

**PRICE ALGORITHMS AS A THREAT TO COMPETITION  
UNDER THE CONDITIONS OF DIGITAL ECONOMY:  
APPROACHES TO ANTIMONOPOLY LEGISLATION OF BRICS COUNTRIES**

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*The authors examine certain legal problems of antitrust regulation in the digital economy facing the international community, including BRICS member countries. This article focuses on the problems associated with the use of price algorithms by enterprises as a threat factor to competition. The concept of “price algorithm” and the goals of its use by enterprises are analyzed; it is concluded that the use of price algorithms is just one of the tools for conducting economic activity. At the same time, enterprises can pose a threat to competition by using price algorithms as an element of concluding anti-competitive agreements (concerted actions) between enterprises and illegal coordination of their activities. Restriction of competition through the use of price algorithms can harm consumers of goods, works, and services and should be controlled by antitrust authorities. Based on the analysis of the antitrust laws of the BRICS member countries, it is concluded that currently the concept of a “pricing algorithm” is not enshrined in the laws of any of the BRICS member states, however, there are prohibitions on anticompetitive agreements of enterprises and illegal coordination of economic activity. We refute the need to legally enshrine the concept of “price algorithm” in antitrust law. At the same time, it proves that enterprises should be held accountable for the use of the price algorithm as a tool to limit competition. The paper proves that within the framework of interstate cooperation of the BRICS countries in the field of competition law, it is necessary to develop common approaches to antitrust regulation in the digital economy, including to ensure a uniform approach to regulating and controlling the use of price algorithms by enterprises in the framework of economic activity.*

*Keywords: digitalization of law; digital law; digital economy; antitrust regulation; cartel; pricing algorithm; BRICS law; competition; law digital environments.*

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## Introduction

Today, digital transformations are one of the main factors in the development of the economy of any state. Digital technologies, huge databases, platforms for their processing, and intellectual property have changed the structure of the world market and the markets of individual states. Information technologies have entered all spheres of life, regardless of geographical boundaries, and also have a significant impact on all other areas of business.

In these conditions, the government of each country is trying to investigate and understand what the further actions of the state should be to regulate the sphere of public relations complicated by the digital element. One of the most important areas of state regulation of the economy is antitrust regulation, which is a set of economic, administrative, and legislative measures aimed at ensuring market competition and preventing excessive monopolization of the market that threatens the normal functioning of the market mechanism.

The digital transformation poses a number of challenges for competition authorities and competition law scholars that need to be understood and managed, including the development of technologies and big data that transform traditional established markets for goods and services; new business models based on the use of digital platforms; the cross-border nature of markets not determined by the geographical boundaries of the state; monopolization based on intellectual property, which leads to the containment of scientific and technological progress; cartel conspiracies, which are based on price algorithms, up to the use of robot programs. As K. Yuchinson rightly observes:

The benefits of enterprise data mining can be offset by serious weaknesses. Indeed, companies can use advanced computer technology to coordinate business practices, impose abusive conditions on consumers, use market power to set higher prices, or even possibly close the market for new players.<sup>1</sup>

The UNCTAD Report on Competition Issues in the Digital Economy notes that

monopolization in the digital economy can harm not only the economy, but also society and democracy. Competition authorities in both developed and developing countries need to be vigilant and foresighted. Digitalization will continue and extend to all sectors of the economy.<sup>2</sup>

One of the challenges to antitrust regulation in the context of the digitalization of the economy is increasing information transparency of enterprises by disclosing information on the prices of goods, works, services using digital technologies. In these conditions, the risks of concluding anticompetitive agreements (concerted actions) or coordinating economic activities aimed at establishing and maintaining prices in the markets through the use of so-called “price algorithms” increase.

The issues of the influence of artificial intelligence through the use of computer programs of dynamic pricing (price algorithms) are increasingly attracting the attention of scientists. An in-depth study in the field of price algorithms was conducted by A. Ezrachi and M.E. Stucke, highlighting four applications of computer programs to organize collusion and limit competition.<sup>3</sup> Among the works in the field

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<sup>1</sup> Ючинсон К.С. Большие данные и законодательство о конкуренции // Право. Журнал Высшей школы экономики. 2017. № 1. С. 216 [Kristof S. Yuchinson, *Big Data and Legislation on Competition*, 1 Law. Journal of the Higher School of Economics 216, 216 (2017)].

<sup>2</sup> Вопросы конкуренции в цифровой экономике: Записка секретариата ЮНКТАД, TD/B/C.I/CLP/54, 1 мая 2019 г. [UNCTAD, *Competition Issues in the Digital Economy: Note by the UNCTAD Secretariat*, TD/B/C.I/CLP/54, 1 May 2019] (Apr. 16, 2020), available at [https://unctad.org/meetings/en/SessionalDocuments/ciclpd54\\_ru.pdf](https://unctad.org/meetings/en/SessionalDocuments/ciclpd54_ru.pdf).

<sup>3</sup> Ariel Ezrachi & Maurice E. Stucke, *Artificial Intelligence & Collusion: When Computers Inhibit Competition*, 2017(5) University of Illinois Law Review 1775 (2017).

of competition law we should note an article by K. Yuchinson, who addressed the proliferation of business models that collect and generate big data.<sup>4</sup> A. Krausová highlighted the aspects of the influence of artificial intelligence on the development of antitrust laws of the European Union, indicating that companies are developing technological tools to automate certain tasks that allow them to work quickly and efficiently. Therefore, they are able to process huge amounts of data, communicate with a huge number of existing and potential customers, analyze current trends, and quickly respond to current changes in the market.<sup>5</sup> E. Calvano, G. Calzolari, V. Denicolo, S. Pastorello examined the effects of algorithmic pricing on competition policy.<sup>6</sup> F. Marty examined the use of artificial intelligence as a factor in concluding a “silent conspiracy” of companies.<sup>7</sup> Most scientists claim the complexity and ambiguity of the problems of ensuring competition in the context of the use of artificial intelligence by competing enterprises, including price algorithms as factors for increasing the efficiency of activities. This suggests that this topic needs further research and development.

The issues of improving the mechanism of antitrust regulation, taking into account the impact of digitalization, are currently critical for all states with an equal degree of importance, including BRICS member countries that can, based on the exchange of experience and information and through cooperation, develop common approaches to regulating competition in the market undergoing digital changes. At the same time, it should be noted that the legal regulation of the use of price algorithms in the context of the antitrust laws of the BRICS countries has not yet found full and comprehensive coverage and study.

Based on an analysis of the Russian antitrust laws and practice of its application on issues of agreements (concerted actions) and coordination of economic activity using pricing algorithms, as well as an analysis of the antitrust laws of the BRICS member countries, the position on further consolidation and regulation in antitrust legislation of such a thing as a “price algorithm,” we highlight methods of further interstate cooperation BRICS on antitrust regulation in the digital economy, including in the field of regulation of the use of price algorithms by enterprises.

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<sup>4</sup> Yuchinson 2017.

<sup>5</sup> Alžběta Krausová, *EU Competition Law and Artificial Intelligence: Reflections on Antitrust and Consumer Protection Issues*, 1(1) Lawyer Quarterly 79 (2019).

<sup>6</sup> Emilio Calvano et al., *Intelligence, Algorithmic Pricing and Collusion*, SSRN, 6 January 2019 (Apr. 16, 2020) available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3304991](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3304991).

<sup>7</sup> Frédéric Marty, *Algorithmes de prix, intelligence artificielle et équilibres collusifs*, 31(2) Revue internationale de droit économique 83 (2017).

