Towards a Regulatory Framework for Artificial Intelligence - an EU Approach

Pošćić, Ana; Martinović, Adrijana

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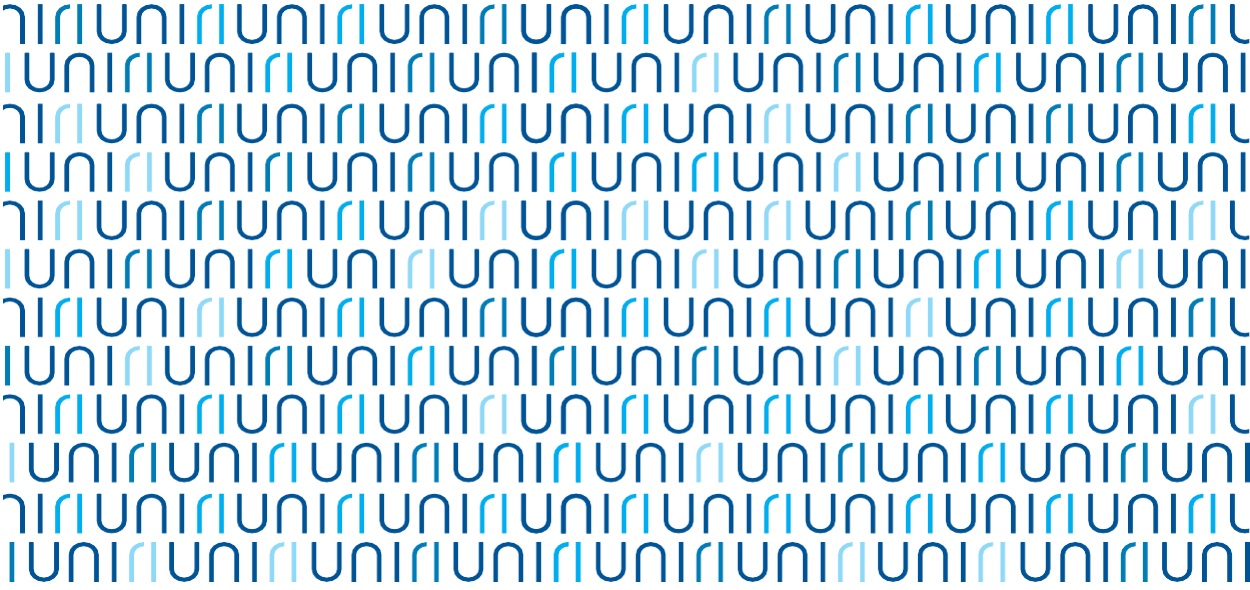

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FOREWORD

Dear authors, reviewers and readers,

With the research monograph Contemporary Economic and Business Issues, we present to you the third series in the context of digital transformation. We have been fortunate to enjoy presentations from more than 50 researchers, mainly from the region of Southeast Europe. From the very beginning, the main objective of the research effort has been to provide scientific evidence of the dramatic changes in the current and future economic reality caused by the increasing digitalization processes. In 2020, we have experienced unprecedented challenges related to the COVID19 pandemics, which has dramatically intensified the compexities within the economic and business spheres. Therefore, the organization of the conference has adapted to these circumstances and for the first time was held entirely online, using virtual platforms. This is a very practical manifestation of the rapid digitalization of our regular activities.

The conference was organized from 24 to 26 June 2020 (www.edt-conference.com). Since the main theme of the conference was the interplay between fiscal and monetary policy, we were honored to host the keynote speeches and panel discussion delivered by Eric Leeper (Paul Goodloe Mcintire Professor in Economics, University of Virginia, Department of Economics, Charlottesville, USA), Corrado Macchiarelli (Principal Economist at National Institute of Economic and Social Research, NIESR) and Cristian Popa (Senior Advisor to Vienna Initiative Steering Committee). There was also an amazing panel discussion on Smart Cities, introduced by a keynote address from Ben Green, Harvard School of Engineering and Applied Sciences, Cambridge, USA. The last panel sponsored by the Unger Family Foundation on “Cities, Campaigns and Civic Engagement” chaired by Andrej Kričković (Higher School of Economics (HSE), Moscow, Russia) initiated a transdisciplinary discussion on the current issues.

