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ARTICLES

LEGAL STATUS OF ARTIFICIAL INTELLIGENCE FROM QUANTUM-THEORETIC PERSPECTIVE

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Massive inclusion of artificial intelligence (AI) in the technosphere and electronic governments urges an update in legal regulation of these and related areas. The issue converges on the key question of whether AI can be endowed with legal personhood and capacity. Opposing views in this respect build on hardly compatible ethics and largely outdated scientific grounds with a clear perspective for deep cultural antagonisms and further fragmentation of the world. We contribute to this debate from the perspective of quantum cognitive science and show how it can resolve some of the current impasses. Our approach builds on the quantum-theoretic refinement of the concept of uncertainty into quantum and classical types: classical uncertainty denotes subjective ignorance of the present state of affairs, while quantum uncertainty accounts for individual freedom to construct the future. We show that legal capacity of intelligence, at bottom, is defined by the type of uncertainty it is capable to resolve. Natural intelligence, in particular, can resolve quantum uncertainties, generating genuine novelty and affective experience in the process. Classical AI, in contrast, is limited to algorithmic computation, bound to produce predefined results regardless of its complexity. Concepts of decision-making, subjectness, creativity, and personal meaning then are recognized as physically inapplicable to such systems. The proposed definitions of these terms complement and sharpen the criteria of legal capacity in the existing legislations, indicating that “autonomy” is essentially equivalent to “appreciation.” Classical AI then appears as fundamentally alien to subjectness and legal capacity both in civil and common laws, resolving a delicate contradiction between them. Quantum-empowered AI, in contrast, escapes this conclusion due to its access to quantum uncertainty, introducing novel challenges

with respect to responsibility gaps and meaningful human control. The developed approach aligns with the present legal practice and ethical discourse, contributing to the scientifically informed development of law in technological societies.

Keywords: artificial intelligence; legal capacity; meaningful human control; responsibility gap; subjectness; quantum; law.

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Introduction

The second decade of the 20th century witnessed an explosive development of artificial intelligence (AI). From 2015 to 2020, an autonomous household robot passed a self-awareness test;¹ AI defeated the world's top master of go;² a robot Sofia received citizenship in Saudi Arabia;³ a chat bot Shibuya Mirai was granted residency in Japan;⁴ for the first time, AI-generated text was qualified for copyright protection,⁵ and an AI prosecution system was deployed in China.⁶ These experimental decisions reflect the capabilities of AI, often unexpected even to their designers: learning from unstructured data, adaptation to novel environments, composition of sensible texts, music and paintings. The emergence of these and other features shifts the perception of AI from an initial tool-like to a human-like entity, asking for similar legal status. Step by step, artificial subjectness and agency proceeds from unthinkable to useful metaphor to reality.^{7,8,9,10}

The aforementioned cases, of course, induce critical discussions. As AI becomes more and more indispensable in various spheres of life, potential dangers for the privacy, safety, and autonomy of humans become evident.¹¹ In this respect, some welcome the advent of artificial agents and electronic persons as a new wave of

¹ Christopher Hooton, *A robot has passed a self-awareness test*, The Independent, 20 July 2015 (Jun. 10, 2023), available at <https://www.independent.co.uk/tech/a-robot-has-passed-the-selfawareness-test-10395895.html>.

² Joon Ian Wong & Nikhil Sonnad, *Google's AI won the game Go by defying millennia of basic human instinct*, Quartz, 25 March 2016 (Jun. 10, 2023), available at <https://qz.com/639952/googles-ai-won-the-game-go-by-defying-millennia-of-basic-human-instinct>.

³ Rozina Sini, *Does Saudi robot citizen have more rights than women?*, BBC News, 26 October 2017 (Jun. 10, 2023), available at <https://www.bbc.com/news/blogs-trending-41761856>.

⁴ Anthony Cuthbertson, *Artificial Intelligence 'Boy' Shibuya Mirai Becomes World's First AI Bot to Be Granted Residency*, Newsweek, 11 June 2017 (Jun. 10, 2023), available at <https://www.newsweek.com/tokyo-residency-artificial-intelligence-boy-shibuya-mirai-702382>.

⁵ Zhang Yangfei, *Court rules AI-written article has copyright*, China Daily, 20 January 2020 (Jun. 10, 2023), available at <https://www.chinadaily.com.cn/a/202001/09/WS5e16621fa310cf3e3558351f.html>.

⁶ Stephen Chen, *Chinese scientists develop AI 'prosecutor' that can press its own charges*, South China Morning Post, 26 December 2021 (Jun. 10, 2023), available at <https://www.scmp.com/news/china/science/article/3160997/chinese-scientists-develop-ai-prosecutor-can-press-its-own>.

⁷ Sam N. Lehman-Wilzig, *Frankenstein Unbound: Towards a Legal Definition of Artificial Intelligence*, 13(6) Futures 442 (1981).

⁸ Phil McNally & Sohail Inayatullah, *The Rights of Robots: Technology, Culture and Law in the 21st Century*, 20(2) Futures 119 (1988).

⁹ John MacIntyre et al., *At the Tipping Point*, 1 AI Eth. 1 (2021).

¹⁰ José-Antonio Cervantes et al., *Artificial Moral Agents: A Survey of the Current Status*, 26(2) Sci. Eng. Eth. 501 (2020).

¹¹ Лешкевич Т.Г. Метафоры цифровой эры и Black Box Problem // Философия науки и техники. 2022. № 1(27). С. 34–48 [Tatiana G. Leshkevich, *Metaphors of the Digital Era and the Black Box Problem*, 27(1) Philosophy of Science and Technology 34 (2022)].

technological progress,^{12,13,14} while others argue for reserving legal capacity for humans.^{15-16,17,18} The appropriateness of replacing humans with machines is reasonably questioned in critical areas like court decisions and policy.^{19,20,21,22} This debate rarely leads to agreement. At bottom, it reduces to the opposition of ethical stances that cannot be proved or disproved.^{23,24} In the past, fundamental contradictions of this kind fueled deep cultural splits with dramatic and violent consequences.

Trying to keep pace with technology in this kind of controversy,²⁵ legislators face a hard challenge. Our traditional approaches, solidified by centuries of practice, build on the premise that any intelligence is due to human individuals. The rest of nature – surely including semiconductor chips from Intel, AMD, and Huawei, whether robotically embodied or not – must be totally inert and mindless. Modern AI bluntly rejects this view, ascending to Descartes' duality of *res cogitas* (thinking nature) and *res extensa* (spatial nature). In a way, the present legal difficulties thus stem from this 4-century-old metaphysical disjunction, implicitly shaping our worldviews and judgments.

Fortunately, similar problems were already encountered in quantum physics, psychology, and cognitive sciences, which opened the way to a more integral view of nature. Quantum physics, in particular, showed that information pervades both

¹² Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70(4) N. Carol. L. Rev. 1231 (1992).

¹³ J. Storrs Hall, *Ethics for Machines*, in Michael Anderson & Susan L. Anderson (eds.), *Machine Ethics* 28 (2011).

¹⁴ Joshua C. Gellers, *Rights for Robots* (2020).

¹⁵ Алексеева И.Ю., Аршинов В.И., Чеклецов В.В. "Технолюди" против "постлюдей": НБИКС-революция и будущее человека // Вопросы философии. 2013. № 3. С. 12–21 [Irina Yu. Alekseeva et al., "*Technohumans*" versus "*Posthumans*": *NBICS-Revolution and the Future of Man*, 3 Problems of Philosophy 12 (2013)].

¹⁶ Алексеева И.Ю. Культ технологий и субъектность человека // VII Декартовские чтения: глобальные угрозы развитию цивилизации в XXI веке [Irina Yu. Alekseeva, *The Cult of Technology and the Subjectivity of Man*, in VII Cartesian Readings: Global Threats to the Development of Civilization in the 21st Century] 109–116 (2021).

¹⁷ Joanna J. Bryson, *Patience Is Not a Virtue: The Design of Intelligent Systems and Systems of Ethics*, 20(1) *Eth. Inf. Tech.* 15 (2018).

¹⁸ Heather M. Roff, *Artificial Intelligence: Power to the People*, 33(2) *Eth. Int'l Aff.* 127 (2019).

¹⁹ Richard A. Berk, *Artificial Intelligence, Predictive Policing, and Risk Assessment for Law Enforcement*, 4(1) *Ann. Rev. Crim.* 209 (2021).

²⁰ Madalina Busuioc, *Accountable Artificial Intelligence: Holding Algorithms to Account*, 81(5) *Pub. Adm. Rev.* 825 (2021).

²¹ Caryn Devins et al., *The Law and Big Data*, 27(2) *Cornell J.L. & Pub. Pol'y* 357 (2017).

²² Andrew G. Ferguson, *Policing Predictive Policing*, 94(5) *Wash. U.L. Rev.* 1109 (2017).

²³ Wendell Wallach & Peter M. Asaro (eds.), *Machine Ethics and Robot Ethics* (2020).

²⁴ Priya Persaud et al., *Can Robots Get Some Human Rights? A Cross-Disciplinary Discussion*, *J. Robotics* (2021).