## 1. Use of Price Algorithms in the Economic Activity of Enterprises as a Factor of Threat to Competition

The use of digital technologies has given enterprises the technical capabilities to gain access to the prices of competitors or potential competitors, including on the Internet. In this regard, many companies use various programs for monitoring and pricing of goods, works and services.

In 2015, more than a third of suppliers on Amazon.com already had automatic pricing, and since then this share has probably increased – with the growth of the price reevaluation software industry, which provides turnkey pricing systems, even the smallest suppliers can now afford algorithmic pricing.<sup>8</sup>

In the Recommendations of the FAS Russia Expert Council on the Development of Competition in the Field of Information Technologies and the FAS Russia Expert Council on the Development of Competition in the Retail Industry “On Practices in the Use of Information Technologies in Trade, Including Related to the Use of Price Algorithms” (hereinafter the Recommendations) price algorithm is understood as software used to determine the prices of goods, which can then be used in the calculation and/or establishment and/or monitoring of prices based on user-defined parameters of the algorithm.<sup>9</sup>

The following options for using these software products are distinguished in the literature, which depend on the needs of a particular user and on the functionality of the selected product: 1) to collect and/or analyze information on competitors’ prices, on the product line, and other information; 2) automatic pricing and/or automatic pricing based on user uploaded data; 3) collection and/or analysis of information on competitors’ prices, on the product line, and other information and for automatic pricing and/or automatic pricing based on data collected by the software product; 4) collection and/or analysis of information on reseller prices for products of specific brands, automatic comparison of retail prices with recommended/minimum prices.<sup>10</sup>

At first glance, the use of these technologies does not show any violation of antitrust laws, which is based on the principle of freedom of economic conduct, including

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<sup>8</sup> Calvano et al., *supra* note 6.

<sup>9</sup> Рекомендации Экспертного совета при ФАС России по развитию конкуренции в области информационных технологий и Экспертного совета ФАС России по развитию конкуренции в сфере розничной торговли «О практиках в сфере использования информационных технологий в торговле, в том числе связанных с использованием ценовых алгоритмов» [Recommendations of the FAS Russia Expert Council on the Development of Competition in the Field of Information Technology and the FAS Russia Expert Council on the Development of Competition in the Retail Sector “On Practices in the Use of Information Technologies in Trade, Including Related to the Use of Price Algorithms”] (Apr. 16, 2020), available at <https://fas.gov.ru/documents/684828>.

<sup>10</sup> Антимонопольное регулирование в цифровую эпоху. Как защищать конкуренцию в условиях глобализации и четвертой промышленной революции [Antitrust Regulation in the Digital Age. How to Protect Competition in the Context of Globalization and the Fourth Industrial Revolution] 165–166 (A.Yu. Tsarikovsky et al. (eds.), Moscow: Publishing House of the Higher School of Economics, 2018).

entrepreneurial activity (Art. 8.34 of the Constitution of the Russian Federation<sup>11</sup>) and on the principle of freedom of search, receipt, transmission, production and dissemination of information by any legal means (Art. 29.4 of the Constitution of the Russian Federation). However, on the other hand, technological access to information on prices of goods, work, services of competitors allow enterprises to use all digital opportunities for anti-competitive pricing or maintaining prices by concluding cartel and other conspiracies, implementing anti-competitive actions, and coordinating economic activity.

For example, signs of coordinating economic activity through the use of price algorithms were proved in the case of LG Electronics Rus LLC, which determined recommended retail prices for LG smartphones, which were then brought to the attention of resellers and monitored reseller compliance with the recommended retail prices for LG smartphones using a special pricing algorithm which monitored retail prices on LG products. The FAS Russia Commission noted that the use of price algorithms by both LG Electronics Rus LLC and LG smartphone smartphones resellers is not in itself a violation of antitrust laws. However, in the present case, the nature of the use of such price algorithms is assessed as a circumstance that contributed to the commission of illegal actions by LG Electronics Rus LLC.<sup>12</sup> In a similar case, Samsung Electronics Rus Company LLC also established the coordination of resellers' economic activities using price algorithms by setting recommended retail prices for Samsung smartphones and tablets. Employees of Samsung Electronics Rus Company controlled the prices set by resellers on Samsung smartphones and tablets, inducing resellers to comply with recommended retail prices, which led to the establishment and maintenance of prices. The tool used for coordinating the economic activity of Samsung smartphone and tablet resellers by Samsung Electronics Rus Company LLC was a special pricing algorithm to monitor retail prices. In addition, pricing algorithms have also been used by a number of resellers.<sup>13</sup> A similar case was considered in relation to Sangfei SES Electronics Rus LLC, which was found guilty of illegally coordinating the economic activities of Philips smartphone resellers, which led to the establishment and maintenance of prices for Philips smartphones: Philips S309, Philips S307, Philips S337.<sup>14</sup>

<sup>11</sup> Конституция Российской Федерации (принята всенародным голосованием 12 декабря 1993 г.) // Российская газета. 1993. 25 декабря. № 237 [The Constitution of the Russian Federation, adopted by popular vote on 12 December 1993, Rossiyskaya Gazeta, 25 December 1993, No. 237].

<sup>12</sup> Решение комиссии ФАС России от 2 марта 2018 г. по делу № 1-11-18/00-22-17 [Decision of the FAS Russia Commission of 2 March 2018 in case No. 1-11-18/00-22-17] (Apr. 16, 2020), available at <https://br.fas.gov.ru/ca/upravlenie-po-borbe-s-kartelyami/ats-14552-18/>.

<sup>13</sup> Решение комиссии ФАС России от 7 мая 2019 г. по делу № 1-11-11/00-22-19 [Decision of the FAS Russia Commission of 7 May 2019 in case No. 1-11-11/00-22-19] (Apr. 16, 2020), available at <https://br.fas.gov.ru/ca/upravlenie-po-borbe-s-kartelyami/18354d31-65c5-4e6f-8879-42138e2cfa7e/>.

<sup>14</sup> ФАС признала ООО «САНГФЕЙ СЕС ЭЛЕКТРОНИКС РУС» виновной в координации цен на смартфоны Philips // ФАС России. 3 сентября 2019 г. [FAS Found SANGFEY SES ELECTRONICS RUS LLC Guilty of Coordinating Prices for Philips Smartphones, FAS Russia, 3 September 2019] (Apr. 16, 2020), available at <https://fas.gov.ru/news/28278>.

