

DISCUSSION

ABUSE OF MARKET POWER IN ICT SECTOR

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Abstract: *The paper provides a general brief overview of specificities in market abuse (abuse of a dominant position) in the sector of information and communication technologies that have been identified in the literature namely with regard to cases against Microsoft and Google. The paper describes problems related to network effect, technology shift, definition of a relevant market, relationship between the protection of intellectual property and the protection of competition, and a territorial overlap of technologies. Moreover, the paper describes the problem of big data analysis and utilization of artificial intelligence as means of market abuse.*

Keywords: *artificial intelligence, big data, competition, dominant position, market abuse, ICT, technology shift, network effect, intellectual property, territorial overlap of technologies*

INTRODUCTION

From a national point of view, the concept of abuse of market power is a part of the public law area that regulates protection of competition. According to the Czech Act on the Protection of Competition (hereinafter referred to as the APC)¹ an abuse of market power is defined as an abuse of a dominant position. A dominant position is characterized by allowing a particular entity “to behave to a large extent independently of other competitors or consumers” (§ 10 par. 1 APC). The dominant position may then be used by the entity to bring about practices which are detrimental to the market, on which the entity operates, and are detrimental to its competitors as well as to consumers. Such practices are generally prohibited by the so-called general clause against abuse of dominant position.² Generally speaking, these practices are practices that are both contrary to the good morals of the competition and “*must result, in addition to the adverse effects on the competitors directly concerned (the actual competitors), in particular, in the disturbance of competition on the relevant market*”.³ The APC provides a demonstrative list of examples of practices of a dominant position abuse, such as imposition of unfair terms in contracts (§ 11 par. 1 letter a) of the APC), disadvantaging different market participants by laying down different conditions in contracts that relate to similar transactions (§ 11 par. 1 letter c) of the APC), or long-term offering and sale of goods at unreasonably low prices (§ 11 par. 1 letter e) of the APC).

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¹ Act No. 143/2001 of the Coll., on the protection of competition, as amended.

² KINDL, J., MUNKOVÁ, J. *Zákon o ochraně hospodářské soutěže. Komentář*. 3rd edition. Praha: Nakladatelství C. H. Beck, 2016, p. 203–204.

³ *Ibid.*

In the EU law, the abuse of dominant position is generally defined in Art. 102 of the Consolidated version of the Treaty on the Functioning of the European Union. Art. 102 mentions examples of abuse of a dominant position that consist in imposing unfair prices or other trading conditions, limiting “*technical development to the prejudice of consumers*”, creating competitive disadvantages by applying different conditions to equivalent transactions, or “*making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts*”.

The sector of information and communication technologies is one of the 13 economic sectors in which the European Commission ensures the protection of competition.⁴ This sector is considered to be specific, as it is currently the driving force behind the development and growth of the economy, and at the same time represents a tool for transforming the traditional functioning of the society. The ICT sector enables people to “*organise their lives and businesses in new ways, build worldwide networks, manage information and learn throughout their lives, socialise and stay in touch with friends, contribute to the pool of online knowledge, create content for the new media*”.⁵ In the meantime, however, several key players, who have gained a dominant position in their market, especially with regard to the mass expansion of their technology, have emerged in this sector. In the last ten years, several cases have been addressed concerning the abuse of dominant position in the field of ICT. The investigations concerned, for instance, Rambus, Intel, Microsoft⁶ or Google.⁷ In connection with the investigation of these cases, it has become obvious that, compared to other sectors, ICT sector has specificities which have a significant impact on the functioning of the markets in this sector and, therefore, also on the protection of competition in this sector. The aim of this discussion paper is to identify and describe the specifics with regard to resolved cases from both the EU as well as the United States of America. Moreover, the paper aims to identify possible issues in abuse of a dominant position with regard to the emerging trend of big data analysis as well as utilization of artificial intelligence.

SPECIFICITIES OF THE LAW ON PROTECTION OF COMPETITION IN THE ICT SECTOR

The two main companies that have influenced understanding of the market with regard to a dominant position in the ICT sector are Microsoft and Google. Several US and EU proceedings have been brought up against Microsoft. Microsoft has utilized its

⁴ Other sectors are agriculture and food, consumer goods, energy and the environment, financial services, media, motor vehicles, pharmaceuticals, postal services, professional services, sports, telecommunications and transport. Competition. In: *European Commission* [online]. 11. 1. 2012 [2017-01-11]. Available at: <http://ec.europa.eu/competition/index_en.html>.

⁵ Information Communication Technologies (ICT). In: *European Commission* [online]. 16. 4. 2012 [2017-01-10]. Available at: <http://ec.europa.eu/competition/sectors/ICT/overview_en.html>.