²⁵ Woodrow Barfield & Ugo Pagallo (eds.), *Research Handbook on the Law of Artificial Intelligence* (2018).

inert and living matter, connecting elementary particles by immaterial, non-spatial ties. This finding resonated with psychological and cognitive modeling, looking for natural foundation of the psyche, soul, and mind.²⁶ Consciousness, sense-making, free will and other vague concepts then find formulations allowing productive analysis.^{27/28} On a social scale, principles of quantum physics are used in accounts of organic structures,²⁹ affective communication and collective psychology,³⁰ “irrational” economic³¹ and social processes,^{32/33} eluding description by other theories. Several researchers used quantum theory to study the nature of the court, the state, and legal practice in general:

- L. Tribe, for example, considered the fact from quantum physics that any effort to control or specify the particle’s state increases the randomness of its future behavior.³⁴ This tradeoff, known as Heisenberg’s uncertainty principle, appears to work in the process of judging, which – instead of passive declaration of facts – actively changes the state of an object. Similarly, any legal regulation comes with the price of largely unpredictable back-action, often ignored by mechanistic thought.³⁵

- Another example builds on the aforementioned quantum-physical fact that seemingly individual particles may be linked by non-local informational ties. On a human scale, such ties connect people regardless of spatial distance between them. In plain language, these ties are relations between enemies and friends, husbands and wives, colleagues and compatriots, where in each case a collective entity is not reducible to the sum of its individual parts. This basic social phenomenon, troublesome for methodological individualism, is naturally embraced by the concept of quantum entanglement. This approach, potentially resolving a conflict between

²⁶ David Bohm, *A New Theory of the Relationship of Mind and Matter*, 3(2-3) *Philosophical Psychology* 271 (1990).

²⁷ Henry P. Stapp, *Science’s Conception of Human Beings as a Basis for Moral Theory*, in *Cultural Diversity and Transversal Values: East-West Dialogue on Spiritual and Secular Dynamics*, UNESCO CLT.2006/WS/17 (2006), at 99.

²⁸ Carlos E. Maldonado, *Quantum Theory and the Social Sciences*, 59(E) *Momento* 34 (2019).

²⁹ Andrei Khrennikov, *Open Quantum Systems in Biology, Cognitive and Social Sciences* (2023).

³⁰ Alexander Wendt *Quantum Mind and Social Science* (2015).

³¹ David Orrell, *Quantum Economics: The New Science of Money* (2018).

³² Thomas Holtfort & Andreas Horsch, *Social Science Goes Quantum: Explaining Human Decision-Making, Cognitive Biases and Darwinian Selection from a Quantum Perspective*, 25 *J. Bioecon.* 99 (2023).

³³ Francisco Di Biase, *From Quantum Universe to Holographic Brain: The Spiritual Nature of Mankind*, 14(3) *J. Cons. Exp. & Res.* 156 (2023).

³⁴ Laurence H. Tribe, *The Curvature of Constitutional Space: What Lawyers Can Learn from Modern Physics*, 103(1) *Harv. L. Rev.* 1 (1989).

³⁵ The original constitution of the United States, in particular, is seen as the embodiment of a mechanistic worldview, strictly regulating the conduct of individuals within the state machine (*Id.*).

human and state-centric social doctrines, provides useful insights on development of social and international relations.^{36-37/38-39}

• Phenomenon of entanglement points to a domain of nature, very different from spatial and temporal continuum of Newtonian and Einsteinian physics. This is the domain of informational, potential, virtual structures, mathematically formalized as Hilbert space of quantum wavefunctions. Ideologies and religions, collective (un)conscious, language, states and legislations all belong to this realm, forming possibilities of what may happen in space-time.⁴⁰ Alien to the materialistic worldview, here humans operate irrespective of their social or material status. Such an extension of “quantum holism” then provides a physical basis for universal and inalienable human rights in agreement with major traditional cultures,⁴¹ lacking in the existing declarative ideologies.

Quantum physics thus provides us with concepts, or “scientific fictions,”⁴² more adequate to the human nature than Newtonian mechanics, classical thermodynamics, and Einsteinian relativity. Conceptual analogies of the aforementioned kind incite effective ways of thinking, talking and informing human relations in a non-local and entangled, obscure and uncertain, subjectively-contextual, creative, dynamic, multidimensional and multipolar world.^{43,44,45} Exploration of such ways, however, requires recognition and overcoming of deep ideological presumptions of mechanistic worldview.^{46,47}

The present paper continues this line of research, aiming to resolve the issue of the legal status of AI on a firm scientific basis. After setting out the problem

³⁶ Алексеева Т.А., Минеев А.П., Лошкарев И.Д. «Земля смятения»: квантовая теория в международных отношениях? // Вестник МГИМО-Университета. 2016. Т. 2. С. 7–16 [Tatiana A. Alekseeva et al., “Land of Confusion”: Quantum Theory in International Relations?, 2 Bulletin of MGIMO University 7 (2016)].

³⁷ Alexander H. Montgomery, *Quantum Mechanisms: Expanding the Boundaries of Power, Space, and Time in Global Security Studies*, 1(1) J. Glob. Sec. Stud. 102 (2016).

³⁸ James Der Derian & Alexander Wendt (eds.), *Quantum International Relations: A Human Science for World Politics* (2022).

³⁹ Alexander Wendt, *Why IR Scholars Should Care about Quantum Theory, Part I: Burdens of Proof and Uncomfortable Facts*, 14(1) Int'l Th. 119 (2022).

⁴⁰ James Der Derian & Alexander Wendt, “Quantizing International Relations”: The Case for Quantum Approaches to International Theory and Security Practice, 51(5) Sec. Dial. 399 (2020).

⁴¹ Amar Dhall, *On the Philosophy and Legal Theory of Human Rights in Light of Quantum Holism*, 66(1) World Futures 1 (2010).

⁴² Donald O. Walter, *Choosing the Right Fictions of Scientific Law*, 8(3) Am. J. Physiol. 365 (1980).

⁴³ Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (2007).

⁴⁴ Rick Dolphijn, *Critical Naturalism: A Quantum Mechanical Ethics*, 30 Rhiz.: Cult. Stud. Em. Know. (2016).

⁴⁵ Danah Zohar, *Zero Distance: Management in the Quantum Age* (2022).

⁴⁶ Stuart A. Kauffman & Arran Gare, *Beyond Descartes and Newton: Recovering Life and Humanity*, 119(3) Prog. Bioph. Mol. Biol. 219 (2015).

⁴⁷ Аршинов В.И., Буданов В.Г. Становление методологии сложно-семиотического мышления в диалоге с квантовой механикой // Вопросы философии. 2022. № 8. С. 77–85 [Vladimir I. Arshinov & Vladimir G. Budanov, *Becoming of the Methodology of Complex-Semiotic Thinking in Dialogue with Quantum Mechanics*, 8 Problems of Philosophy 77 (2022)].

in Section 1, Section 2 introduces the necessary concepts from quantum theory. This introduction is self-contained and requires no prior knowledge of physics. This basis allows for quantum-inspired definitions of decision, subject, and meaning in Section 3, applicable to both natural and artificial intelligence. Section 4 applies these definitions to classical AI in accord with the standard criteria of legal capacity. In the same approach to quantum AI, Section 5 identifies its legal difference from classical one and discusses potential challenges in this respect. Conclusion provides an overview of the obtained results.

1. Current Legal Practice and Problems

Legal concept of AI varies across countries. Here we focus on the two most popular systems of civil and common laws. Ignoring local variations, civil (Romano-Germanic, continental) law works in the post-Soviet space, China, Egypt, mainland Europe, central and south Americas including Argentina and Brazil. Common law is practiced in the UK, the U.S., Canada, Australia, New Zealand, India, Pakistan, Israel, South Africa and a number of smaller countries.⁴⁸ As necessary for conceptual analysis undertaken in this study, the following description is of a very general nature; specific differences must be taken into account when it eventually comes to the operationalization of the legal issues.

1.1. The Concept of Legal Capacity (LC)

In both civil and common laws, a central concept defining the status of an individual is legal capacity. Legal capacity (LC) denotes a capability of an individual to hold rights and obligations and exercise them by one's own conduct. LC is required to be "a person before the law" recognized in the legal system. Normally it is ascribed to all adult humans. Without LC, as e.g. in cases of severe mental illnesses, an individual is not legally responsible for one's actions and could not be brought to justice.^{49,50,51,52}

In the case of man-made systems, "a person before the law" is transformed into the notion of "electronic personhood," provisionally ascribed to AI.^{53,54,55} To decide

⁴⁸ Jaakko Husa, *The Future of Legal Families*, in (online edn.) Oxford Handbook Topics in Law (2016).

⁴⁹ Cliona de Bhailís & Eilionóir Flynn, *Recognizing Legal Capacity: Commentary and Analysis of Article 12 CRPD*, 13(1) Int'l J.L. Cont. 6 (2017).

⁵⁰ Oliver Lewis, *Advancing Legal Capacity Jurisprudence*, 6 Eur. Hum. Rts. L. Rev. 700 (2011).

⁵¹ Bernadette McSherry, *Legal Capacity under the Convention on the Rights of Persons with Disabilities*, 20 J.L. Med. 22 (2012).

⁵² Penelope Weller, *Reconsidering Legal Capacity: Radical Critiques, Governmentality and Dividing Practice*, 23(3) Griff. L. Rev. 498 (2014).

⁵³ Mireille Hildebrandt, *Legal Personhood for AI?*, in Law for Computer Scientists 237 (2019) (Jun. 10, 2023), available at <https://lawforcomputerscientists.pubpub.org/pub/4swyxhx5/release/3>.

⁵⁴ Sylwia Wojtczak, *Endowing Artificial Intelligence with Legal Subjectivity*, 37(1) AI Soc. 205 (2021).

⁵⁵ Solum 1992.

whether such systems are endowed with LC or not, legal systems use the following criteria, also applied for ambiguous human cases:⁵⁶

1) **Understanding** accounts for one's ability to factually grasp and retain information. In legal practice, this is determined by the subject's ability to express it in communication with judges;

2) **Appreciation** captures the evaluative nature of one's understanding and conduct, manifesting in the attachment of a personal meaning to the facts of a given situation. Appreciation is judged by one's ability for rational argument about his or her decisions in reality-grounded fashion;

3) **Autonomy** criterion searches for capability of a person to make individual and independent (unconstrained, free) decisions. Features of autonomy include self-perception, self-determination, and free will of a subject.