Price algorithms that are configured exclusively in the interests of enterprises can be used by them to maximize profits, and there is a risk of abuse of their rights in relation to consumers of goods, works, services. In the case with Aeroflot PJSC, it was found that Aeroflot PJSC uses an automated system of dynamic pricing or load management – Sabre AirVision® Revenue Management based on analysis of current and forecasted flight load (supply and demand for a particular flight). With an increase in demand for a particular flight, a load management system stops the implementation of lower-cost booking classes and offers booking classes with a higher level of passenger fares. In its decision, the OFAS Commission for the Republic of Tatarstan noted that the actions of PJSC Aeroflot regarding the establishment of economically, technologically<sup>15</sup> and otherwise unreasonable prices (tariffs) for air transportation in the directions Kazan-Moscow and Moscow-Kazan cannot be permissible, since they lead (may lead) to infringement of the rights and legitimate interests of consumers of regular passenger transportation services by air, since passengers receive the same range of services (one flight with the same set of services, including food and service, they are located in adjacent seats, etc.), but pay for them at different prices, without revealing any established criteria that allow you to purchase a ticket at a more reasonable price, without proper economic, technological, or other justification for such differences by the carrier.<sup>15</sup>

On the one hand, companies using price algorithms as tools to increase the efficiency of economic activity often may not have the goal of restricting competition. On the other, the complete liberalization of price algorithms and the lack of attention to this technology from antitrust authorities does not detract from the fact that companies will, using price algorithms, cover up the presence of collusion between them or carry out other restrictive business practices. This can significantly harm the interests of consumers of goods, works, and services, which contradicts the currently prevailing antitrust criterion, namely the “consumer welfare criterion.”<sup>16</sup> F. Beneke and M.-O. Mackenrodt also report consumer welfare risks.<sup>17</sup>

One of the threats to competition is the use of price algorithms for tenders as an element of anticompetitive collusion of participants and/or customers. In the Decision of the Murmansk OFAS Russia of 6 June 2019 in case No. 05-03-16/6, the conclusion of an oral anti-competitive agreement was proved, which led to price maintenance at 25 auctions. At the same time, the violating companies used an auction robot, a program that provides automated participation in the auction, to

<sup>15</sup> Постановление УФАС по Республике Татарстан о наложении штрафа по делу № А05-528/2016 об административном правонарушении [Ruling of the OFAS for the Republic of Tatarstan on imposing a fine in case No. A05-528/2016 on an administrative offense] (Apr. 16, 2020), available at <https://br.fas.gov.ru/to/tatarstanskoe-ufas-rossii/pk-05-6632/>.

<sup>16</sup> Competition Issues in the Digital Economy, *supra* note 2.

<sup>17</sup> Francisco Beneke & Mark-Oliver Mackenrodt, *Artificial Intelligence and Collusion*, 50(1) IIC – International Review of Intellectual Property and Competition Law 109 (2019).

support the prices.<sup>18</sup> However, it should be noted that the use of such an auction robot was not the main evidence of collusion; in the case, facts were established that attest to the participants' goal to eliminate competition and act in the interests of each other.

To date, auction robots have been detected at more than 2,000, the damage from which amounted to tens of billions of rubles.<sup>19</sup> The FAS Russia Anti-Cartel Office and the Russian Academy of Sciences have already developed an automated system called Big Digital Cat, which is looking for signs of cartel agreements on electronic trading floors. However, the use of price algorithms is not the only evidence of a cartel agreement. Along with this, other factors are taken into account, such as the use of one IP address, one access point and network, one email address, one MAC address, properties of electronic files, geolocation, etc.

Representatives of other countries are also developing appropriate approaches to the use of price algorithms for anticompetitive purposes. The Organization for Economic Co-operation and Development (OECD) issued Non-binding Clarifications regarding Computer Algorithms and Collusion in the Market (Algorithms and Collusion – Note from the European Union).<sup>20</sup> This act reflects the main positions of the EU on price algorithms, consisting in the fact that the use of price algorithms makes it easier for competitors to achieve collusion, with digital technology markets being the most likely venue for collusion. In addition, it causes difficulties in terms of legal technology regarding the development of the concept of an agreement in competition law relating to collusion as a result of the use of digital algorithms and the issues of establishing liability for violation of antitrust laws in conditions when pricing decisions are made not by a person, but by a machine using formalized decisions. In addition, the use of digital algorithms leads to a “parallel” behavior of enterprises in the market, which, in a “tacit arrangement,” will strive to raise or maintain prices at a high level, which is extremely disadvantageous for buyers of goods, works, and services.<sup>21</sup>

Undoubtedly, the use of price algorithms as instruments of competition is an area of high complexity and uncertainty, where the lack of intervention, as well as excessive regulation can come at serious costs for society, especially considering the

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<sup>18</sup> Решение Мурманского УФАС России от 3 июня 2019 г. по делу № 05-03-16/6 [Decision of the Murmansk OFAS Russia of 3 June 2019 in case No. 05-03-16/6] (Apr. 16, 2020), available at <https://br.fas.gov.ru/to/murmanskoe-ufas-rossii/05-03-16-6-ebc701b6-df71-4ef4-bb18-4bb972d58ae9/>.

<sup>19</sup> Андрей Цариковский: ФАС скорректирует свою нормативную базу и методы работы // ФАС России. 15 сентября 2017 г. [Andrei Tsarikovsky: FAS Will Adjust its Regulatory Framework and Working Methods, FAS Russia, 15 September 2017] (Apr. 16, 2020), available at <https://fas.gov.ru/news/23174>.

<sup>20</sup> OECD, Algorithms and Collusion – Note from the European Union, DAF/COMP/WD(2017)12, 14 June 2017 (Apr. 16, 2020), available at [https://one.oecd.org/document/DAF/COMP/WD\(2017\)12/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2017)12/en/pdf).

<sup>21</sup> OECD, Algorithms and Collusion: Competition Policy in the Digital Age (2017) (Apr. 16, 2020), available at <http://www.oecd.org/competition/algorithms-collusion-competition-policy-in-the-digital-age.htm>.

potential benefits of the algorithms. Whatever actions are taken in the future, they should be the subject of thorough assessment and a cautious approach, and should especially take into account the interests of consumers, which can be significantly violated when enterprises use price algorithms.<sup>22</sup>

## **2. Approach to the Regulation of the Use of Price Algorithms by Enterprises in the Antitrust Laws of Russia**

Currently, the Russian antitrust law does not have a fixed concept of “price algorithm,” however, as already noted, in the Russian practice of considering cases on the grounds of violation of the antitrust law, this term is quite common.

Russian antitrust legislation is based on a number of fundamental provisions and principles, the application of which makes it possible to combat the negative manifestations of the use of digital technologies by enterprises, for example, a ban on economic activity aimed at monopolization and unfair competition (pt. 2 of Art. 34 of the Constitution of the Russian Federation) or the principle of support competition (Art. 8 of the Constitution of the Russian Federation).

Considering the use of price algorithms as a threat factor to eliminate competition between enterprises, it must first be noted that Articles 11 and 11.1 of the Federal Law “On the Protection of Competition”<sup>23</sup> (hereinafter the Law on the Protection of Competition) impose prohibitions on the conclusion of agreements and the commission of concerted actions that entail or may entail restriction of competition.

In accordance with paragraph 18 of Article 4 of the Law on the Protection of Competition, “agreement” can refer to an agreement in writing contained in a document or several documents, as well as an oral agreement. Thus, an agreement that is unacceptable from the point of view of antitrust law can be reached not only in writing, but also verbally. Agreements between competing enterprises (both competitors selling goods on the same market and competitors purchasing goods on the same product market) are prohibited if such agreements lead or can lead to the consequences listed in paragraph 1 of Article 11 of the Law on the Protection of Competition, including: setting or maintaining prices (tariffs), discounts, allowances (surcharges) and/or mark-ups.

In accordance with paragraph 12 of Section 11 of the Law on the Protection of Competition, “vertical” agreements between enterprises are prohibited (with the exception of “vertical” agreements, which are recognized admissible in accordance with Section 12 of the Law on the Protection of Competition) if such agreements lead (or

<sup>22</sup> Salil K. Mehra, *Antitrust and the Robo-Seller: Competition in the Time of Algorithms*, 100(4) Minnesota Law Review 1323 (2016).