⁶ Ibid.

⁷ Google antitrust proceedings: Digital business and competition. In: *European Parliament* [online]. 2015 [2017-01-10]. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/565870/EPRS_BRI\(2015\)565870_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/565870/EPRS_BRI(2015)565870_EN.pdf)>.

dominant position in a number of ways, including entering into contracts which led to the inability of users to use a browser other than Internet Explorer, or by refusing to provide interoperability information to other Windows programs.⁸ Google, on the other hand, used a number of various business practices to favor its own search services by using the content of websites of other entities without obtaining consent, by enforcing contracts for targeted advertising, or by restricting transmission of advertising campaigns to other platforms.⁹

As mentioned above, when analyzing these and similar cases, it has become obvious that information and communication technologies are linked to specific features which cannot be found in other economic sectors. These are in particular the following issues: the so-called network effect, a problem of technology shift, a problem of defining the relevant market,¹⁰ a problem of the relationship between the protection of intellectual property and the protection of competition,¹¹ and a problem of territorial overlap of technologies.¹²

The network effect is one of the major issues that have changed the society's view on ICT competition and the ways of protecting it. This theory explains behavior of subjects on the technology market. It is based on the assumption that within a certain period of time there will appear an entity that will dominate the market. Additional products and services complementary to the technology provided by the dominating entity will be created by other companies in order to exploit the possibility to satisfy a high number of users. The specific technology embodied in the original product thus becomes a standard. Due to the large number of additional services provided for a large network of users of a particular product, it would be difficult or even impossible for other, even better technologies to enter the market.¹³ This is confirmed by the experience from the EU. There the companies are losing the incentive to invest in research and innovation because of a real inability to use their competitive advantage, for example, by offering a better technology.¹⁴

The network effect is related to another phenomenon involving the use of technology shifts. A technology shift refers to developing an existing technology into its more

⁸ JENNINGS, J. P. Comparing the US and EU Microsoft Antitrust Prosecutions: How Level Is the Playing Field? *Erasmus Law and Economics Review*. 2006, Vol. 2, No. 1, p. 71–85.

⁹ Communication from the Commission published pursuant to Article 27(4) of Council Regulation (EC) No 1/2003 in Case AT.39740 — Google (Text with EEA relevance). 2013/C 120/09.

¹⁰ First three problems are identified in PAGE, William H. Microsoft and the Limits of Antitrust. *Journal of Competition Law & Economics*. 2010, Vol. 6, No. 1, p. 33–50.

¹¹ GLASGOW, L. J., VAZ, A. N. Beyond Microsoft: Antitrust, Technology, and Intellectual Property. *Berkeley Technology Law Journal*. 2001, Vol. 16, p. 525–534.

¹² COHEN, Amanda. Surveying the Microsoft Antitrust Universe. *Berkeley Technology Law Journal*. 2004, Vol. 19, p. 333–364.

¹³ PAGE, W. H. Microsoft and the Limits of Antitrust. *Journal of Competition Law & Economics*. 2010, Vol. 6, No. 1, p. 33–50.

¹⁴ Google antitrust proceedings: Digital business and competition. In: *European Parliament* [online]. 2015 [2017-01-10]. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/565870/EPRS_BRI\(2015\)565870_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/565870/EPRS_BRI(2015)565870_EN.pdf)>. See p. 5.

advanced form that can offer a new quality (such as faster information processing or a higher memory content) or new services to its users. At the same time, this technology overcomes competing products and services at a given market and usually leaves them behind in terms of attractiveness for users. If this concerns a development of a technology which is already used by a large network of users, such a change will affect the whole market. Hence, a company offering this technology can create a market monopoly in the future for the duration of the use of the next generation of this technology.¹⁵

Another problem relating to the protection of competition in the ICT market concerns the effects of the right to the protection of intellectual property on the competition. The vast majority of ICT services and products is subject to some intellectual property rights (copyright-protected source codes, patent-protected technical solutions, etc.). The objective of the intellectual property protection is to stimulate research and development in order to facilitate innovation, which should ultimately benefit society as a whole. However, due to the high costs of R&D and the associated risks, the actors need to be motivated by granting exclusive rights to the results of these activities. Exclusive rights, for example in the form of patents, may have the opposite effect on competition. Patents are often used by companies strategically in such a way that there is a significant change in the market. For instance, tactics of strategic partnerships and mutual licensing of patents can lead to the exclusion of other companies from the relevant market or to the promotion of own patents as a standard in a particular market.¹⁶

In the area of competition, other issues related to the protection of intellectual property rights remain, namely problems with processing contents by third parties. In particular, two problems of this kind have been identified in the literature: “*conduit discrimination*” and “*content discrimination*”.¹⁷ The first case refers to a restriction on the distribution of own content and services on competing platforms. The second case refers to blocking or reducing value other than own content within the platform itself.