Common law mainly grants LC based on criteria 1 and 2, usually evidencing one's capability for rational decision-making as befits a "reasonable person";^{57,58} Civil law, in addition, requires the autonomy criterion 3, emphasizing the importance of freedom of individual conduct.^{59,60}

1.2. Example: LC of Electronic Home Appliances

Consider these criteria in application to an AI-based electronic home system. Such systems are used by people with mental dementia who are able, for example, to forget the time of the day and go to sleep after turning the kitchen stove on. In this case, "smart home" is designed to turn the stove off upon analysis of acoustic, video, and other sensors' data.⁶¹ To define whether such system holds LC entailing its legal responsibility, the above criteria give the following result:

1) The system collects and stores information, so that the "Understanding" criterion 1 is satisfied;

2) Analysis of the collected information amounts to rational reasoning inquired in "Appreciation" criterion 2. "Attachment of a personal meaning," however, can be judged both ways dependent on the judge's conception of meaning;

⁵⁶ Capacity Assessment Office, Ontario Ministry of the Attorney General, *Guidelines for Conducting Assessments of Capacity* (2005) (Jun. 10, 2023), available at <https://www.publications.gov.on.ca/guidelines-for-conducting-assessments-of-capacity>.

⁵⁷ Alan D. Miller & Ronen Perry, *The Reasonable Person*, 87(2) N.Y.U. L. Rev. 323 (2012).

⁵⁸ Steven P. Scalet, *Fitting the People They Are Meant to Serve: Reasonable Persons in the American Legal System*, 22(1) L. Philos. 75 (2003).

⁵⁹ Carlos Gómez-Virseda et al., *Relational Autonomy: What Does It Mean and How Is It Used in End-of-Life Care? A Systematic Review of Argument-Based Ethics Literature*, 20(1) BMC Med. Eth. 1 (2019).

⁶⁰ Catherine Quinn & Dianne Gove, *Legal Capacity and Decision Making: The Ethical Implications of Lack of Legal Capacity on the Lives of People with Dementia*, Technical report, Alzheimer Europe (2021).

⁶¹ Deniz Ozdemir, *Design and Implementation Framework of Social Assistive Robotics for People with Dementia – A Scoping Review*, 11(2) Heal. Tech. 367 (2021).

3) Since the decision is prescribed by an algorithm, ruling out any subjective freedom of the system, the “Autonomy” criterion 3 is violated.

Given that rationality of the decision is secured by the optimality of the algorithm, common law has high chance to score the criterion 2 positive. Together with criterion 1, this grants the smart home with decision-making and legal capacities. Civil law, in contrast, tends to the opposite conclusion, denying the system of LC based on the negative Autonomy criterion 3.

1.3. The Problem

Although with some interpretational arbitrariness, smart home and other systems of similar complexity thus can be attributed with legal capacity in the common law countries, hosting about one third of the world’s population. To pass this test, the system did not need an ability for learning, self-modification of the code, simulation of emotions or ability to talk with its user in natural language. If these features of “strong” AI would be in place, the system would also have a chance to defend its autonomy (criterion 3) in the court. Latest developments of conversational AI make this very much possible.⁶²

As evidenced by recent declarations of several authorities,⁶³⁻⁶⁴⁻⁶⁵ this conclusion would not be commonly accepted. Different views on subjectness and the legal status of AI then would be backed exclusively by non-scientific ethical commitments, opening the prospect for belief-type clash, mentioned in the Introduction. The resulting legal incompatibility would also complicate international collaborations, including that among BRICS countries. The present approach aims to resolve this issue in scientific terms.

2. Theoretical Basis

2.1. Creative and Computational Intelligence

All activity in nature categorizes in two following classes:⁶⁶

⁶² N. Gowri Vidhya et al., *Prognosis of Exploration on Chat GPT with Artificial Intelligence Ethics*, 2(9) Braz. J. Sci. 60 (2023).

⁶³ Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts, European Commission (2021) (Jun. 10, 2023), available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0206>.

⁶⁴ The Ethics of Artificial Intelligence, UNESCO (2021) (Jun. 10, 2023), available at <https://www.unesco.org/en/artificial-intelligence/recommendation-ethics>.

⁶⁵ Кодекс этики в сфере ИИ // Альянс в сфере искусственного интеллекта [Code of Ethics in the AI Sphere, AI Alliance Russia] (2021) (Jun. 10, 2023), available at <https://a-ai.ru/code-of-ethics/>.

⁶⁶ Diederik Aerts, *The Stuff the World is Made of: Physics and Reality*, in Diederik Aerts et al. (eds.), *Einstein Meets Magritte: An Interdisciplinary Reflection* 129 (1999).

- 1) one in which new information is created;
- 2) one in which existing information is processed.

The second of these types is also known as (classical) computation, in which an algorithm processes initial data to produce a predetermined result. Inert physical dynamics, producing e.g. acceleration of a body based on its mass and applied force according to the Newton's law, is equivalent to such classical computing.⁶⁷ Natural intelligence, in contrast, exercises both computation and creativity.⁶⁸

Natural intelligence uses computation to perform repetitive activities, for which it is practical to use well-working algorithms instead of devising a solution each time anew. Optimization of utility, adaptation, pattern recognition, memory, and rational logic exemplify cognitive tasks reasonably addressed by this computational side of intelligence. This side, however, can only recycle existing information, combining pieces of data according to pre-learned algorithms. Although the number of such combinations may be huge, this process cannot produce anything genuinely new.

Novelty comes to the world through action of the first, creative type. It is required to deal with novel challenges, for which one's memory has no appropriate algorithm.^{69/70} Moreover, the very identification of new challenges, absent in the available recognition patterns, is a non-algorithmic creative act by itself.

Although definitions of intelligence may not mention this explicitly, creativity is implied in decision-making (as considered in detail below) and learning as building a particular cognitive-behavioral system through unique practice, which is different from installation of computer programs. Less obviously, creativity is central to understanding and perception, requiring subject to make unique, individual, and subjective sense out of objective input data.⁷¹⁻⁷²

2.2. Free Will in Modern Science

Considering the description above, one might doubt, whether such an ability to bring genuine novelty to the world is indeed available to humans. This question boils down to that of free will and choice. Without engaging into centuries-old philosophical debate, we motivate our position in this respect from a modern scientific viewpoint.

⁶⁷ Seth Lloyd, *Programming the Universe: A Quantum Computer Scientist Takes on the Cosmos* (2007).

⁶⁸ Stuart A. Kauffman, *Humanity in a Creative Universe* (2016).

⁶⁹ Joy P. Guilford, *Three Faces of Intellect*, 14(8) Am. Psych. 469 (1959).

⁷⁰ Robert J. Sternberg, *Toward a Triarchic Theory of Human Intelligence*, 7(2) Beh. Br. Sci. 269 (1984).

⁷¹ Paulo De Jesus, *Thinking Through Enactive Agency: Sense-Making, Bio-Semiosis and the Ontologies of Organismic Worlds*, 17(5) Phenom. Cog. Sci. 861 (2018).

⁷² Evan Thompson & Mog Stapleton, *Making Sense of Sense-Making: Reflections on Enactive and Extended Mind Theories*, 28(1) Topoi 23 (2009).

2.2.1. Negative Answer from Mechanistic Viewpoint

Negation of free will and choice is usually motivated by its seeming inconsistency with natural science. Indeed, Newtonian-type laws regulate processes of nature in deterministic way, leaving no room for voluntary interventions, not predestined from the beginning of the Universe. Any uncertainty about the past, present, and future is due to our lack of knowledge and computational powers. As pieces of nature, human beings then appear as cogwheels of a whole-Universe Laplacian clockwork.

2.2.2. Ethical Concern

Negation of free will, however, runs in conflict with basics of humanity ingrained in most of our cultures. A stone cannot be kind or vicious; things that are commonly valued – goodness, dignity, compassion, and life itself – then appear as pre-programmed illusion built by our minds upon a meaningless mechanical circus.⁷³ Taken seriously, rejection of free will demounts the basis of our civilization, built upon the concepts of virtue, progress, right and wrong, just and unjust, true and false, good and bad, life and death.^{74,75} Discourage of individual development⁷⁶ and undermining of legal systems (based on the premise that *one could have done otherwise*) are few of many other consequences. With this price in mind, the concept of free will needs more responsible and cautious approach than sometimes suggested.^{77,78,79}

2.2.3. Positive Answer from Quantum Theory

Fortunately, there is no need to discard scientific progress in order to keep normal human ethics. Mechanistic worldview, underlying the negative answer above is, in fact, limited to physics of the 18th century; it remains quite popular today due to cognitive inertia and cultural bias,⁸⁰ slowing integration of wave-field and quantum-physical concepts into public culture.

A scientific framework to account for human subjectness and freedom, in fact, is provided by the very basics of quantum theory, developed to explain atomic-scale phenomena. Practice showed, in particular, that perfect knowing of the system's

⁷³ Kauffman 2016.

⁷⁴ Roy F. Baumeister et al., *Choice, Free Will, and Religion*, 2(2) Psych. Rel. Spir. 67 (2010).

⁷⁵ Russell Shafer-Landau, *Ethical Theory: An Anthology* (2nd ed. 2013).

⁷⁶ Eugeny L. Dotsenko & Olga V. Pchelina, *Free Will as a Paradox: Empirical Evaluation of the Construct of Everyday Consciousness*, 14(2) Psych. Russ.: St. Art 137 (2021).

⁷⁷ Daniel C. Dennett, *Freedom Evolves* (2003).

⁷⁸ Dennis Overbye, *Free Will: Now You Have It, Now You Don't*, The New York Times, 2 January 2007 (Jun. 10, 2023), available at <https://www.nytimes.com/2007/01/02/science/02free.html>.

⁷⁹ Gary Watson, *Free Action and Free Will*, 96(382) Mind 145 (1987).