<sup>23</sup> Федеральный закон от 26 июля 2006 г. № 135-ФЗ «О защите конкуренции» // Собрание законодательства РФ. 2006. № 31 (ч. 1). Ст. 3434 [Federal Law No. 135-FZ of 26 July 2006. On the Protection of Competition, Legislation Bulletin of the Russian Federation, 2006, No. 31 (pt. 1), Art. 3434].

may lead) to the establishment of resale prices of the goods, unless the seller sets the maximum resale price of the goods for the buyer. Within the meaning of this provision, the Law on the Protection of Competition establishes a ban on the coordination of minimum and fixed prices for the resale of goods, while allowing the approval of the maximum resale prices. However, in some cases even an agreement on establishing a minimum price will be considered permissible if the share of each of the parties to the agreement on the goods market of the goods that are the subject of the “vertical” agreement does not exceed twenty percent. In addition, such an agreement may be recognized as valid regardless of the shares of its participants, if it is established that such an agreement does not create an opportunity for individuals to eliminate competition in the relevant product market; restrictions are not imposed on its participants or third parties that do not meet the achievement of goals of such actions (inaction), agreements and concerted actions, transactions, and other actions; additionally, if their result is or may be: improved production or sale of goods; the stimulation of technical and economic progress or increasing the competitiveness of Russian-made goods on the world commodity market; obtained by customers of advantages (benefits) commensurate with the benefits (benefits) received by enterprises as a result of actions (inaction), agreements and concerted actions, transactions.

In addition, the restrictions established by Section 11 of the Law on the Protection of Competition also do not apply to agreements between enterprises belonging to one group of persons, if one of these enterprises controls the other company or if such enterprises are controlled by one person.

The Law on the Protection of Competition also contains a ban on unacceptable coordination of the economic activities of enterprises, if such coordination leads to any consequences, including setting or maintaining prices (tariffs), discounts, surcharges (surcharges), and/or mark-ups.

In addition, in accordance with Section 8 of the Law on the Protection of Competition, actions of enterprises carrying out activities on the same product market and being competitors may be recognized as coordinated actions, if there is no agreement, if such actions simultaneously meet the following criteria: (a) the result of such actions is in the interest of each of these enterprises; (b) the actions are known in advance to each of the participating enterprises in connection with a public statement by one of them about the commission of such actions; (c) the actions of each of these enterprises are caused by the actions of other enterprises participating in the agreed actions, and are not the result of circumstances that equally affect all enterprises in the relevant product market.

So, according to part 1 of Article 11.1 of the Law on the Protection of Competition, concerted actions of competing enterprises are prohibited if such concerted actions lead to such consequences as: setting or maintaining prices (tariffs), discounts, allowances (surcharges) and/or mark-ups.

Thus, agreements (concerted actions) of enterprises, or coordination of activities of enterprises, which lead (or may lead) to the establishment or maintenance of prices

(tariffs), discounts, allowances (surcharges) and/or mark-ups, is prohibited by the Russian antitrust laws.

As we noted, price algorithms can be used as an instrument of fair competition, and can be aimed at its elimination. In the framework of the current Russian antitrust legislation, the use of price algorithms is not prohibited, however, only if they are not used as a means to conclude and execute anti-competitive agreements (concerted actions) or to coordinate economic activities.

Despite the fact that the Russian antimonopoly legislation does not regulate the use of price algorithms by enterprises, the FAS Russia has developed Recommendations "On Practices in the Use of Information Technologies in Trade, Including Related to the Use of Price Algorithms." This document contains the basic rules for enterprises when they use software products, including price algorithms. It deems acceptable the goals of monitoring the competitive environment, including prices; determining your own pricing policy; business planning; monitoring compliance with the agreed terms of contracts, including the conditions for the maximum resale price, the terms of the agreed advertising and/or marketing campaigns; forecasting demand and determining measures to maintain it; and other goals that do not contradict the requirements of the Law on the Protection of Competition.

When assessing practices related to the user's presence or use of information technologies in the exchange of information, the method and goals of using the relevant information technologies by the user should be assessed first, the provision and/or use of which, in the absence of signs or facts of restriction of competition, should be recognized as permissible. The fact that the user has certain software or uses price algorithms or online platforms by itself should not be considered as a sign of violation.

To modernize the Russian antitrust laws and bring them in line with the conditions of the digital economy of the FAS Russia, the Draft Federal Law "On Amendments to the Federal Law 'On the Protection of Competition' and Other Legislative Acts of the Russian Federation" was developed,<sup>24</sup> which was called the "fifth antitrust package" (according to the number of packages of amendments that have already been made to the Federal Law "On the Protection of Competition") (hereinafter the Draft Law).

In the initial version of the Project, it was proposed to fix the concept of the price algorithm as software (a program for an electronic computer, a combination of such programs, or software and hardware), access to which is provided by installation on a user's electronic computers or through the Internet, designed in accordance with the specified parameters for monitoring prices in the commodity market, calculating prices for goods, setting prices for goods, and/or control of prices for goods or actions when participating in tenders.

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<sup>24</sup> Проект федерального закона «О внесении изменений в Федеральный закон «О защите конкуренции» и иные законодательные акты Российской Федерации» [Draft Federal Law "On Amendments to the Federal Law 'On the Protection of Competition' and Other Legislative Acts of the Russian Federation"] (Apr. 16, 2020), available at <https://regulation.gov.ru/projects#>.

According to the developers of the bill, antitrust laws should introduce rules defining regulation taking into account modern challenges related to the development of technologies (primarily digital), in particular regarding pricing algorithms that analyze markets and adjust prices. When companies use similar algorithms to optimize relationships with competitors, there should be concern about the formation of cartel conspiracies, among other things. Initially, according to the Federal Antimonopoly Service of the Russian Federation, it was envisaged that the use of a “price algorithm” does not in itself constitute an offense, but it can and should be considered as a qualifying attribute when committing antitrust violations.<sup>25</sup> In this regard, the question arises, why can the use of a price algorithm be an aggravating circumstance in the commission of administrative offenses? Representatives of the FAS Russia did not give a clear answer to this question. The literature also proposed to tighten the responsibility for concluding and implementing anticompetitive agreements and illegal coordination of economic activities using price algorithms and auction robots.<sup>26</sup> This proposal does not take into account current conditions when most enterprises use the achievements of science and technology (including price algorithms) to carry out economic activities. The use of price algorithms for anti-competitive purposes should be considered only as a means or a form of reaching agreements and illegal coordination, which has transformed with the development of the digital economy, but does not have any aggravating character.

Considering that the Draft Law received many comments regarding restrictions on the use of price algorithms by enterprises, in the revised version of the draft law the concept of “price algorithm” was excluded.

In the Conclusion on the Draft Law prepared by the Ministry of Economic Development of the Russian Federation of 18 September 2018 No. 26742-SSH/D26i, the Project received many comments, including due to vague wording, ambiguity of concepts, insufficient substantiation of the proposed amendments, as well as a number of other comments. As a result, the Ministry of Economic Development of Russia concluded that there are provisions in the Draft Law which introduce excessive obligations, prohibitions, and restrictions for private persons and legal entities in the field of entrepreneurial and other economic activities or facilitating their introduction, as well as provisions leading to unreasonable expenses of private persons and legal entities in the field of business and other economic activities, as well as budgets of all levels of the budget system of the Russian Federation.<sup>27</sup>

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<sup>25</sup> Сводка предложений по итогам размещения текста проекта о подготовке нормативного правового акта «О внесении изменений в Федеральный закон «О защите конкуренции» и иные законодательные акты Российской Федерации» [Summary of proposals based on the results of posting the draft text on the preparation of a regulatory legal act “On Amendments to the Federal Law ‘On the Protection of Competition’ and Other Legislative Acts of the Russian Federation”] (Apr. 16, 2020), available at <https://regulation.gov.ru/projects#>.