We are immensely grateful to all our participants, sponsors, supporting institutions, partners and all members of the program and organizing team. Our special thanks go to the President of the Republic of Croatia, Zoran Milanović, for his support and opening of the conference with his introductory speech. We are also grateful to Boris Vujčić, Governor of Croatian National Bank, for his continuous support. We also thank Nicholas C. Zingale (Maxine Goodman Levin School of Urban Affairs, Cleveland State University), whose support enabled the organization of the panel discussion on Smart Cities. Many thanks to Dorothy Baunach (DigitalC, Cleveland, Ohio, USA), Kenneth Loparo (Case Western Reserve University, Cleveland, Ohio, USA), and Brian Edward Ray (Clevelend-Marshall College of Law, Cleveland, Ohio, USA). Our special thanks goes to Andrej Kričković, who moderated the Unger Family Foundation panel, and to all panelists, Predrag Pale (University of Zagreb, Faculty of Electrical Engineering and Computer Science, Zagreb),

Vjeran Pavlaković (University of Rijeka, Faculty of Humanities and Social Sciences, Rijeka), Dražen Hoffman (GONG, Zagreb, Republic of Croatia), Kurt Bassuener (University of St. Andrews), and Velibor Mačkić (Special Advisor to the President of the Republic of Croatia for Economics).

We sincerely hope that the papers published in this monograph will be a valuable contribution to students and researchers in the field of business and economics.

Rijeka, April 2021

Editors

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TOWARDS A REGULATORY FRAMEWORK FOR ARTIFICIAL INTELLIGENCE - AN EU APPROACH

Ana Pošćić[1], *Adrijana Martinović*[2]

Abstract

The digital revolution facilitates innovation models that generate new markets and business models. Together with Internet, it has opened up a vast array of new possibilities. Latest reappearance of the artificial intelligence has created further potentials and types of market participation. Artificial intelligence is understood as a cutting-edge technology and a key-driver of transition of our economy into digital economy. The expansion and use of artificial intelligence will have a positive impact on many diverse sectors, such as healthcare, farming, security, climate, etc. Potential risks should not be underestimated as well. The pervasive recognition of the advantages of artificial intelligence will depend on legal certainty. The European Union is well aware of it. The main dilemma is to regulate or not to regulate. Too much regulation could stifle innovation and possible new incentives. On the other hand, certain minimum rules are necessary. The most important question is, should the current legal system be adapted to address the new challenges associated with the application of artificial intelligence, and how? Besides developing a proper legal framework, it is necessary to ensure appropriate ethical framework to enhance the trust of consumer, as well as to improve business outcomes. Certain rules already exist, but none of them regulate artificial intelligence specifically. The article questions a premise whether it is suitable to develop one legislative instrument, or whether it would be better to leave it to the sector regulations. The main idea behind it is that new technologies are moving too fast and the regulation is lagging behind. Certain regulation is needed, but with the caveat that any framework must be able to respond to new developments. The first challenge is to opt for a proper definition in order to be able to propose possible solution. The article will address those issues and offer potential answers. It will conclude that certain rules are definitely needed in order to preserve the fundamental values and standards.

Key words: Artificial Intelligence, European Union, Regulatory Framework

JEL classification: K20

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1. Introduction

Artificial intelligence (AI) is becoming one of the key technologies of the 21st century. It is part of the fourth industrial revolution that is "characterized by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human" (Schwalb, 2016).

The technological improvement triggered by AI is not new. Some aspects have already become part of our everyday life. It has been applied in the traffic sector, health sector, climate sector, energy, agriculture as well as financial markets and data driven economy (European Commission, 2018a).

These topics are in focus in the European Union. The future development of AI and especially its appreciation in the community will depend on legal certainty of all stakeholders involved. The European Commission is leading the European Union's efforts to tackle many issues arising in connection with AI. In 2018 it published a Communication on the Artificial Intelligence for Europe (European Commission, 2018a) and the accompanying document Liability for Emerging Digital Technologies (European Commission, 2018b). The Commission believes that the way we approach AI will define the world we live in (European Commission, 2018a). The main concern is to develop AI that can benefit people and society. If the advancement of the AI and its control are easily understandable, the possible risks to the whole society will be diminished.