⁸⁰ Patrick Suppes, *The Transcendental Character of Determinism*, Midw. Stud. Phil. 242 (1993).

state does not allow prediction of its future as expected in the Newtonian world. Uncertainty of such predictions does not result from anyone's ignorance of some hidden parameters of the system; it is a fundamentally different phenomenon of nature, lying in the core of many "quantum" puzzles.^{81,82}

In humanitarian perspective, quantum uncertainty provides space for actions, not predetermined by any algorithm, Pavlovian stimulus-response script, social or physical law. Ability for such actions, exercised by free will of an individual,⁸³ reconciles natural science with normal intuition and ethics indicated above. Humanitarian disciplines get in touch with natural sciences, bridging centuries-long split asserted by Descartes.⁸⁴ This connection goes far beyond abstract analogies, bearing practical results in philosophy,^{85,86,87,88} social and cognitive sciences as noted in the Introduction. Following these approaches, the next subsection introduces the concepts of classical and quantum uncertainties, adopting them to formalize two kinds of action described in Section 2.1 as necessary for legal analysis.

2.3. The Key Difference: Objective and Subjective Uncertainty

The concept uncertainty refers to any unknown quality, feature, or state. Uncertain may be, for example,

1) a number of words in the title of this paper, a color of a ball in a closed box, a date of the next solar eclipse, or a location of a sunken ship on the seabed.

Also, unknown may be, for example,

2) an answer of a friend to your next idea; an outcome of a football match; a gender of a child not yet conceived.

Although labeled by the same word, these examples of uncertainty are of fundamentally different nature to be recognized.

⁸¹ Anton Zeilinger, *The Message of the Quantum*, 438(7069) Nature 743 (2005).

⁸² Gregg Jaeger, *Quantum Randomness and Unpredictability*, 65(6-8) Fortsch. Phys. (2017).

⁸³ Henry P. Stapp, *Quantum Theory and Free Will* (2017).

⁸⁴ Kauffman & Gare 2015.

⁸⁵ Richard Healey, *The Quantum Revolution in Philosophy* (2017).

⁸⁶ Kauffman 2016.

⁸⁷ Henry P. Stapp, *Mind, Matter and Quantum Mechanics* (2004).

⁸⁸ Radek Trnka & Radmila Lorencová, *Quantum Anthropology: Man, Cultures, and Groups in a Quantum Perspective* (2016).

2.3.1. Subjective Uncertainty

Uncertainties in block 1 result from one's ignorance of an existing state of nature. While reading the paper, a person might not remember the exact title and the number of words in it. This number, however, objectively exists, and inspection of the first page will give anyone this single true answer and nothing else. The same holds for an unknown color of an apple or for the location of past or predetermined events in time and space: these features already have definite values, but subjects may be still ignorant about them. The minimal case of such subjective uncertainty has only two alternatives, which may be black and white color of a point. In Figure 1 this ignorance is denoted by gray area.

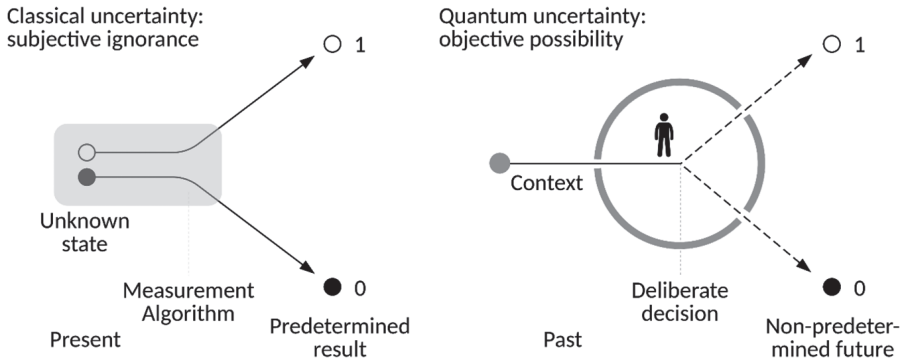


Fig. 1: Simplest binary case of subjective (left) and objective (right) uncertainties. Subjective, classical uncertainty is resolved by measurement with a predetermined result, while objective, quantum uncertainty is resolved by creative decision act. Subject and its legal capacity have place only in the latter case

Definition 1: *Subjective (classical) uncertainty is ignorance of an observer about an existing state of nature.*

Ignorant subject may get to know actual state of an object by inspection or measurement. If, for example, white balls are lightweight and black balls are heavy, such measurement of the color can be made by putting the ball in water: white ball then would pop up, while black one would sink as dictated by Archimedes' law. This law, essentially, maps color of a ball to its position, available for experience e.g. of a color-blind person. This is example of natural computation (Section 2.1) in which existing information is processed according to the (deterministic) laws of nature.

The same holds for the resolution of any subjective uncertainty. To make the corresponding information available to the subject, this process copies it to another carrier by some mapping procedure: the Archimedes' law, a word-counting algorithm, an Internet search engine, etc. In any case, such measurement does not change the state of the considered object. Resolution of subjective uncertainty is always predetermined in advance, even though an experimenter could be unaware of this; the only freedom one has is to choose a subjective belief closer or further to the actual state of reality without influencing it in any considerable way. Mathematical measure of this belief is provided by classical Kolmogorovian probability theory.

2.3.2. Objective Uncertainty

For the second block of examples in the beginning of Section 2.3, the situation is different. In most cases, the answer of a person is not predetermined in advance; usually it is generated during conversation depending on the tone and phrasing of a question, moods and sentiments of speakers, and many other factors. The same is true for the outcome of a sports tournament and the gender of a child two years before its birth. This kind of objective uncertainty refers not to subjective ignorance, but to the multiplicity of objectively possible futures. It is this openness of nature called quantum uncertainty, which puzzled physicists a century ago.

Definition 2: *Objective (quantum) uncertainty is uncertainty about potential states of the future, the choice of which is not predetermined by any algorithm.*

In contrast to the subjective case, objective uncertainty cannot be resolved by looking for the "correct" answer somewhere; there is simply no such answer in the Universe. Instead of passive observation, a subject engages in making of the future. There is no law (Archimedes' or otherwise) mapping the present state of nature to some outcome to-be-discovered; instead, there is a future yet-to-be-made at one's own discretion and responsibility. Such action resolves an uncertainty of objective type by bringing one of the potential possibilities to actual being, which becomes a new state of reality.

Although choice between such potential futures is not algorithmic, it always leads to implementation of some algorithm: a friend's answer "yes" or "no" leads to some consequence in the future; winning the match in play-off championship leads to the next opposing team; gender of a child affects its future for a lifetime. Without corresponding algorithms, this objective uncertainty would be of no interest due to lack of consequences. Objective uncertainty thus is a non-algorithmic choice between several algorithms ready for implementation, shown in Figure 2 by dashed lines.

In the binary case shown in Figure 2 the resulting state of nature is denoted by either "1" or "0," which amounts to a single brand-new bit. This is an elementary act

of creating new information, corresponding to the first type of action as categorized in Section 2.1. As well as free will, therefore, genuine creativity thus requires an objective, quantum uncertainty. This creative process is radically different from discovery-type action resolving subjective uncertainty discussed in Section 2.3.1. This difference, in particular, demands not classical, but quantum probability for its mathematical account.

3. Working Definitions: Decision, Subject and Meaning

Theoretic approach outlined above entails coherent understanding of decision, subjectness, creativity, computation, and meaning. This understanding can be abstracted in specific definitions of these and other terms, directly applicable to natural and artificial intelligence.

3.1. Decision Making and Behavior

A stone on the road is not seen as behaving lazily by making persistent decisions to rest; as its state is predetermined by the laws of physics, a stone is not responsible for its position or velocity. If these parameters happen to be harmful, one seeks a responsible human rather than sues this piece of rock – as could be expected if it would “behave” or “make decisions.” The common sense behind the concepts of decision-making and behavior thus implies the possibility of alternative ways of conduct, a choice among which is made by someone in a deliberate manner. This applies to living organisms but not to the automata with predetermined algorithmic performance.

In quantum-theoretic terms, decision-making and behavior thus refer to the resolution of objective uncertainty as described in Section 2.3.2 (otherwise, it would be better to say decision taking). This entails definition of these concepts as follows:

Definition 3: *Decision is resolution of an objective uncertainty. Behavior is an ensemble of such decisions performed by an individual.*

The absence of objective uncertainty then ensures the absence of decision and behavior, as illustrated in the stone case above. The same holds for any action predetermined by a plan, law, or norm of conduct.

3.2. Subject and Subjectness

Since quantum, objective uncertainty, by definition, cannot be resolved by any algorithm, it requires a non-algorithmic entity capable of such resolution. Such entity is known as subject:

Definition 4: *The subject of a given objective uncertainty is the one who makes the corresponding decision, turning one of potential futures to reality.*

In short, the subject is just a decision maker, if the decision is understood according to Definition 3. A crucial point, introduced by the quantum approach, is that subjectness is not an absolute property of a person, like qualification in a driver's license. If that were so, any number of such licenses would come in conflict, as multiple individuals could claim their subjectness over any decision in their sight. The proposed definition, instead, explicitly defines subjectness with respect to a particular decision. A president may have subjectness over the appointment of the head of the ministry of transport, while the flight of the Air Force One is under subjectness of the captain and his crew. In that way, any number of parallel hierarchical processes can be handled by well-defined subjects with non-overlapping responsibilities and no conflict between them.

3.3. Affective Meaning and Meaningful Control

Emotions and affective meaning, central to the Appreciation criterion of legal capacity as defined in Section 1.1, also derive from the nature of objective uncertainty. Continuing the above example, one does not attribute emotions to a stone, as its inert performance is understandable without these and other psychological terms.