<sup>26</sup> *Antitrust Regulation in the Digital Age*, *supra* note 10, at 176.

<sup>27</sup> Заключение на проект закона «О внесении изменений в Федеральный закон «О защите конкуренции» и иные законодательные акты Российской Федерации», подготовленное Министерством

The opinion of the Association of Computer and Information Technology Enterprises, which commented on the Draft Law, is agreeable: to amend the Law on the Protection of Competition, first of all, it is necessary to determine the regulation of the “digital economy,” the rules by which market participants will interact, both producing material objects and those who will develop information technologies for production. When it becomes clear how the situation is developing in the markets and how the subjects behave in the proposed legal regulation, then it will be possible to assess the need to amend the antitrust laws. This approach will not slow down the development of the “digital economy,” since now the regulator is successfully suppressing unscrupulous behavior of both commodity producers and large IT companies.

The use of price algorithms by enterprises under the Russian antitrust laws is not in itself a violation, however, it is necessary to consider the purpose for using such programs and what consequences may arise from doing so. The main risks associated with the use of price algorithms may be agreements (concerted) actions of enterprises that can use monitoring and pricing programs to eliminate or prevent competition (“digital cartels”), as well as an element of coordination of economic activity. As a result, such behavior is capable of causing losses both to other enterprises and to consumers of goods, work, and services.

In addition, one of the key issues related to the use of price algorithms determining the liable party for violations by digital cartels. Can anyone be held accountable for conspiring with program developers or businesses that use it? Is it possible to talk at all about the liability of these persons in general, since developers and entities using such programs may not have the intention to conspire at all? Therefore, another difficult issue is the question of proving the intention of individuals to conspire.<sup>28</sup>

In any case, D. Petrov, who rejects the “independent will of the robot,” rightly notes that

the implementation of cartel practices at auction is carried out by users of robotic programs that have the status of a bidder.<sup>29</sup>

One way or another, identifying ways to prevent collusion between self-learning algorithms is arguably one of the most difficult issues that antitrust regulators have

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экономического развития РФ от 18 сентября 2018 г. № 26742-СШ/Д26и [Conclusion on the Draft Federal Law “On Amendments to the Federal Law ‘On the Protection of Competition’ and Other Legislative Acts of the Russian Federation” by the Ministry of Economic Development of the Russian Federation of 18 September 2018 No. 26742-SSh/D26i] (Apr. 16, 2020), available at <https://regulation.gov.ru/projects#>.

<sup>28</sup> *Antitrust Regulation in the Digital Age*, *supra* note 10, at 176.

<sup>29</sup> Петров Д.А. «Роботизация» на торгах в эпоху цифровой экономики: бизнес-процесс или способ обхода закона? // Гражданское право. 2018. № 5. С. 14 [Dmitry A. Petrov, “Robotization” at the Auction in the Era of the Digital Economy: A Business Process or a Way to Circumvent the Law?, 5 Civil Law 12, 14 (2018)].

ever encountered.<sup>30</sup> A suggestion has been made in the literature to introduce into antitrust law a requirement for enterprises to disclose to antitrust authorities information on the use, content and parameters of price algorithms.<sup>31</sup> However, this can lead to unjustified interference in the economic activity of enterprises, it touches on issues of trade secrets, therefore this proposal seems inappropriate.

Based on the foregoing, we believe that the issues of using price algorithms as tools for competitive or anti-competitive struggle need thorough theoretical development and understanding. The inclusion in the Law on the Protection of Competition of rules specifically dedicated to the use of price algorithms by enterprises is currently premature.

### **3. Approaches to Regulating the Use of Price Collusion by Enterprises in the Antitrust Laws of China, Brazil, India, South Africa**

Analysis of the antimonopoly legislation of the BRICS countries shows that the use of price algorithms by enterprises as one of the ways to conduct economic activity in the digital economy is not regulated by individual norms and institutions, however, in all countries, norms prohibiting price collusion of enterprises (cartel collusion) are developed and applied. This is highly justified, since cartel conspiracies are traditionally one of the most dangerous acts against competition. Different jurisdictions, or rather, almost all competition regimes, declare cartels to be illegal activities for which serious responsibility is imposed.<sup>32</sup>

#### **3.1. China**

The immediate objective of the Anti-Monopoly Law of the People's Republic of China of 30 August 2007,<sup>33</sup> which entered into force on 1 August 2008, is the prevention and suppression of monopolistic behavior and the protection of fair competition in the market. An indirect goal is to increase the efficiency of economic activity, protect the interests of consumers and public interests, and promote the healthy development of a socialist market economy.<sup>34</sup> According to Article 9 of the Anti-Monopoly Law of the PRC, the State Council of the PRC creates an antimonopoly

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<sup>30</sup> Yuchinson 2017, at 235.

<sup>31</sup> *Antitrust Regulation in the Digital Age*, *supra* note 10.

<sup>32</sup> Deepankar Sharma, *Dimensions of Leniency Policies in BRICS: A Comparative Analysis of India, South Africa, Brazil and Russia*, 3(2) BRICS Law Journal 6 (2016).

<sup>33</sup> Anti-Monopoly Law of the People's Republic of China, adopted on 30 August 2007 at the 29<sup>th</sup> session of the Standing Committee of the National People's Congress of the 10<sup>th</sup> convocation (Decree of the Chairman of the PRC No. 68) (Apr. 16, 2020), available at [http://www.fdi.gov.cn/1800000121\\_39\\_1899\\_0\\_7.html](http://www.fdi.gov.cn/1800000121_39_1899_0_7.html).

<sup>34</sup> Цян Ю., Надмитов А. Антимонопольное регулирование в КНР // Правовые основы бизнеса в Китае [Yu Qiang & Alexander Nadmitov, *Antitrust Regulation in China in The Legal Basis of Business in China*] 426 (Moscow: RCSC, 2018).

committee responsible for organizing, coordinating and supervising the work in the field of antitrust regulation.

As under Russian law, the antimonopoly legislation of the PRC proceeds from the fact that monopolistic agreements cause the most serious damage to market competition. Point 2 of Article 13 of the Anti-Monopoly Law of the PRC establishes what exactly is meant by a monopoly agreement:

1) an agreement on setting or changing prices for goods; 2) agreements on limiting the volume of production and/or sale of goods; 3) agreements on the division of the market for the sale of goods and/or the market for the procurement of materials (raw materials); 4) agreements restricting the acquisition of new technologies and/or new equipment, and agreements restricting the development of new technologies and/or new equipment; 5) agreements on joint trade boycott; 6) other agreements recognized by the monopolistic law enforcement antimonopoly structure of the State Council of China.

As in the Russian antimonopoly legislation, the Anti-Monopoly Law of the PRC distinguishes between agreements and concerted actions of enterprises.

Five typical forms of horizontal cartel agreements are identified: setting or changing the price of goods; restriction of release or sales of goods; sectioning of the market for sales or purchases of raw materials; restricting the acquisition of new technologies or new tools, or the development of new technologies or products; and boycotts. Two typical forms of vertical cartel agreements are also given: pricing of goods for resale to a third party and limiting the minimum price of goods for resale to a third party.

Based on real economic conditions, and taking into account internationally accepted practice, the Anti-Monopoly Law of the PRC defines a system of exceptions, for example, if agreements are concluded with the aim of improving technologies and developing and developing new products; improving product quality, reducing costs, increasing efficiency, standardizing product characteristics or standards, or implementing a professional division of labor; increasing labor productivity and competitiveness of medium and small businesses; ensuring the interests of society, such as: energy conservation, environmental protection, assistance to victims of emergency situations, etc.