The aforementioned problematic relationship between the protection of competition and the protection of intellectual property rights needs to be accepted. Intellectual property protection is a necessary guarantee for the development of the technology and also for ensuring competition at the level of research and development itself. The literature then argues that the right to protection of competition plays a secondary role in this relationship and should only enter the scene when “*there is a threat that the sole entity will take over the fundamental technological platform*”.¹⁸

Concerns about the roles of the described competition rights can be compared to doubts about what is good and what is not good for the competition. Some practices of

¹⁵ PAGE, W. H. Microsoft and the Limits of Antitrust. *Journal of Competition Law & Economics*. 2010, Vol. 6, No. 1, p. 33–50. See p. 40.

¹⁶ KRAUSOVÁ, A. Patentové právo a jeho strategické využití. *Revue pro právo a technologie*. 2013, Vol. 4, No. 7, p. 27–31.

¹⁷ GLASGOW, L. J., VAZ, A. N. Beyond Microsoft: Antitrust, Technology, and Intellectual Property. *Berkeley Technology Law Journal*. 2001, Vol. 16, p. 525–534. See p. 530.

¹⁸ *Ibid.*, p. 533.

technology companies can harm competitors on the market and at the same time they can be beneficial to users. Technology shift or free services are good examples. The question is how this will affect market competition as such in the long run. A high degree of unpredictability related to a really fast technological development plays an important role in this equation. In a single day certain services may become absolutely obsolete and lose importance. There are also confusions in overlaps between products and services as well as uncertainties in defining relevant markets. The definition of the relevant market played a role both in the case of Microsoft as well as in the case of Google. Although there is a system of Classification of Economic Activities in the EU,¹⁹ in the case of Google, experts did not agree whether general and specialized search engines could be considered the same or different products and therefore the markets.²⁰

The ICT sector is also linked to the problem of a territorial overlap of technologies. As evidenced particularly by the case of Microsoft, its business practices had to be resolved by both US and EU courts. In both cases, however, there have been different outcomes, which in the global sense do not contribute to effective protection of competition but, on the contrary, lead to certain anomalies. The only solution is the coordinated enforcement of international law.²¹

EMERGING TRENDS

The ICT sector gave rise to two phenomena that have a potential to significantly influence the competition in the whole market. These phenomena are big data and artificial intelligence. The term big data refers to large datasets from which value can be extracted with help of specific methods as well as large scale computing power.²² Big data can be distinguished from other data by the scale of its volume, the velocity at which it is processed, its variety, and the possibility to extract the value.²³ The specific methods that help to extract the value from big data, such as neural networks and deep learning, typically belong within the field of artificial intelligence (AI). Artificial intelligence is a branch

¹⁹ In the ICT sector there are the following categories: Manufacture of electronic components and boards (NACE code C 26.1), Manufacture of computers and peripheral equipment (NACE code C 26.2), Manufacture of consumer electronics (NACE code C 26.4), Manufacture of magnetic and optical media (NACE code C 26.8), Software publishing (NACE code J 58.2), Computer programming, consultancy and related activities (NACE code J 62), Data processing, hosting and related activities; web portals (NACE code J 63.1), Renting and leasing of office machinery and equipment (including computers) (NACE code N 77.3.3), Repair of computers and peripheral equipment (NACE code S 95.1.1), Repair of consumer electronics (NACE code S 95.2.1). See Cases. Information Communication Technologies (ICT). In: *European Commission* [online]. 16. 4. 2012 [2017-01-10]. Available at: <<http://ec.europa.eu/competition/sectors/ICT/cases.html>>.

²⁰ Google antitrust proceedings: Digital business and competition. In: *European Parliament* [online]. 2015 [2017-01-10]. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/565870/EPRS_BRI\(2015\)565870_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/565870/EPRS_BRI(2015)565870_EN.pdf)>. See p. 4.

²¹ COHEN, A. Surveying the Microsoft Antitrust Universe. *Berkeley Technology Law Journal*. 2004, Vol. 19, p. 333–364.

²² OECD. Big Data: Bringing Competition Policy to the Digital Era. In: *OECD* [online]. 27. 10. 2016 [2018-01-20]. Available at: <[https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf)>.