According to the quantum approach, emotions are different states of objective uncertainty as experienced by its subject. These emotional states encode *affective meaning* of the situation, experienced by the subject in relation to the basis decision alternative as described in papers.⁸⁹⁻⁹⁰ Meaningful subjective experience exists only for the uncertainty of objective, quantum type, requiring the existence of a subject. Accordingly:

Definition 5: *Affective meaning is experience of a subject, encoding subjectively established value of all available information for resolution of the basis quantum uncertainty.*

This definition conforms to the concept of *meaningful human control*, used to analyze responsibility over the performance of hybrid human-technological systems,⁹¹ and brings some clarification to the present ambiguity.⁹² In the quantum approach, a control requires the existence of objective quantum uncertainty to be

⁸⁹ Ilya A. Surov, *Natural Code of Subjective Experience*, 15(2) Biosem. 109 (2022).

⁹⁰ Ilya A. Surov, *Quantum Core Affect. Color-Emotion Structure of Semantic Atom*, 13 Front. Psych. 1 (2022).

⁹¹ Herman Veluwenkamp, *Reasons for Meaningful Human Control*, 24(4) Eth. Inf. Tech. (2022).

⁹² Scott Robbins, *The Many Meanings of Meaningful Human Control*, in John MacIntyre & Larry Medsker (eds.), *AI and Ethics* (2023).

resolved; a subject of this decision is then bound to experience affective meaning of the situation according to Definition 5. Any control, therefore, is always meaningful for the corresponding subject. Whether AI can be such a subject or not is the main question of this study, for which we now made all the necessary preparations.

4. Legal Capacity of Classical AI

The above definitions are applicable to both natural and artificial intelligence, allowing analysis of their legal status based on standard criteria listed in Section 1.1. In this section we focus on classical AI, which encodes information in the form of ordinary bits. Such systems may simulate quantum phenomena, but do not encode information in real quantum-physical states. All ordinary computers (laptops, supercomputers, “smart” phones and watches, home appliances, chat bots, etc.) fall into this category.

4.1. Algorithmicity and Deterministic Nature

Any classical AI is more or less complicated algorithm, processing information according to if-then rules. As noted in Section 2.1, such computation is entirely deterministic.⁹³ This equally holds for probabilistic blocks of code involving (pseudo-) random numbers, also generated algorithmically from so-called “random states,”⁹⁴ which are routinely fixed for reproducibility of the results. All uncertainty about such output is therefore of exclusively subjective, classical type (Section 2.3.1).

Deterministic quality, evident for few-line programs, in complex algorithms becomes not obvious. Modern chat bots, for example, approach success in the so-called Turing’s test by closely simulating our communication practice.^{95,96,97} In their algorithmicity, however, these applications are not different from elementary calculations and face classification programs. They receive input (including a supplementary set of training data, current states of memory and artificial neural nets), pass it through a sequence of algorithmic steps, and produce a pre-defined answer. The difference is the algorithmic complexity of AI, much higher than that of the Newton’s laws determining “behavior” of a ball in response to an external kick. The same is true for all classical AI systems.

⁹³ Excluding quantum-probabilistic bit-flip type errors due to spontaneous local radioactive decay and cosmic rays.

⁹⁴ Lih-Yuan Deng & Dale Bowman, *Developments in Pseudo-Random Number Generators*, 9(5) WIREs Comp. Stat. (2017).

⁹⁵ Jacky Casas et al., *Trends & Methods in Chatbot Evaluation*, in ICMI’20 Companion: Companion Publication of the 2020 International Conference on Multimodal Interaction 280 (2020).

⁹⁶ Katherine Elkins & Jon Chun, *Can GPT-3 Pass a Writer’s Turing Test?*, 5(2) J. Cult. Analyt. (2020).

⁹⁷ Yoshiteru Ishida & Ryunosuke Chiba, *Free Will and Turing Test with Multiple Agents: An Example of Chatbot Design*, 112 Proc. Comp. Sci. 2506 (2017).

When an algorithm is too complex to unravel, it is often considered as a black box – a closed entity, communicating with the outside via inputs and outputs.⁹⁸ When interacting with such a box of sufficiently complex and seemingly unpredictable performance, humans usually adopt an anthropomorphic view, attributing a machine with behavior, creativity, subjectness, emotional meaning, intentional stance, and other human-like features.^{99,100,101} This illusion provokes withdrawal from responsibility over operation of such boxes, leading to the concept of so-called responsibility gaps.^{102,103}

Under the hood, however, their performance remains purely deterministic. However long and convoluted, it is a continuous algorithmic track from the input to the output with no breaks and Y-like junctions like shown in Figure 1 on the right. This ensures the absence of place for decision-making (Definition 3), for subjectness or “sense of agency” (Definition 4), and for affective meaning¹⁰⁴ (Definition 5). This provides fundamental support for earlier arguments on the absence of creativity, authorship and responsibility gaps in AI systems.^{105,106}

4.2. Applying Criteria for LC with Quantum Terms

The above logic thus came to a simple conclusion: no algorithm, however complex, can raise a computer above the only thing it can do – to compute. Application of three criteria of legal capacity (LC) defined in Section 1.1 to classical AI then gives the following results:

1. Understanding: YES

Acquisition and processing of sensory input qualifies as “ability to factually grasp and retain information.” Facilitated by a module of conversational AI (used e.g. for passing the Turing’s test in the court), this satisfies “Understanding” criterion 1.

⁹⁸ Leshkevich 2022.

⁹⁹ Luisa Damiano & Paul Dumouchel, *Anthropomorphism in Human–Robot Co-Evolution*, 9 Front. Psych. 1 (2018).

¹⁰⁰ Serena Marchesi et al., *Do We Adopt the Intentional Stance Toward Humanoid Robots?*, 10 Front. Psych. 1 (2019).

¹⁰¹ Arleen Salles et al., *Anthropomorphism in AI*, 11(2) AJOB Neurosci. 88 (2020).

¹⁰² Andreas Matthias, *The Responsibility Gap: Ascribing Responsibility for the Actions of Learning Automata*, 6(3) Eth. Inf. Tech. 175 (2004).

¹⁰³ Filippo Santoni de Sio & Giulio Mecacci, *Four Responsibility Gaps with Artificial Intelligence: Why They Matter and How to Address Them*, 34(4) Philos. Tech. 1057 (2021).

¹⁰⁴ Daniel C. Dennett, *Why You Can’t Make a Computer That Feels Pain*, 38(3) Synthese 415 (1978).

¹⁰⁵ Daniel W. Tigard, *There Is No Techno-Responsibility Gap*, 34(3) Front. Psych. 589 (2021).

¹⁰⁶ Колмаков В.Ю., Курбатова С.М. Философия авторского права в эпоху GPT-генерации текстов искусственным интеллектом // Философия в XXI веке: социально-философские проблемы современной науки и техники [Vladimir Yu. Kolmakov & Svetlana M. Kurbatova, *Philosophy of Copyright in the Era of GPT-Generation of Texts by Artificial Intelligence*, in *Philosophy in the 21st Century: Socio-Philosophical Problems of Modern Science and Technology*] 429–436 (2023).

2. Autonomy: NO

As shown above, deterministic quality ensures that classical AI has no access to the objective (quantum) uncertainty and thus is incapable of genuine decision as defined in Section 4. This inability violates the Autonomy criterion 3.

3. Appreciation: NO*

According to Definitions 4 and 5, no access to objective uncertainty guarantees the absence of subject, subjective evaluation and “personal meaning” that are requested for Appreciation criterion 2. The mark * (here and below) refers to the second part of this criterion, according to which it is “judged by one’s ability for rational argument about his or her decisions in reality-grounded fashion.” As mentioned above, this test can be passed by conversational AI.

The quantum approach thus essentially identifies autonomy of an individual with the meaningfulness of one’s conduct, deriving both from the same fundamental aspect – the physical nature of the considered uncertainty: no personal meaning is possible without autonomy, and no autonomy exists without personal meaning. LC criteria Appreciation (2) and Autonomy (3) are thus essentially identical, addressing different sides of the same fundamental quality.

4.3. Conclusion on LC: Agreement of Civil and Common Laws

These results lead to the following conclusion regarding LC of classical AI:

- Civil law:

prohibit granting of LC to classical AI regardless of its complexity due to the violation of Appreciation criterion 2 and Autonomy criterion 3.

- Common law:

prohibit granting of LC to classical AI regardless of its complexity due to the violation of Appreciation criterion 2*.

According to the disclaimer in Section 2, these conclusions are of very general nature, necessary of specify in any particular legislation. Nevertheless, this finding substantially reduces conceptual tension between families of civil and common laws. When informed by the proposed definitions both agree that classical AI has no LC, thus eliminating major ethical and legal divide, noted in Section 2.

5. Prospects for Recognition of Legal Capacity of Quantum AI

In contrast to mainstream classical AI, its quantum branch encodes information in real quantum-physical states, aiming to solve problems faster than classical computers.¹⁰⁷⁻¹⁰⁸

¹⁰⁷ Jacob Biamonte et al., *Quantum Machine Learning*, 549(7671) Nature 195 (2017).

¹⁰⁸ Vedran Dunjko & Hans J Briegel, *Machine Learning & Artificial Intelligence in the Quantum Domain: A Review of Recent Progress*, 81(7) Rep. Progr. Phys. (2018).

For the issue of legal status, however, this speedup is of no interest. What matters is that quantum hardware brings into play uncertainty of quantum, objective type, which is absent in classical computers. This feature – rarely noticed companion of a desired “quantum supremacy”¹⁰⁹⁻¹¹⁰⁻¹¹¹ – is central for the present analysis.

5.1. The Difference from Classical AI

Quantumness can be brought in by substituting any pseudo-random generator with a quantum chip. Objective, quantum uncertainty is then introduced to the algorithm of classical AI by measurements over single atoms or photons.¹¹² This time, randomness is real, since the absence of an algorithm behind it is ensured by fundamental laws of nature.