At the same time, companies which are granted exceptions must additionally prove that consumers profit from the benefits arising from the implementation of the agreement, and the agreement will not lead to a significant restriction of competition in the relevant market.<sup>35</sup>

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<sup>35</sup> Qiang & Nadmitov 2018, at 429.

In general, the Anti-Monopoly Law of the PRC introduces strict standards for exceptions. Companies are subject to stringent evidence requirements. So, it is unlikely that exceptions would be provided for pricing, restricting release of goods, or division of the market, and in international practice such actions are classified as classic cartels.<sup>36</sup>

The Anti-Monopoly Law of the PRC, as in the Russian antimonopoly legislation, currently lacks provisions directly attributable to the influence of the digital economy, which is due to the novelty and atypical nature of legal relations complicated by the “digital element.”

However, it should be noted that from 1 January 2019, the E-Commerce Law of the People’s Republic of China entered into force, which defines the basic rules for the sale of goods and the provision of services via the Internet. The law applies to all types of electronic commerce (B2B, B2C, C2C, including sales through Wechat and streaming services) and all entrepreneurs in the field of electronic commerce (sellers of goods on e-commerce sites and social networks, as well as sites and networks creating conditions for the sale of goods and the provision of services).<sup>37</sup> The adoption of such a law will mark legislators’ serious approach to regulating activities on the Internet.

### 3.2. Brazil

Antitrust regulation in Brazil is based on Law No. 12.529 of 30 November 2011 on the Prevention and Suppression of Economic Violations and on the Brazilian Competition Protection System (*Sistema Brasileira de Defesa de Competencia – SBDC*).<sup>38</sup> Antitrust regulation is implemented by the Administrative Council for Economic Defense (CADE). CADE was established in 1994 as a federal administrative authority. Its areas of competence include cases of unilateral abuse of dominant position in the market, mergers and practices of collusion and restrictions. As noted by N. Mosunova, the Brazilian experience of antitrust regulation is one of the most successful, thanks to a radical reform of antitrust law in Brazil in 2012, with special emphasis being made on qualitative rather than quantitative criteria for the work of the antitrust authority.<sup>39</sup>

<sup>36</sup> Мартыненко Г.И., Мартыненко И.П. Правовая защита конкуренции [Galina Martynenko & Irina Martynenko, *Legal Protection of Competition*] 399 (Moscow: lustitsinform, 2016).

<sup>37</sup> E-Commerce Law of the People’s Republic of China, adopted on 31 August 2018 at the 5<sup>th</sup> session of the Standing Committee of the National People’s Congress of the 13<sup>th</sup> convocation (Apr. 16, 2020), available at <http://en.pkulaw.cn/display.aspx?cgid=321035&lib=law>.

<sup>38</sup> Law n° 12.529 of 30 November 2011, it structures the Brazilian System for Protection of Competition; sets forth preventive measures and sanctions for violations against the economic order; amends Law n° 8.137, of 27 December 1990, Decree-Law n° 3.689, of 3 October 1941 – Code of Criminal Procedure, and Law n° 7.347, of 24 July 1985; revokes provisions of Law n° 8.884, of 11 June 1994, and Law n° 9.781, of 19 January 1999; and sets forth other measures (Apr. 16, 2020) available at <http://en.cade.gov.br/topics/legislation/laws/law-no-12529-2011-english-version-from-18-05-2012.pdf/view>.

<sup>39</sup> Мосунова Н. Реформы антимонопольных органов: опыт Бразилии // Конкуренция и право. 2014. № 3. С. 18–20 [Natalya N. Mosunova, *Reforms of the Antitrust Authorities: The Experience of Brazil*, 3 Competition and Law 18 (2014)].

According to K. Belikova, antitrust regulation in Brazil is characterized by a desire to combine maintenance of market competition with stimulation of the efficiency of the market functioning of enterprises, while striving to provide legal destinators with mechanisms to overcome the contradiction between the tendency to monopolize and the need to maintain a competitive market environment.<sup>40</sup> Brazilian antitrust laws also prohibit agreements between enterprises that result or have the potential to have the effect listed in Section 36 of the Law.

In practice, CADE classifies a cartel under paragraph 3 of Article 36 as behavior that: regulates markets for goods or services by entering into agreements restricting or controlling research and technological development, the production of goods or services, or hindering investments in the production of goods or services or their distribution; restricts or hinders the access of new companies to the market; and also creates difficulties for the creation, operation or development of a competitor or supplier, purchaser or financier of goods or services, among other things.

Since Brazilian antitrust law establishes that the only behavior that could lead to the anticompetitive consequences mentioned above can be qualified as a violation of antitrust law, cartel operation is not a violation per se in Brazil. Therefore, it is necessary to conduct an individual analysis with consideration for the circumstances and specifics of the particular case being heard, as well as the characteristics of the particular market in which potential violations have been identified.

### 3.3. India

The Indian Competition Act was passed by the Parliament in 2002.<sup>41</sup> It was subsequently amended by Competition Act 2007. The Competition Commission of India was created in accordance with the provisions of the Amendment Law<sup>42</sup> and the Competition Appeals Tribunal.

Section 2(c) of the Indian Competition Act 2002 includes a comprehensive definition of cartels. Section 2(c) defines cartels as associations of suppliers, sellers, distributors, traders, and service providers that, within the framework of an agreement, restrict, control, or attempt to control the production, distribution, sales, or prices of goods and services. The Indian Competition Law prohibits any agreement that lead or could lead to negative consequences for competition in Indian markets. Any such agreement shall be null and void. "Agreement" is understood in a broad sense as any informal or formal agreement, understanding, or concerted action, written or oral.

<sup>40</sup> Беликова К.М. Правовая охрана конкурентной среды в странах БРИКС: некоторые новеллы законодательства Бразилии // Вестник международных организаций. Образование, наука, новая экономика. 2012. Т. 7. № 4. С. 246 [Ksenia M. Belikova, *Legal Protection of the Competitive Environment in the BRICS Countries: Some Novelties in Brazilian Legislation*, 4 Bulletin of International Organizations. Education, Science, New Economy 239, 246 (2012)].

<sup>41</sup> Competition Act, 2002 (12 of 2003) (Apr. 16, 2020), available at [https://www.cci.gov.in/sites/default/files/cci\\_pdf/competitionact2012.pdf](https://www.cci.gov.in/sites/default/files/cci_pdf/competitionact2012.pdf).

<sup>42</sup> Official website of the India Competition Commission (Apr. 16, 2020), available at <https://www.cci.gov.in>.

Any agreement between enterprises engaged in the supply of similar goods or services, including cartels, is considered to have a negative effect on competition and is considered invalid in accordance with Section 3(3) of the Indian Competition Law if it: directly or indirectly determines the sale or purchase prices; restricts or controls production, supply, markets, technical development, investment, or the provision of services; leads to the division of the market, or the source of production, or the provision of services on a geographical basis, or on the type of product, or service, or on the number of customers on the market, or in another similar way; directly or indirectly leads to profanation of bidding or collusion in bidding.

### **3.4. South Africa**

The South African Competition Act 1998<sup>43</sup> was adopted to promote and maintain competition in South Africa and provide small and medium enterprises equal opportunities to participate in the economy.