The AI system causes legal, social and ethical dilemmas. In an attempt to offer possible solutions, it is necessary to understand the basic structure of the system. The legal framework must leave room for future technological innovation, while respecting fundamental values enshrined in the EU Treaties. The innovations are moving so fast and they are usually ahead of legislators. Today, we encounter a legal vacuum in almost every aspect of AI. Certain regulation is needed, but with the caveat that any framework must be able to respond to new developments. The first challenge is to opt for a proper definition in order to be able to frame appropriate policy and regulatory responses.

2. Definition of the Artificial Intelligence

The notion of AI is difficult to define. There are various definitions proposed in doctrine, from the laconic definitions of AI as "intelligent machines", or at least "machines acting in ways that seem intelligent" to the more complex and comprehensive ones, referring to AI is "un umbrella term embracing computer (machine) vision, natural language processing, virtual assistants and bots, robotic process automation, machine learning (including most advanced techniques like deep learning) and cognitive processes in organizations" (European Parliament, 2019a). Russel and Norvig organize different definitions of AI along four different axes, depending on the approach taken, i.e. whether the accent

is on thinking humanly, acting humanly, thinking rationally or acting rationally (Russel and Norvig, 2010: 1-2). This illustrates how difficult it may be to find a common understanding.

In order to understand the main features and possible legal implications associated with AI, a clear, comprehensive and easily understandable definition is needed. This is the task for the policy and decision makers, which requires cooperation and consensus among lawyers, engineers, data scientists, economists, etc. Since AI-based solutions may be applied and used in very different economic and societal sectors, only an interdisciplinary approach may offer acceptable results. Finding an appropriate definition exceeds the limited scope of this paper. The authors will therefore concentrate on identifying some crucial arguments which are important and are able to contribute to the ongoing discussions on legal aspects of AI.

For a layperson in this field, so many aspects require clarification. The intention of this article is not to discuss all the elements of AI, but only to explore and pinpoint specific areas where regulatory intervention is either needed or appears redundant. When describing AI, the temporal element should be taken into consideration. AI technology is developing very fast, which is always problematic when it comes to definitions (European Parliament, 2019a). The definitions evolve over time and depend on the level of technological advancement. One example is the natural language processing that once has been thought of as forming part of the AI.[3]

The notion of AI is so wide that it encompasses various products and applications. Certain definitions cover vast array of products and some are sector – oriented (European Parliament, 2019b).

The fascination with AI is not new. In the 1940s there had already been attempts to explain its elements (European Parliament, 2019a; Russel and Norvig, 2010: 16 and further). During the years, there have been different attitudes towards AI, from total ignorance to only sporadic interest. In recent years we are facing the re-rise of the AI.

The European Commission underlines that “AI refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goal” (European Commission, 2018a: 1). AI is actually a collection of technologies that combine data, algorithms and computing power (European Commission, 2020a: 2). AI can be purely software based or can be embedded in hardware devices (European Commission, 2018a).

In the sea of so many proposed definitions we find the definition suggested by Policy Department for Economic, Scientific and Quality of Life Policies the one that best explains the complex notion of AI as a “branch of science and as such it can be defined as a set of computational technologies that are inspired by

3 Today it is perceived as forming part of computer science (European Parliament, 2019a).

the ways people use their nervous systems and bodies to sense, learn, reason, and take action" (European Parliament, 2019a). The last definition is wide and flexible enough to be able to adjust to rapid technological developments. Too rigid and strict definition could be an obstacle in future discussions concerning possible legal framework.

3. The EU Approach

AI has been brought to the forefront of the political agenda in the European Union in the last few years. In 2017 the European Council called the Commission to develop a European approach to AI. In 2018 the Commission published a Communication with the aim "to boost the EU's technological and industrial capacity, prepare for socio – economic changes and ensure an appropriate ethical and legal framework". The Commission stressed that all these priorities need to be coordinated with member states (European Commission, 2018a).