This difference overturns the logic used in Section 4. Once employed in any system, a single component of this type guarantees the absence of a deterministic algorithm behind its operation. As defined in Section 2.3, uncertainty about the resulting behavior changes from subjective to objective type. Accordingly, a real decision is made and genuinely new information is created – thus providing a core element, differing classical AI from natural intelligence. This is a physical basis for a real responsibility gap, excluded in the case of classical AI (Section 4.1).

This difference, readily implementable in practice, raises new question: where is subject exercising its deliberate and meaningful control to resolve an objective uncertainty by Definitions 4 and 5? In the case of human intelligence that was a particular person. Now, the only reasonable candidate seems to be an elementary particle within the quantum random number generator in use.

Endowing an elementary particle with free choice, subjectness and affective meaning may seem acceptable as a philosophical guess – as long as it behaves within a physical lab, producing detector counts.¹¹³ However, using it in decision-making systems could lead to more sensitive results – road accident, court sentence, penalty bill, or wrongly prescribed medicine, for example. Would one be comfortable identifying an electron, photon, or atom as a subject responsible for such occasions?

Well, in principle, an atom can respond. Formulate a Yes–No question, identify these possible answers as 1 and 0, and run a quantum random number generator. This, however, is not going to give an intended result. The atom will make a decision

¹⁰⁹ Ilyas Khan, *Free Will – A Road Less Travelled in Quantum Information* (2016).

¹¹⁰ Valentin Jeutner, *The Quantum Imperative: Addressing the Legal Dimension of Quantum Computers*, 1(1) Mor. & Mach. 52 (2021).

¹¹¹ Luca M. Possati, *Ethics of Quantum Computing: An Outline*, 36(3) Philos. Tech. 1 (2023).

¹¹² Miguel Herrero-Collantes & Juan C. Garcia-Escartin, *Quantum Random Number Generators*, 89(1) Rev. Mod. Phys. 1 (2017).

¹¹³ Kauffman 2016.

and choose a spot, but this would be a response not to the question asked, but to the local magnetic field which is the only factor it can meaningfully recognize. As we observe in physical labs, elementary systems cannot make sense of contexts expressed in natural language, representing them in its Hilbert space in a way usual for humans.

5.2. The Issue of Meaningfulness

This example shows that elementary physical systems are too primitive to properly recognize contexts of their choices, would they be amplified to the scale of human-relevant decisions. It is like inviting an infant to control an airplane: in principle, it can push the buttons creatively, but understanding of their function and consequences – i.e. meaningful control – would be lacking. Accordingly, a child would not be responsible for its actions in the captain's cabin; if the plane crashes down, the responsible party is sought among adults. This could be parents who overlooked their child, the cabin crew responsible for keeping passengers outside the cockpit, technical service that developed ineffective instructions, or designers of an education system, preparing ill-qualified specialists.

Similar logic applies to quantum AI. According to definitions in Section 3, it is able to make decisions, host proto-subjectness and affective meaning. At present, however, these qualities are of rudimentary level, incomparably lower than that of an infant in the example above. Analogously, responsibility for the actions beyond their recognition would be lifted to their human designers and/or supervisors.

5.3. Potential Problems

The above logic shows that quantum type of the resolved uncertainty is necessary, but not sufficient to ascribe LC to its subject; determining of one's responsibility requires examination of meaningfulness of one's conduct, going beyond definitions of Section 3. In standard practice, for example, an individual must be able to explain his or her motivation and logic around the considered decision. With humans, this is revealed by direct communication with the judges, as mentioned in the LC criteria above.

With quantum-empowered AI, however, this practice will face problems. As already mentioned, such systems could be able to convince a court in their understanding, appreciation, and autonomy in the same way as AI passes the Turing's and other imitation-based tests.^{114,115} As in the modern chat bots, this is possible by means of exclusively classical part of the system, so that adequacy of its quantum part would remain unattested.

¹¹⁴ Selmer Bringsjord, *Psychometric Artificial Intelligence*, 23(3) J. Exp. Theor. Art. Int. 271 (2011).

¹¹⁵ Diane Proudfoot, *Anthropomorphism and AI: Turing's Much Misunderstood Imitation Game*, 175(5-6) Art. Int. 950 (2011).

At present, quantum AI has no ability to represent features of macroscopic contexts considered in legal practice, like e.g. traffic situations, relations and states of the actors in a road accident. Modern few-qubit systems are not yet adapted for that. However, as such systems get more complex and find practical applications, the situation becomes less clear. Technology strives for arbitrary manipulation of the quantum registers, possibly representing real-world contexts of the robots' decisions.

With this possibility realized in practice, our legal systems would face another challenge. To qualify such robots for responsible resolution of a particular class of objective uncertainties, one would need a test resistant to the Turing's fallacy noted above – some advanced version of AI audit.^{116,117} This could lead to an intellectual competition, in which natural cognition does not seem to be a favorite.¹¹⁸ Previous discussions^{119,120,121,122,123,124,125,126} provide a basis for assessing the appropriateness of this foreseeable technology.

¹¹⁶ Katie Atkinson et al., *Explanation in AI and Law: Past, Present and Future*, 289 Art. Int. 103387 (2020).

¹¹⁷ Jocelyn Maclure, *AI, Explainability and Public Reason: The Argument from the Limitations of the Human Mind*, 31(3) Mind. Mach. 421 (2021).

¹¹⁸ Daniel C. Dennett, *What Can We Do?*, in *Possible Minds: Twenty-Five Ways of Looking at AI* 41 (2019).

¹¹⁹ Alekseeva et al. 2013.

¹²⁰ Alekseeva 2021.

¹²¹ Peter M. Asaro, *A Body to Kick, but Still No Soul to Damn: Legal Perspectives on Robotics*, in Patrick Lin et al. (eds.), *Robot Ethics: The Ethical and Social Implications of Robotics* 169 (2012).

¹²² Mark A. Bedau et al., *Open Problems in Artificial Life*, 6(4) Art. Life 363 (2000).

¹²³ Гарбук С.В. Особенности применения понятия «доверие» в области искусственного интеллекта // Искусственный интеллект и принятие решений. 2020. № 3. С. 15–21 [Sergei V. Garbuk, *The Features of Using the Concept of "Trust" in the Area of Artificial Intelligence*, 3 Artificial Intelligence and Decision-Making 15 (2020)].

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Conclusion

Although based on quantum theory, the realistic approach described above does not imply radical reform of legal foundations. What it offers is scientifically sound understanding of the basic terms, already used in legislations. Based on this understanding we have shown that:

- Due to its algorithmic nature, classical AI has no access to objective quantum uncertainty. Therefore, classical AI is fundamentally incapable of decision-making, hosting subjectness, subjective experience and meaning.
- With the proposed definitions of decision-making, subjectness and meaning, classical AI violates Autonomy and Appreciation criteria for legal capacity, preventing positive conclusion in this respect both in civil and common legislations.
- Quantum AI may host subjectness, decision-making capacity and meaning on the level of elementary particles involved in its operation. At present, rudimentary level of these qualities does not introduce new legal entities and responsibility gaps for most practical purposes.

In terms of subjectness, classical AI thus is no different from any other tool like pencil, saw, or excavator. Standard legal practice then dictates that there is no way in which such tool, however complex, can introduce responsibility gaps or have human-like legal status. A subject, responsible for any benefit or harm made by such tool, is always sought in natural life among its users, owners and creators. To avoid anthropomorphic confusion noted in Section 4.1, the concepts of decision-making and behavior, machine's meaning and ethics should be avoided in descriptions of performance of both quantum and classical AI.

Notably, the obtained conclusions are reached with no appeal to our subjective norms, likes and dislikes. A view of machine as a subject can be considered; but then, to be consistent, you also have to sue not a robber but his car that took your goods away. What is offered by science, then, is just faithful view of nature, necessary for self-consistent logic and social development in nature-compatible ways.^{127/128/129} This, however, does not mean that ethics can be discarded from the lawmaking practice. This is only true for those who know the Universe in its entirety; otherwise, moral and ethics are useful to make proper decisions in those domains of nature, where science have not yet reached. As in the present case, normal human ethics and codes of conduct – whether in European, Confucian, African, Russian, Islamic or Hindu tradition – will eventually find support in scientific reason and coordinated legislation.

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COUNTERING CYBERATTACKS ON THE ENERGY SECTOR IN THE RUSSIAN FEDERATION AND THE USA

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The USA leads the way in the Global Cybersecurity Index, in particular 1st place in 2015, 2020 and 2nd in 2017, 2018. Researchers are interested in examining their prevention of cyberattacks as one of the main cybersecurity threats, since Russia takes only 5th place since 2020. Provided the authors underline neglecting the principle of organized response to crime, the paper examines the pros and cons of countering cyberattacks in the U.S. energy sector and compares it with the Russian Federation. The researchers have found the American strategy is based on standardization and various platforms on the grounds of so-called security in depth, while Russian approach is wider, but demands for more details and miscellaneous mechanisms to share experience. Comparing the cybersecurity plans and strategies for U.S. energy facilities, the authors note that the U.S. specialists neglect physical safety in comparison to Russia. The diversity of bodies with vague powers is a con of the American system that the Russian Federation is trying to avoid, but the interaction between government and private representatives is stronger in the United States of America.

Keywords: USA; Russian Federation; cyberattacks; preventive measures; energy sector; response.