²³ *Ibid.*, p. 5.

of computer science that creates autonomous and self-learning algorithms capable of rapid processing of huge amounts of data. AI algorithms are able to identify patterns and, therefore, uncover hidden relationships within the datasets. Usage of artificial intelligence provides a competitive advantage due to its autonomy, efficiency and precision in data processing. Both phenomena are interconnected. Big data databases can be compiled with help of artificial intelligence that later utilizes the data to learn from them and based on such learning creates evaluation or prediction models.

Large datasets have been recognized as having both pro-competitive benefits as well as providing means to abuse of dominance. The phenomenon of big data led for instance to free user services through monetization of the data, improved quality of services, or accelerated increase in innovation.²⁴ Moreover, data markets are characterized by low entry barriers.²⁵ However, on the other hand, concentration of large datasets can also be utilized to rising entry costs. Anticompetitive practices involve especially “*provision of discriminatory access to data*”.²⁶ However, not only selective provision of data can harm the competition. Companies may abuse their dominant position by providing incomplete datasets as well, or even worse by providing malicious datasets. These practices are deemed unlikely but possible. Moreover, big data can also lead to loss of quality of data, drawbacks in innovation, harm to privacy or data-driven mergers.²⁷ The impact of big data on the competition and possible abuse of dominant position are currently being researched in order to find out whether changes in legislation should be adopted. It is questionable whether big data should be regulated by antitrust legislation or whether a different means should be utilized.

As big data are tightly interconnected with utilization of artificial intelligence, it would be more logical to consider adopting specific legislation. Artificial intelligence gives rise not only to questions related to data analysis but also to questions related to agency due to its autonomy and unpredictability. With regard to machine-to-machine communication without human intervention, smart algorithms in the form of software agents can start to utilize the fact that other software agents need them to realize such transaction. This might lead to automated abuse of dominant position that would be unintentional as well as hardly identifiable. Specific legislation needs to be adopted with regard to determining liability for such conduct. Antitrust legislation will be, therefore, in the future connected with the rules on liability for automated autonomous behavior.

²⁴ SOKOL, D. D., COMERFORD, R. Does Antitrust Have A Role to Play in Regulating Big Data? In: *Semanticscholar.org* [online]. [2018-01-20]. Available at: <<https://pdfs.semanticscholar.org/e820/6c280f31ef55d0c11e6777d92c806d6964d2.pdf>>.

²⁵ *Ibid.*, p. 5.

²⁶ OECD. Big Data: Bringing Competition Policy to the Digital Era. In: *OECD* [online]. 27. 10. 2016 [2018-01-20]. Available at: <[https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf)>. See also EZRACHI, A., STUCKE, M. E. Artificial Intelligence & Collusion: When Computers Inhibit Competition. *University of Illinois Law Review*. 2017, No. 5, pp. 1775-1810.

²⁷ SOKOL, D. D., COMERFORD, R. Does Antitrust Have A Role to Play in Regulating Big Data? In: *Semanticscholar.org* [online]. [2018-01-20]. Available at: <<https://pdfs.semanticscholar.org/e820/6c280f31ef55d0c11e6777d92c806d6964d2.pdf>>.

CONCLUSION

Competition in ICT has its indisputable specifics. In addition to traditional practices such as enforcement of non-standard contractual terms, bundling of services with the purchase of other products, dumping pricing plans, etc., technological companies can also exploit ICT-specific problems to abuse own market power. These are, as mentioned above, a network effect, a shift in technology, the impossibility of a clear definition of the relevant market, the relationship between the protection of intellectual property rights and the protection of competition and the territorial overlap of technologies.

Competition in the ICT sector is also influenced by emerging trends represented especially by the phenomena of big data and artificial intelligence. These phenomena give rise to previously unanticipated questions and will definitely result in societal reflection of its impacts in the form of legal regulation.

Finally, it is important to note that ICT sector is also able to significantly affect all other sectors. In all other areas, information and communication technologies are widely used. These technologies often determine how the whole sector can move further in the light of developments in data processing and other options. Well-functioning competition in this field is, as a result, crucial in ensuring the optimal and, above all, free functioning of the whole society. The availability of information and its quality depends primarily on the ICT sector, which basically holds the keys to what information, how and to whom it will communicate. In view of the key position of this sector and its overall impact on the whole society, it is, therefore, necessary to consider whether it would be appropriate to propose specific legislation taking account of the specificities described in order to effectively protect competition. Obviously, the dynamics of future legislative efforts is currently influenced by research on impacts of big data and artificial intelligence. It is presumable that legislation will try to promote sharing data as well as innovation. Moreover, legislators should adopt a complex view on the ICT sectors and its externalities. Intellectual property rights should be protected, however, it should be proportional to the fact that majority of data is provided by other subjects without whom the activity of companies with dominant position would not be possible. Social responsibility of these companies should play an important role.