The Commission's proposal aims at promoting appropriate ethical and legal framework taking into consideration fundamental values enshrined in Article 2 of TFEU (European Commission, 2018a). Possible regulatory proposals must take into consideration the fact that any misplaced regulation has a potential to stifle innovation in every sector, especially the AI sector. Elon Musk said that is necessary to regulate AI before is too late (Musk, 2017). Etzoni proposes a middle way, he calls for regulating AI applications, not AI research. He sees this solution more practical and beneficial as he believes that regulating applications in areas such as transportation, medicine, politics and entertainment are essential. He proposes five guidelines in regulating AI: to set regulations against AI – enabled weapons, to regulate the questions of liability, to disclose that AI is not human, to look at the privacy questions and to prevent the discrimination bias. He concludes that "the difficulty of regulating AI does not absolve us from our responsibility to control AI applications. Not to do so would be, well unintelligent." (Etzoni, 2018). So, certain minimum standards are necessary.

The purpose of any regulation is to protect humans and society from harm. The principles of responsibility, transparency, privacy and protection against discrimination bias must be embedded in existing or new regulations.

The main problem is that today we do not have systematic legal initiatives concerning AI. Currently we have a patchwork of national rules. The picture in the EU is fragmented as well. That undermines legal certainty and security. One can rightly argue whether any regulation is needed at all. The question is to regulate or not to regulate. This problem will have to be addressed at EU level as well as national level. The EU already has a vast array of secondary legislation. Existing rules should be adapted to new developments. Too much regulation can have adverse effects to future innovations. Instead of enacting binding legal instruments, soft law instruments could also offer possible answers.

The latest initiative by the Commission is the White paper on artificial intelligence (European Commission, 2020a). The idea behind it is to maintain scientific discovery, preserve the EU's technological leadership while improving the lives of its citizens. The development of AI must be based on European values. One of the priorities of the current President of European Commission is a coordinated European approach on human and ethical implications of AI and the better use of big data innovations. The Commission's White paper offers policy alternatives to advance regulatory and investment approach that promotes AI (European Commission, 2020a).

Confidence should be the crucial feature of any regulation aiming to promote the growth of AI. The Commission understands that in order to become a leader in AI economy, there must be an appropriate framework that respects the EU fundamental values. The AI must be grounded on values of freedom, human dignity and privacy. The White paper calls for a European approach that will diminish national fragmentation of rules. The Commission refers to an ecosystem of trust and excellence (European Commission, 2020a).

In order to enhance trust, the Independent High-level expert group on AI (AI HLEG), set up by the Commission, issued the Ethics Guidelines for Trustworthy AI in 2019 (European Commission, 2019). The Guidelines propose seven specific requirements for a trustworthy AI: Human agency and oversight, technical robustness and safety, privacy and data governance, transparency, diversity, non-discrimination and fairness, societal and environmental well-being and accountability. The accent is on the trust in the development, deployment and the use of AI systems as the essential part of every regulation aimed at establishing lawful, ethical and robust AI systems (European Commission, 2019: 5).

There is a tension between the efforts of the EU to promote innovation and new technologies, and its task to ensure socially and economically optimal outcomes. Certain rules in the area of data protection, privacy, non-discrimination, gender equality, consumer protection, product safety and liability apply to AI as well. In the European Union, there are already specific rules in place which can serve as a starting point in discussions concerning their application in connection with AI systems. The General Data Protection Regulation (GDPR, 2016) with its principles such as lawfulness, fairness and transparency, purpose limitation, data minimization, accuracy, storage limitation, integrity and confidentiality and accountability (see Article 5 GDPR) is a solid tool. Another regulatory area concerns product liability. The Commission has undergone preparations for amending the EU rules on product liability and machinery (European Commission, 2018b). The idea behind it is to see whether these rules are adequate or have to be altered. Since AI systems develop very fast, any regulatory instrument should be flexible enough to adapt and apply in rapidly changing environments.

Besides potential advantages of AI, possible risks should not be underestimated. A regulatory framework should take them into consideration.

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Risks relate to fundamental rights, privacy, data protection, discrimination bias as well as perils connected to freedom of association, expression, the privacy and the protection of personal data.

According to the Commission, there is a need for continuous work in the area of effective application and enforcement of existing EU and national legislation. The limitations in scope of the existing EU legislation should also be tackled.