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Conclusion

Introduction

Surveys show that energy companies are exposed to cyberattacks on a daily basis. The U.S. Department of Energy reports that between 2010–2014 there were 150 successful attacks targeting critical infrastructure in the power and nuclear industries.¹ In particular, 245 cyber intrusions were successful in 2014. Half of them were rated as advanced.² In 2015 a cyberattack caused more than 27,62 million of U.S. dollars damage to an average energy company. In 2015–2016 35% of all cyberattacks were aimed specifically at the energy sector.³ Nowadays, there are 24 cyberattacks on the U.S. energy sector per day.⁴

As for the Russian Federation, there is no precise data on cyberattacks on energy sector, but in 2020 over 120,000 cyberattacks on Russia's critical infrastructure were carried out. According to Rostelecom-Solar Report 2021, one in 10 critical information infrastructure entities were compromised by malwares. In 2021–2022 there was a dramatic rise of cyberattacks in general and 15% of cases were targeted repeatedly. Positive Technologies and Ciscoclub data shows that in 2019 almost every third attack

¹ Steve Reilly, *Records: Energy Department Struck by Cyber Attacks*, USA Today, 9 September 2015 (Jul. 20, 2023), available at <https://www.usatoday.com/story/news/2015/09/09/cyber-attacks-doe-energy/71929786/>.

² Advanced persistent threat is a type of a large-scale cyberattack that mobilizes significant financial and technical resources and can last for several years. The goal is usually determined and studied in advance.

³ Patricio Portillo et al., *Smart & Safe: State Strategies for Enhancing Cybersecurity in the Electric Sector*, White Paper, National Governors Association, 19 April 2017 (Jul. 20, 2023), available at <https://www.nga.org/wp-content/uploads/2019/04/NGA-Smart-Safe-State-Strategies-for-Enhancing-Cybersecurity-in-the-Electric-Sector.pdf>; Ponemon Institute, *2016 Cost of Cyber Crime Study & the Risk of Business Innovation* (October 2016) (Jul. 20, 2023), available at <https://www.ponemon.org/local/upload/file/2016%20HPE%20CCC%20GLOBAL%20REPORT%20FINAL%203.pdf>.

⁴ Pedro J. Pizarro & Tom Kuhn, *The US power sector has prevented millions of cyberattacks in 2020 – that takes 24/7 commitment*, Utility Dive, 29 October 2020 (Jul. 20, 2023), available at <https://www.utilitydive.com/news/the-us-power-sector-has-prevented-millions-of-cyberattacks-in-2020-that-t/587949/>.

on energy facilities resulted in confidential information leaks and 2 years later their number increased almost 150%.⁵ The attacks' number on the Russian public sector roughly doubled or tripled compared to a year ago and reaches 403.⁶ In comparison to the U.S. energy sector, the Russian one is primarily public, that's why researchers may also base on its statistics.

One shall take into account that consumers are also suffering. For example, a cyberattack targeting smart inverters that control the flow of electricity in household solar systems could overload parts of the grid, damage critical equipment and subsequently cut off electricity supplies to both business and households.⁷ Appropriating operational-technology systems, their modifications and billing fraud with wireless smart meters can lead to a halt in power generation through wind turbines.⁸ Disabling or controlling dam locks or substations used to store water and generate electricity can result in destruction and injuries of citizens.⁹

1. Methodology

This study is a description investigation of countermeasures against cyberattacks in the U.S. and Russian energy sectors. It is primarily based on genetic, systematic-functional systematization and comparison methods. Data on key mechanisms that are described in Multi-Year Plan for the Energy Sector Cybersecurity 2018 of the U.S. Department of Energy is represented as qualitative research.

2. Similarity and Distinction of Russian and American Approach to Security and Countering in General

To begin with, it is worth mentioning that the United States of America ensures primarily cybersecurity rather than information one in comparison to the Russian

⁵ Количество кибератак на бизнес и государственные структуры выросло в России в 7 раз // Cисoclub. 24 августа 2022 г. [The number of cyberattacks on businesses and authorities in Russia has increased sevenfold, Cисoclub, 24 August 2022] (Jul. 20, 2023), available at <https://cisoclub.ru/kolichestvo-kiberatak-na-biznes-i-gosudarstvennye-struktury-vyroslo-v-rossii-v-7-raz/>.

⁶ Безопасность критической информационной структуры РФ // TAdviser. 16 сентября 2022 г. [Security of critical information infrastructure of the Russian Federation, TAdviser, 16 September 2022] (Jul. 20, 2023), available at https://www.tadviser.ru/index.php/Статья:Безопасность_критической_информационной_инфраструктуры_РФ.

⁷ Kelsey Misbrener, *Cyberattacks threaten smart inverters, but scientists have solutions*, Solar Power Installation, 30 April 30 (Jul. 20, 2023), available at <https://www.solarpowerworldonline.com/2019/04/cyberattacks-threaten-smart-inverters-but-scientists-have-solutions/>.

⁸ Tucker Bailey et al., *The energy-sector threat: How to address cybersecurity vulnerabilities*, McKinsey & Company, 3 November 2020 (Jul. 20, 2023), available at <https://www.mckinsey.com/business-functions/risk-and-resilience/our-insights/the-energy-sector-threat-how-to-address-cybersecurity-vulnerabilities>.

⁹ Gay P. Denileon, *The Who, What, Why, and How of Counter Terrorism Issues*, 93(5) Am. Water Works Assoc. J. 78 (2001).

Federation. The former's strategy considers security in depth, while the latter's is only developing in terms of technological sovereignty and a broader approach to so-called critical information infrastructure entities.¹⁰ Such two forms of systemic effect on cyberattacks against energy facilities as prevention and suppression are implemented in the United States. By contrast, in Russia precaution measures prevail.

Historically, in both states there was an emphasis on the concept of law enforcement prevention with criminal repressions, building up the police force, strengthening the prison system, which had a short-term effect. Today, the dominant approach is community prevention which implies measures to reduce victimization and forecasting as core actions.¹¹ For the time being, the preventive activity involves the model of public institutions, the model of impact through the environment and the model of individual safety.¹²

American legislators and researchers focus on information-analytical and forecasting work, interaction between government officials and energy companies, as well as change of environment in order to hinder or eliminate the criminal use, weaken or neutralize the criminogenic factors. One may conclude that they neglect the third pattern unlike our domestic policy-makers who conventionally prefer taking care of physical security.

3. Comparison of Preventive Measures in Two States

The set of preventive measures consists primarily of standardizing the operation of critical infrastructure facilities. Russia has more generalized standards, inter alia referencing IEC and ISO standards so-called GOST and Technical Regulations of the Eurasian Economic Union and the Commonwealth of Independent States. It is worth mentioning the Federal Service for Technical and Export Control of Russia as an agency of Ministry of Defence with its territorial bodies that is responsible for setting up regulations for critical-information-infrastructure security, inter alia minimum requirements, and handling a register on entities to follow its orders. Non-compliance results in fines up to 500,000 rubles levied by state authorities on the basis of the Code of the Russian Federation of Administrative Offenses with amendments dated May 2021.

¹⁰ Arnault Barichella, *Cybersecurity in the Energy Sector: A Comparative Analysis Between Europe and the United States*, Etudes de l'Ifri (February 2018) (Jul. 20, 2023), available at <https://www.ifri.org/en/publications/etudes-de-lifri/cybersecurity-energy-sector-comparative-analysis-between-europe-and>.

¹¹ Евсеев А.В. Зарубежный опыт организации криминологического обеспечения деятельности правоохранительных органов // Вестник ВИПК МВД России. 2020. № 2(54). С. 90–97 [Andrei V. Evseev, *Foreign Experience of the Organization Criminological Security Activities Enforcement Agency*, 2(54) Bulletin of the Advanced Training Institute of the MIA of Russia 90 (2020)].

¹² Григорян В.К. Предупреждение преступности в высокоразвитых зарубежных странах // Актуальные проблемы российского права. 2012. № 4. С. 272–279 [V.K. Grigoryan, *The Crime Prevention in Highly-Developed Foreign Countries*, 4 Actual Problems of Russian Law 272 (2012)].

In the USA standards and mechanisms are more diverse and specific in terms of cybersecurity, in particular, in the energy sector. First of all, it includes the activities of the non-profit North American Electric Reliability Corporation (NERC). It was appointed responsible for standardization in the field of electrical networks at the federal level in accordance with Energy Policy Act of 2005. The first version of the Critical Infrastructure Protection Standards was adopted in January 2008. The Standards have been updated annually to cover, e.g., controls, personnel training, physical security of transmission sites of the power system, and recovery plans for computer systems. However, back in 2014, in accordance with Presidential Policy Directive No. 13636 "On Improving the Cybersecurity of Critical Infrastructure" of 12 December 2013 (PPD-21), the National Institute of Standards and Technology of the U.S. Department of Commerce (NIST) developed its first Cybersecurity Program.¹³ It is divided into three themes: key actions, 4 levels of implementation and a profile for a goal roadmap and comparison of current and ideal conditions. It also provides its own standards for each function.¹⁴

Meanwhile, the Office of Cybersecurity, Energy Security and Emergency Response (CESER) together with the U.S. Department of Energy, the U.S. Department of Homeland Security and the U.S. Nuclear Regulatory Commission promote the implementation of voluntary standards in order to minimize the risks of cyberattacks and coordinate dialogue with the private sector. In order to apply the Cybersecurity Program and receive feedback from users, the Critical Infrastructure of the Cyber Community Voluntary Program (C³VP or C³) was developed and maintained by the National Infrastructure Coordinating Center (NICC), which is a part of the National Operations Center of the U.S. Department of Homeland Security.¹⁵ It is worth mentioning that there is no sole way to use it and there are no sanctions for non-use. In addition, the C³ program encourages participating in collaboration forums, obtaining access to free technical assistance, tools and resources to strengthen cyber risk management capabilities and helps carry out cyber risk management responsibilities consistently and properly.

Secondly, the U.S. Department of Homeland Security Transportation Security Administration (TSA) also obtains the power to issue pipeline security standards and it issued previously voluntary guidelines in March 2018 and updated in April 2021.¹⁶ A month after the cyberattack on the Colonial Pipeline (7 May 2021), the TSA first issued mandatory standards preliminarily approved by the U.S. Department of

¹³ Presidential Policy Directive 21, U.S. Department of Energy (Jul. 20, 2023), available at <https://www.energy.gov/ceser/presidential-policy-directive-21>.

