian flows to Nord Stream does harm European solidarity (Judgment in CaseT-883/16 Poland v Commission). Important developments happened on the Southern route implementing the Russian diversification strategy: Turk Stream 1-2 have been built and the Balkan Stream is under construction connecting the Turkish entry via Bulgaria and Serbia to Hungary. With all these developments in mind it is even more interesting to read the article. The main messages are still valid. Especially when we also consider the new Green Deal package of the European Commission – the unnecessary investments into gas transmission networks seems even more counterproductive from the European consumers' and EU welfare point of view.

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ANNEX

TABLE A1 • **The estimated volume and transmission route of Russian long term contracts delivered through Ukraine – and the changing route in case Nord Stream 2 is constructed**

	Annual contracted volume (TWh/year)	Expiry	Point of delivery	Route	Route in case of Nord Stream 2
RU–AT	68.4	After 2030	Baumgarten	RU–UA–SK–AT	RU–DE–AT RU–DE–CZ–AT
RU–BA	1.3	annually extended	Zvornik	RU–UA–HU–RS–BA	RU–DE–CZ–SK–HU–RS–BA
RU–BG	28	2022–2024	Negru Voda	RU–UA–RO–BG	RU–UA–RO–BG
RU–GR	19.5	n. d.	Sidirokastro	RU–UA–RO–BG–GR	RU–UA–RO–BG–GR
RU–HU	73.6	2019–2021	Beregovo	RU–UA–HU RU–UA–SK–AT–HU	RU–DE–CZ–AT–HU RU–DE–CZ–SK–HU
RU–IT	218	several contracts with various dates of expiry	Baumgarten	RU–UA–SK–AT–IT	RU–DE–CH–IT RU–DE–CZ–SK–AT–IT
RU–MK	1.4	annually extended	Zidilovo	RU–UA–RO–BG–MK	RU–UA–RO–BG–MK
RU–MD	0.7	annually extended	Oleksiivka, Grebenyky	RU–UA–MD	RU–UA–MD
RU–RO	5.3	2030	Isaccea	RU–UA–RO	RU–UA–RO
RU–RS	15	2018	Kiskundorozsma	RU–UA–HU–RS	RU–DE–CZ–SK–HU–RS
RU–SK	63.5	2028	Velke Kapusany	RU–UA–SK	RU–DE–CZ–SK
RU–UA	66.7	2019	Sudzha, Pysarivka, Valuiky	RU–UA	RU–UA

AT: Austria, BA: Bosnia-Hercegovina, BG: Bulgaria, GR: Greece, HU: Hungary, IT: Italy, MD: Moldova, MK: Macedonia, RO: Romania, RU: Russia, SK: Slovakia, UA: Ukraine.
Source: Pirani–Yafimava [2016] and REKK compilation.

Appendix

LIST OF ORIGINAL HUNGARIAN CHAPTERS

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The chapters of this English-language volume were originally presented in Hungarian within the "Verseny és szabályozás" series published by the Institute of Economics, Centre for Economic and Regional Studies. All volumes, as well as the current compilation, are downloadable at the website of the Institute: http://www.mtakti.hu/publikacio/publikacio-kategoria/verseny-es-szabalyozas/.

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