3.1. Examples of Possible Regulation in the AI system

In this section we draw attention to two topics that can trigger problems from the perspective of AI. One concerns the question of liability and the other competition matters. The intention is to shed some light on the possible future directions in those sectors.

AI systems, robots and other new technologies open questions concerning the liability for possible defects. The European Union's legislative framework consists of legal sources aiming to guarantee product market surveillance. The sectoral legislation is supplemented by the General Product Safety Directive (GPSD, 2002), which requires all products to meet safety standards. In the last years, the attention has been on the supply of digital content and data protection, rather than on the question on non-contractual liability. We shall show that the existing rules, with some clarifications and modifications, are adequate for innovative systems.

Autonomous systems have some special features and functions that cannot be determined in advance, but may result in damage. Unintended outcomes could cause damage to users. AI systems are so complex and involve a lot of actors, e.g. manufacturers, distributors and end users. In those complex interrelations there are some questions that have to be addressed. The precise rules are necessary so that the full benefits of new technologies prosper (Lohsse et al., 2019: 12). Those issues have already been discussed in the Digital Single Market Strategy (European Commission, 2015), as well as Data Economy Communication (European Commission, 2017) and Resolution on Civil Law Rules on Robotics (European Parliament, 2017). The European Parliament called a Commission to recommend a legislation on legal questions related to the development and use of robotics and AI. The digital revolution has provoked the revolution of non – contractual liability. Is strict liability appropriate to deal with risks associated with AI, and if the answer is affirmative, which regulatory level should be suitable? One of the proposed ways is the global approach, as different national initiatives may hinder cross – border transactions (Lohsse et al., 2019: 16). In the absence of the consistent global approach, presently, the European approach is more likely.

When we talk about responsibility, the key question is which actors are responsible for damage resulting from the use of AI systems? The first addressee of a damage claim is the producer of the AI system. Having in mind the peculiarities

of the AI systems, the question is whether we should attribute certain responsibility to the operator and the user of the system, as well. Further research and analysis of particular features of non-contractual liability in the field of AI is needed. In this respect, the Commission published the Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics (European Commission, 2020b). The first question to be addressed is the responsible person in the value chain: the producer, the user or the operator of the system. The Product Liability Directive (PLD, 1985) can provide some answers. It imposes a strict liability regime of the producer for the damage caused by the defect in their products. Until now, the EU legislator has not decided if strict liability regime should cover also operators and the user of the autonomous systems. There are a lot of risks associated with the way we use AI. A good example concerns autonomous cars, where the same regime as for the cars with drivers apply. The next point concerns the nature of AI systems that have a capability of self-learning and adapting to new situations. Those situations cannot be perceived at the outset. The last dilemma goes in favour of a possible exemption of the operator's liability (Lohsse et al., 2019: 20). The task of finding a responsible person will not be straightforward, but it will have to take into consideration different roles and contribution to the damage.

New technological development has blurred the dividing line between product and services. They are interconnected. The software is one example that could be problematic regarding AI. Software can be a part of product or sold separately. The software programmer could be held liable if a mistake is caused by the hardware, but if it is sold separately, he could escape the responsibility. The Product Liability Directive defines a product as all movables, whether incorporated into another movable or immovable (PLD, Article 2). Further clarification is needed concerning the issue whether software and data are products as well. The Directive does not apply to provision of services and license rights. In the last example national rules apply, which might create legal uncertainty. The situation is as follows. Article 2 of the Product Liability Directive will apply on a bundle of hardware and software. In those situations, if the software is defective, the Directive applies. The difficulty will be in those situations where the software is sold as a separate product. Software can take a lot of different shapes and it ought to be clarified if it is a product or a service. The scope of the Directive will have to be clarified and adapted to the new digital developments so that it also covers situations in which damage has resulted from the digital content or software.