The Competition Commission was established on the basis of the 1998 Act.<sup>44</sup> The Competition Tribunal and the Appeal Court also operate in South Africa: the first acts as an adjudicative body, the second examines appeals against decisions of the first.<sup>45</sup>

The second chapter of the Competition Act lists a number of prohibited practices, including limited horizontal and vertical practices. Vertical practices are practices between the end user or consumer and the supplier of a product or service. Horizontal practices are practices between suppliers of products and services.

In accordance with the South African Competition Act, horizontal restrictive practice includes an agreement or concerted action between two or more competitors to set prices and/or terms of trade, split markets and/or conspire. By artificially restricting the competition that usually prevails between them, firms avoid precisely the pressure that leads them to innovate, both in terms of product development and production methods. This ultimately leads to high prices and reduced consumer choice.

In South Africa, cartels are prohibited by Section 4(1)(b) of the Act. Penalty for participation in the cartel is a fine of up to 10% of the annual turnover of the company. The company also faces the risk of damages to customers who may have suffered as a result of the cartel. Customers can use cartel detection against the firm to claim damages in civil courts. There are also serious consequences to companies' reputations associated with cartel behavior.<sup>46</sup>

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<sup>43</sup> Competition Act [No. 89 of 1998] (Apr. 16, 2020), available at <http://www.compcom.co.za/wp-content/uploads/2014/09/pocket-act-august-20141.pdf>.

<sup>44</sup> Official website of the South African Competition Commission (Apr. 16, 2020), available at <http://www.compcom.co.za>.

<sup>45</sup> Национальные особенности и перспективы унификации частного права стран БРИКС: учебник: в 2 т. Т. 1 [*National Features and Prospects for the Unification of Private Law of the BRICS Countries: Textbook. In 2 vols. Vol. 1*] 326 (K.M. Belikova (ed.), Moscow: PFUR, 2015).

<sup>46</sup> Cartels, official website of the South African Competition Commission (Apr. 16, 2020), available at <http://www.compcom.co.za/cartels-3>.

Section 4(1)(b) of the Act states that agreements between firms or their agreed practice or decisions of associations of firms are directly prohibited by themselves if they are associated with the limited horizontal actions listed, including: direct or indirect fixation of the purchase or sale price or any other terms of trade; dividing markets by distributing customers, suppliers, territories or specific types of goods or services; or collusion in a tender.

Horizontal agreements include contracts, arrangements or arrangements, regardless of whether they are legally binding. Concerted actions include any joint or coordinated conduct between firms, achieved through direct or indirect contact, which replaces their independent action, but is not an agreement.

Prohibited practices among competitors include: price fixing (fixing the selling price, purchase, or terms of trade); division of markets (distribution of markets between sellers or buyers by territory, type of goods or services; collusion in a tender (this occurs when producers of goods or services decide to submit an application for participation in a tender and agree that one of them should submit the lowest price to ensure the tender, this ensures that each bidder receives a market share and together they can fix the price).

Agreements between parties in a vertical relationship are prohibited if they result in significant obstruction or reduction of competition in the market (Art. 5 of the South African Competition Act).

A comparison of the provisions of the laws on the monopolies and competition of the BRICS countries shows that they are diverse in their external form and in the use in them of various methods of legal technology, formed as a result of the national specifics of legal systems and methods of both legal and non-legal regulation of public relations. In addition to the subject and purpose of legal regulation, their complex legal terminology, undefined and ill-defined legal structures, unclear wording and vague concepts – the so-called “rubber” structures and norms (public order, etc.) unites them. Analysis of the substantive content of the laws of the BRICS countries on monopolies and competition shows the presence of a number of generally recognized (unified) provisions and norms.<sup>47</sup> At the same time, there are certain features that distinguish them.<sup>48</sup>

Regarding agreements restricting competition, it can be noted that in the antitrust laws of the BRICS countries, the form of such agreements is not significant. They may be written or oral, official or informal. Therefore, the antitrust laws contain fairly broad formulations. The ban also applies to less formal arrangements – concerted actions.

It should be noted that anti-competitive agreements, the sole purpose or consequence of which is to raise or set prices, are prohibited as the most dangerous

<sup>47</sup> *National Features and Prospects for the Unification of Private Law of the BRICS Countries*, *supra* note 45, at 327.

<sup>48</sup> Ksenia Belikova, *General Approaches to Dominant Market Position, Prohibition of Abuse of Market Power, and Market Structure Control Within the BRICS Countries*, 3(1) BRICS Law Journal 7 (2016).

and harmful actions. Anticompetitive price behavior can be expressed in increasing, coordinated determination, or otherwise maintaining prices for goods or services. Of particular note is the ban on bidding deals. At the same time, as already noted, agreements (concerted actions) are subject to prohibition, regardless of the form of their conclusion, so the question of using software (pricing algorithms) in carrying out such actions should be secondary.

Also, at present, we can note the absence in the antimonopoly legislation of the PRC, Brazil, India, and South Africa of special rules aimed at regulating competitive relations complicated by the digital element, in particular, the use by enterprises of price algorithms as an element of cartel agreements (concerted actions) or coordination of economic activity. Thus, we can conclude that the general prohibition, which is based on the essence and purpose of the agreement, and not its form (with or without the use of price algorithms) should be taken into account when investigating such behavior of enterprises.

#### **4. Development of a Unified Approach to Regulating the Use of Price Algorithms in the Framework of Interstate Cooperation of the BRICS Countries on Competition Policy Issues**

The widespread adoption of digital technologies poses similar problems for the antitrust authorities of the BRICS member states, as evidenced by the high degree of interest in the active cooperation of these states on antitrust regulation in the digital economy.

The cooperation of the BRICS countries in the field of competition policy is based on a number of documents. Following the results of the VII BRICS Summit on 9 July 2015 (Ufa), the Ufa Declaration was signed, which in paragraph 25 contains a number of provisions defining the intention to continue joint work aimed at improving competition policy and competition law enforcement. It emphasized the need to strengthen coordination and cooperation between departments of the BRICS countries responsible for competition.<sup>49</sup>

To achieve the goal of expanding trade and investment cooperation, the BRICS Economic Partnership Strategy outlines the development of cooperation in the field of socio-economic and competition policies.<sup>50</sup> Subsequently, in accordance with the Ufa Declaration, the Memorandum of Understanding in the Field of Competition Law

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<sup>49</sup> Уфимская декларация БРИКС (принята по итогам саммита БРИКС 9 июля 2015 г.) [Ufa Declaration, adopted on the basis of the BRICS Summit on 9 July 2015] (Apr. 16, 2020), available at <http://static.kremlin.ru/media/events/files/ru/YukPLgicg4mqAQly7JRB1HgePZrMP2w5.pdf>.

<sup>50</sup> Стратегия экономического партнерства БРИКС (принята по итогам саммита БРИКС 9 июля 2015 г.) [BRICS Economic Partnership Strategy, adopted on the basis of the BRICS Summit on 9 July 2015] (Apr. 16, 2020), available at <http://static.kremlin.ru/media/events/files/ru/KTOSBHnlZjOpluAj2AOXCnszNQA8u7HL.pdf>.

and Policy of the BRICS countries was signed at the St. Petersburg International Legal Forum on 19 May 2016.<sup>51</sup> In accordance with paragraph 3 of the Memorandum, the BRICS Coordination Committee for Antitrust Policy has been created as a governing body.

The BRICS Competition Centre was established as a research unit of the HSE-Solkovo Law and Development Institute to conduct applied research and expert analysis in cooperation with leading research centers and competition authorities of the BRICS countries, in July 2018.