We have seen that the main challenge is connected to the strict liability. It will have to be decided which actor should bear the possible consequences. As mentioned before, a lot of actors are involved. It is a situation of a complex value chain. It is important to define a responsible person with full awareness that too much regulation could disincentivize innovators to develop new systems. Here again, it is necessary to define the AI and then decide on possible responsible persons. There are two possible directions proposed in the literature. One is a general rule of objective liability and the other is to develop different sector-specific regimes. General clause would allow more flexibility,

but as all broad definitions, it can create legal uncertainty. On the other hand, sector regimes may initially be considered as a good solution, as they result from experiences connected to specific sector, but sometimes they need a lot of time to adapt to new technologies. Strict liability will not be the answer without the accompanying necessary insurance schemes (Lohsse et al., 2019: 21-23).

Other questions to be resolved concern the threshold (see PLD, Article 9), the burden of proof and the possibility of insurance. The burden of proof is the most problematic and sometimes it poses an obstacle to the injured person. The Report refers to the complex IoT environments where different product and services interrelate (European Commission, 2020b: 14). The injured party has to prove the damage, the defect and the causal link between the defective product and the damage. National law should facilitate the burden of proof for injured persons. It is suggested that a burden of proof is connected to the compliance with cybersecurity or other safety regulations. The problem is that the Product Liability Directive requires the victim to prove a defect, and national rules on evidence and causation apply.

As the Product Liability Directive does not refer to cybersecurity breaches in the product, it is debatable whether the latter situations are also covered. Another point is the development of the risk defense, which means that a producer is not liable if the defect has not existed at the time the product was put into circulation. AI products may evolve over time (European Commission, 2020b: 13-14). The algorithms are sometimes difficult to predict and understand and sometimes they require special knowledge. Those situations may create problems for the victims in their claims. There is an obligation of all producers to put safe products on the market. The AI system must meet the minimum of safety standards. The problems could arise in connection with possible future autonomous systems that operate independently of their creators. For how long would the producers be held liable?

The idea is to have a holistic approach that will take in consideration the liability of operators, owners and insurers, as well as the matter of redress in the value chain. There is also uncertainty as to the allocation of responsibilities between different economic operators in the supply chain. It seems that those questions will have to be addressed in a different way from the traditional civil law concepts such as traditional liability theories, negligence and strict liability regimes. The challenge for civil law is to make a well-defined division of responsibilities between designers, service providers and end users. In this context, the European Parliament's Resolution on Civil law rules on robotics (European Parliament, 2017) proposes a compulsory insurance scheme, compensation fund and a Union register. The resolution proposes that the most complex robots should have a status of electronic persons. Liability rules must make a balance between the protection of citizens and protection of innovation. It seems that gaps have to be confronted in a comprehensive approach (European Commission, 2020b: 6).

AI should take special care of consumers as well. Unfair Commercial Practices Directive (UCPD, 2005) and Directive on misleading and comparative

advertising (DMCA, 2006) can be applied to some parts of AI. Certain modifications will be necessary. For example, unfair practice is defined as a commercial practice that is contrary to the requirements of professional diligence and materially distorts or is likely to distort the economic behaviour of the average consumer. The unfair commercial practices can be aggressive or misleading. Is this definition enough to cover all the practices connected to AI systems? Advertising is one way to attract consumers. The new technology will create problems regarding the possible misleading and comparative advertising. The consumer protection rules come along with the rules that protect personal data. The vast amount of different data involving race, gender, ethnicity could raise concern. It has almost become a usual practice to infer such sensitive data (either directly or from proxy attributes) from online behavior, without users ever being aware, and used for profiling and personalized and targeted advertising (Wachter, 2020: 12-13; see also Goodman, 2016).

Although consumer protection rules are not part of competition law, they are intertwined, as one of the primary aims of competition law is the protection of consumer welfare. In that context, the relationship with competition issues should also be mentioned.

When speaking of competition, we must ask ourselves whether competition law is still adequate for dealing with challenges of the digital revolution, or whether competition policy needs new concepts and instruments. The well-known competition tools that focus mainly on price effects on markets might not be capable of dealing with AI systems. The main query is about the role of competition law in this almost perfect competition with many pricings aligned initiatives. The dilemma is whether rules in the field of competition law, prohibiting cartel as well as the abuse of dominant position, may adequately respond to the challenges of this new systems (see e.g. Mehra, 2016; Beneke and Mackenrodt, 2019; Harrington, 2018). The last quandary will be analyzed from the perspective of prohibited agreements and the use of algorithmic predictions on the market.

Article 101 TFEU prohibits collusion between undertakings that restricts competition. The General Court stated that the proof of an agreement must be founded upon the existence of the subjective element that characterizes the very concept of the agreement. Today we are facing situations where undertakings use pricing algorithms to monitor or adjust to each other's prices and market data. Here we might not have the collusive agreement because the essential element misses, the anticompetitive intent (see e.g. Bathaee, 2018: 890 and further). Ezrachi and Stuche's four scenarios illustrate the anti-competitive effects associated with the use of algorithms and AI particularly well (Ezrachi and Stucke, 2016: 35 and further; Ezrachi and Stucke, 2020). The first situation is one where the computers perform the will of humans. The undertakings agree on a cartel, and use computers in the implementation and policing the cartel. The second situation they call 'Hub and Spoke', where the undertakings use one algorithm that determines the market price, which other undertakings implement. The decisive element to demonstrate here is the anticompetitive intent.

The Predictable Agent is the third possible situation. Here, the undertaking designs a machine that delivers predictable results, which the other undertakings follow. The possible collusion can be a result of a mere parallel behavior, which is not illegal in competition law, but should come under scrutiny in cases which involve the use of AI solutions. The last proposed situation is presently still a science fiction. It is referred to as the 'Digital Eye' scenario, where the computer plays a strategy according to data it was fed with and according to the information it learned from the market. Here we do not have an intent, nor attempt by the designers of the algorithm to distort competition (Ezrachi and Stucke, 2016: 35 and further; Ezrachi and Stucke, 2020).

The latter hypothetical situations show the complexity and future challenges for the enforcers in the competition law. It will be extremely challenging to condemn undertakings' decision to use advanced algorithms to analyse market information and define prices. Margarethe Vestager, European Commissioner for Competition stressed in 2017 that "It's true that the idea of automated systems getting together and reaching a meeting of minds is still science fiction. But illegal collusion isn't always put together in back rooms. There are many ways that collusion can happen, and some of them are well within the capacity of automated systems." (18th Conference on Competition, Berlin, 16 March 2017).

The question of Big Data pose competition law concerns also in connection with the abuse of dominant position. The dominant position is not prohibited, but its abuse is. What happens when an undertaking in a dominant position possesses a large amount of data? Will this undertaking be subject to inspection? Applying AI systems, the dominant company in the market which possesses large amounts of data is in the position to generate specific new information, which can lead to possible abuses. The evolution of AI systems can advance a data driven economy. AI systems are based on data collection and coordination (Hayashi et al., 2018: 164). The amount of data possessed may determine and strengthen market power of the undertaking. The question of data – related competition issues is not yet resolved as there are no common rules on the measurement of data. Today, we are speaking of data as the new currency. Traditional tools for market power assessment are not adapted to this new reality. When speaking of data as a driver in the AI sector we must not condemn every undertaking having a large amount of data. Thanks to available data, a company may invest and offer new innovative services (Hayashi et al., 2018: 166 -167). In the digital competition and especially AI industry the decisive factors are big data and innovation. The competition enforcers will have difficulties in assessing situations involving advanced digital technology and AI systems.

4. Conclusions

Different national rules could hinder free movement of ideas, products and services. Some minimum standards are necessary. The Commission proposed to complement existing legislation and pass additional rules where needed.

Before enacting or amending certain legislation, its scope of application must be precisely defined. We have seen how the notion of artificial intelligence is vague. It is difficult to offer the comprehensive and precise definition.

Any accepted definition must be accurate, but also flexible enough to cover all the future technological innovations. In order to implement certain rules, we have to understand requirements and possible advantages, as well as risks of AI systems. The AI systems pose challenges in the area of liability, product safety, autonomy and data. There are numerous points that have to be resolved in the existing legislation. The same level should be maintained as for the traditional liability, but adjusted to new technologies. Every legislative intent has to follow specificity of AI systems. The confidence of consumer plays an important role in the efficient, transparent and fair transaction involving AI systems. Therefore, there is an urge for a close cooperation between the legislators, IT experts and economists. The legislator will have to be original, but also adhere to the traditional human and ethical values.

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