The questions of antitrust law of the BRICS member countries are also attracting active attention from representatives of science and practitioners.<sup>52</sup>

In November 2017, the Working Group on Digital Markets (Brazil, Russia) was created at the BRICS Competition Centre to exchange information on the experience of the BRICS countries in curbing anticompetitive practices in the digital economy; fight against cartels of a new type by studying and discussing cases; consider transactions of economic concentration in the digital age; and develop of new mechanisms to combat anti-competitive practices adapted to digital reality.<sup>53</sup>

At the international conference organized by the Department of Economic Research of the Administrative Council for the Protection of Competition of Brazil (CADE) entitled "Development of Antitrust Laws for Digital Technologies" (2019), A. Ivanov, director of the BRICS Competition Centre, noted that

in the process of transforming legislation in the new environment digital economy, international cooperation is one of the key requirements ... the BRICS antitrust authorities can more accurately determine the economic trends and more accurately apply antitrust measures.<sup>54</sup>

The BRICS member countries have unambiguously expressed their interest in long-term and effective cooperation on competition policy issues, which is confirmed by the presence of both institutional, scientific, and legal foundations of cooperation.

<sup>51</sup> Memorandum of Understanding Between the Competition Authorities of the Federative Republic of Brazil, the Russian Federation, the Republic of India, the People's Republic of China and the Republic of South Africa on Cooperation in the Field of Competition Law and Policy (Apr. 16, 2020), available at [http://www.bricscompetition.org/upload/iblock/53c/BRICS\\_MOU.pdf](http://www.bricscompetition.org/upload/iblock/53c/BRICS_MOU.pdf).

<sup>52</sup> Vassily Rudomino et al., *Competition Law in the BRICS Countries* (Alphen aan den Rijn: Kluwer Law International, 2012); *Competition Law Enforcement in the BRICS and in Developing Countries: Legal and Economic Aspects* (F. Jenny & Y. Katsoulacos (eds.), Cham: Springer, 2016); Ksenia Belikova et al., *Concept and Different Types of Restrictive Business Practices in the Legal Orders of BRICS Countries (the Case of China, India, Russia and South Africa)*, 8(2) Journal of Advanced Research in Law and Economics 404 (2017).

<sup>53</sup> Official site of the BRICS Competition Centre (Apr. 16, 2020), available at <http://dev.bricscompetition.org/digital-markets/>.

<sup>54</sup> Antitrust Regulation in the Digital Era, BRICS Competition Centre, 2 August 2019 (Apr. 16, 2020), available at <http://www.bricscompetition.org/materials/news/antitrust-regulation-in-the-digital-era/>.

The digitalization of the economy, as an objective process, poses a number of challenges to modern states, including in the field of protection and competition. The BRICS antitrust authorities should continue to cooperate in the field of competition policy to develop common approaches to antitrust regulation of digital markets.

Of course, the exchange of experience, the consideration of cases, and joint investigations are important elements of such cooperation, however, it seems that one of the priority tasks of interstate cooperation of the BRICS countries in the field of antitrust regulation of the digital economy should be the understanding, generalization, and development of common approaches to antitrust regulation in digital economy.

In terms of the approach to regulating the use of price algorithms by enterprises, we believe that it should be considered as an element or method of conducting economic activity, a ban on the use of which in antitrust laws would not only be impractical, but also restrain the development of scientific and technological progress. However, in cases where the use of such a price algorithm is carried out to limit or eliminate competition between competitors or leads to anti-competitive pricing or maintenance of prices, such behavior should be considered by antitrust legislation as a prohibited act for which legal liability arises. The use of such price algorithms in the case of illegal actions should also not be unconditionally considered as an aggravating circumstance, since the use of such technologies is becoming widespread practice for enterprises. The developed and established approaches to antitrust laws of most foreign countries, including BRICS countries, to ban agreements (concerted actions) that restrict competition and prohibit the coordination of economic activities should be fully applied regardless of whether such actions were carried out by enterprises with or without the help of price algorithms.

The need to solve such fundamental problems once again emphasizes the importance of international cooperation, including among the BRICS countries. We believe that the development of basic approaches to antitrust regulation in the digital economy and forecasting its development is a priority task that BRICS representatives can and must solve and propose these approaches for discussion to the entire world community.

## **Conclusion**

The development of digital technologies and the increasing role of innovation is leading to a change in the economic picture of the world, the creation of completely new markets and structural ties that are distinguished by a global multilateral character. The introduction of digital technologies poses similar problems for the antitrust authorities of the BRICS member states, which confirms the need and importance of the active cooperation of these states on antitrust regulation in the digital economy.

The use of price algorithms by enterprises is a logical stage in the development of scientific and technological progress due to the desire of enterprises to increase the efficiency of economic activity.

The main risks associated with the use of price algorithms by enterprises are agreed-upon (coordinated) actions aimed at setting and maintaining prices to eliminate or prevent competition ("digital cartels"), and price algorithms can be used as an element of coordination of economic activity. As a result, such behavior is capable of causing losses both to other enterprises and to consumers of goods, work, and services.

It has been established that the Russian antimonopoly legislation does not fix the rules governing the use of price algorithms by enterprises, but horizontal and vertical agreements aimed at maintaining prices and eliminating competition, as well as coordinating economic activity, are prohibited. As part of the adaptation of the Russian antitrust laws to digital changes in the economy within the framework of the "fifth antitrust package," the issue of including provisions on price algorithms in the antitrust laws caused serious controversy among practitioners and scientists alike.

Analysis of the antitrust laws of the PRC, Brazil, India, and South Africa also showed that currently these countries have not fixed the rules governing the use of price algorithms by enterprises. Nevertheless, the legislation of all these countries prohibits agreed-upon (coordinated) actions of enterprises aimed at restricting competition by setting, maintaining, or coordinating prices. Thus, the general prohibition, which is based on the essence of the agreement, and not its form (with or without the use of price algorithms) should be taken into account when investigating such behavior of enterprises.

Based on the analysis, we proposed an approach to the regulation of price algorithms by enterprises within the framework of antitrust legislation. In our opinion, the use of price algorithms by enterprises should be considered as an element or method of conducting economic activity. The prohibition of the use of price algorithms in antitrust laws is inappropriate, as this will inhibit the development of scientific and technological progress. However, in cases where the use of such a price algorithm is carried out to limit or eliminate competition between competitors or leads to the establishment or maintenance of prices, such behavior should be considered by antitrust legislation as a prohibited act for which legal liability arises. The developed and established approaches to antitrust laws of most foreign countries, including BRICS countries, to ban agreements (concerted actions) that restrict competition and prohibit the coordination of economic activities should be fully applied regardless of whether such actions were carried out by enterprises with or without the help of price algorithms.

The use of price algorithms in the case of anticompetitive actions should not be considered as an absolute aggravating circumstance, since the use of such

technologies is becoming a ubiquitous practice for many enterprises that carry out fair competitive policies.

Antitrust authorities in modern conditions need to adapt their work with consideration for the level of development of modern technologies for processing large digital data to be able to investigate cases of restrictive business practices, including using price algorithms.

The critical issues of antitrust regulation in the digital economy facing the world community, including BRICS member countries, dictate the need for active international cooperation and dialogue in this direction. We are convinced that one of the priority tasks that representatives of the scientific community, business, and antitrust authorities of the BRICS countries can and must jointly solve is the development of basic approaches to antitrust regulation in the digital economy and forecasting its development; one of the small steps in this direction was undertaken in this article.

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