¹⁴ Benjamin A. Powell & Jason C. Chipman, *Getting the Deal Through: Cybersecurity 2021* (2021).

¹⁵ CISA, *C3 Voluntary Program Frequently Asked Questions* (Jul. 20, 2023), available at https://us-cert.cisa.gov/sites/default/files/c3vp/slitt/CCubed_VP_FAQ.pdf.

¹⁶ TSA, *Pipeline Security Guidelines* (April 2018) (Jul. 20, 2023), available at https://www.tsa.gov/sites/default/files/pipeline_security_guidelines.pdf.

Homeland Security for certain pipeline operators as a part of the Security Directive Pipeline 2021-01.¹⁷

Although NERC is entitled to impose fines up to 1 million of the U.S. dollars per day for non-compliance with standards.¹⁸ In 2016, on February a company was charged with 1,7 million of the U.S. dollars for 36 violations. 21 violations were a high danger for BPS due to low physical security. On October there was another fine (1,1 million of the U.S. dollars) due to insufficient security of physical access to the control systems.¹⁹ Still, the practice is too extraordinary and rarely takes place. Comparing to the Russian Federation, American regulation framework is more rigid, though it is unconventional for non-profit organization to punish.

A set of preventive measures also contains information, experience and technology exchange programs and training. Site inspections are annually carried out by Intervention teams and every two years joint studies of federal and local authorities and the private sector are held with simulated cyber incidents on the bulk power system (the Grid Security and Emergency Response Exercise or GridEx). The U.S. Department of Homeland Security has been conducting Cyberstorm since 2006.²⁰ The importance of participation in such events has been emphasized. For instance, there were more than 120 participants in New York in 2014 and more than 2 thousand participants in 2020.²¹ Also, there are monthly seminars within the framework of the Energy Sector Security Consortium Inc. (EnergySec) and an annual expert exchange conference to update standards.

In this respect Russia is not falling behind and, for the time being, the authorities are actively engaged in collaborative activities. For instance, in 2021 Ministry of Energy and Rostelecom organized joint cyber training in the electric power sector.²² However, one may notice a lack of interaction between government agencies and the private sector. In order to coordinate efforts, it would be appropriate to carry out relevant activities in the strongholds at the National Cyber Training Area. Seven

¹⁷ Catherine D. Little et al., *Mandatory Homeland Security Cybersecurity Directive*, Pipelaws, 17 June 2021 (Jul. 20, 2023), available at <https://www.pipelaws.com/2021/06/mandatory-homeland-security-cybersecurity-directive/>.

¹⁸ Barichella, *supra* note 10.

¹⁹ NERC Increasing Penalties for Fundamentally Failing to Comply with Cyber Standards, Lexology, 17 November 2016 (Jul. 20, 2023), available at <https://www.lexology.com/library/detail.aspx?g=b992afce-5d8f-4fcd-8852-828435873f27>.

²⁰ Cyber Storm 2020: National Cyber Exercise, CISA (Jul. 20, 2023), available at <https://www.cisa.gov/cyber-storm-2020>.

²¹ Portillo et al., *supra* note 3.

²² Минэнерго и «Ростелеком» провели совместные киберучения в электроэнергетическом комплексе // Министерство энергетики РФ. 6 июля 2021 г. [Ministry of Energy and Rostelecom conducted collaborative cyber exercises in electricity sector, Ministry of Energy of the Russian Federation, 6 July 2021] (Jul. 20, 2023), available at <https://minenergo.gov.ru/node/20932>.

centers have already been launched as part of the federal project called Information Security of the national program called Digital Economy.²³

The first Multilateral Information Sharing Agreement on security was adopted in 2015 and required the authorities in the field of defense, health, justice, intelligence and energy to work collaboratively on information sharing capabilities, inter alia in terms of cybersecurity.²⁴ A military-industrial base has been established on the grounds of the voluntary cyber and information security program. It ensures communication between corporations and the U.S. Department of Defense by reporting cyber intrusions and reviewing plans. Every energy sector has its own Information Sharing and Analysis Center (ISAC), in particular oil & natural gas, electricity and downstream natural gas. They provide shared intelligence on cyber incidents and vulnerabilities and best practices to enhance cybersecurity in the energy industry.²⁵ The DHS Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) also aids protection and develops analytical products combining threat assessments and incident reports and strategies. For instance, Target Selection Matrix identifies the potential prone to specific hazards and scenario catalogue in order to enhance supervision over the safety of the facility.²⁶

While the Russian Federation issued the Doctrine of Information Security adopted in 2016 with general provisions and principles and has not updated it in terms of cybersecurity and precise mechanisms, The U.S. Department of Energy Multi-Year Plan for the Energy Sector Cybersecurity of 2018 is more detailed and covers the majority of present mechanisms (see Table 1²⁷).

²³ Чернышенко: в РФ появляется два опорных центра национального киберполигона // Национальные проекты РФ. 4 марта 2022 г. [Chernyshenko: two reference centers of the national cyber training ground appear in the Russian Federation, National Projects of the Russian Federation, 4 March 2022] (Jul. 20, 2023), available at <https://национальныепроекты.рф/news/chernyshenko-v-rossii-poyavyatsya-dva-opornykh-tsentra-natsionalnogo-kiberpoligon>.

²⁴ CISA, *Federal Multilateral Information Sharing Agreement* (January 2019) (Jul. 20, 2023), available at https://www.cisa.gov/sites/default/files/publications/Federal%20MISA%20Oct2019%20Final_0.pdf.

²⁵ Powell & Chipman 2021.

²⁶ Белоус А.И. Кибербезопасность объектов топливно-энергетического комплекса. Концепции, методы и средства обеспечения: практическое пособие [Anatoly I. Belous, *Cybersecurity of Fuel and Energy Complex Facilities. Concepts, Methods and Tools for Ensuring*] (2020).

²⁷ U.S. Department of Energy, *Multiyear Plan for Energy Sector Cybersecurity* (2018) (Jul. 20, 2023), available at https://www.energy.gov/sites/prod/files/2018/05/f51/DOE%20Multiyear%20Plan%20for%20Energy%20Sector%20Cybersecurity%20_0.pdf.

Table 1: Mechanisms of Multi-Year Plan for the Energy Sector Cybersecurity 2018 of the U.S. Department of Energy

Source	Information type	Information Flow	Receiver
Homeland Security Information Network of the U.S. Department of Homeland Security (HSIN)	Information sharing on threats, inter alia analysts', investigators' and private sector partners' collaboration	Mutual	Vetted federal, state, local, tribal, and territorial and private sector members. State Energy Emergency Assurance Coordinators Agreement (EEAC) may also request access
FBI InfaGrad Program	Threats, attacks vulnerabilities, risk mitigation	Mutual	Private and public sectors
State Energy Emergency Assurance Coordinators Agreement (EEAC) between the National Association of State Energy Officials (NASEO), the National Association of Regulatory Utility Commissioners (NARUC), the National Governors Association (NGA), the National Emergency Management Association (NEMA), CESER and Infrastructure Security and Energy Restoration (ISER) Division	All potential energy supply hazards, inter alia disruptions, incidents, events and responses	Mutual	The U.S. Department of Energy, CESER, state authorities of the impacted region

ISAC	Threats, attacks vulnerabilities, risk mitigation	Mutual	State Fusion Centers and chief information officers of energy companies
Electric Utilities	Electric disturbance events report (OE-417 form)	One-sided	The U.S. Department of Energy, CESER
Electric Utilities	Threats and attacks	Mutual	ISAC
Electric Utilities	Threats and attacks	Mutual	NERC
Electric Utilities	Threats and attacks	One-sided	State public utility commissions that have adopted rules, guidance and procedures
Oil and Natural Gas Utilities	Threats and attacks	Mutual	Oil and Natural Gas ISAC (ONG ISAC)
Natural Gas Transmission and Distribution Companies	threats and attacks	Mutual	Natural Gas Transmission and Distribution ISAC (NG ISAC)
Pipeline Operators	Incidents of abnormal operations and SCADA systems	Mutual	Pipeline and Hazardous Materials Safety Administration of the U.S. Department of Transportation
The Energy Sector Security Consortium Inc. (EnergySec)	Threats, attacks vulnerabilities	One-sided	State commissions and EnergySec members
National Management Risk Center of the U.S. Department of Homeland Security (NRMC)	Strategic and cross-cutting understanding of risk analysis and planning	Mutual	Federal, state, local, tribal, and territorial authorities, public and private sectors, inter alia state fusion centers
NCCIC, U.S. Computer Emergency Readiness Team (US-CERT) CISA and Industrial Control Systems-Cyber Emergency Response Teams (ICS-CERT)	Information sharing, threats, attacks and collaboration	Mutual	Federal, state, local, tribal, and territorial authorities, public and private sectors, inter alia state fusion centers

For example, the Cybersecurity Capability Maturity Model (C2M2), which helps to strengthen operational resilience, effectively assessing risks and rendering best practices to establish enhanced cybersecurity architecture.²⁸ Version 2.0 was released in July 2021 and comprises 145 energy sector practitioners representing 77 organizations for the time being.

The Plan should be treated as a security roadmap for both prevention and suppression as to cyber sleuthing and intrusions. For instance, the Cybersecurity Risk Information Sharing Program (CRISP) covers 26 corporations serving 75% of electricity consumers and provides near-real-time data on cyberattacks or malware and machinery responses in order to facilitate timely situational awareness. By 2019, half of the energy companies have joined this system facility. The application analyzes the data received and, using information provided, inter alia by the U.S. Department of Energy's Office of Intelligence and Counterintelligence and the U.S. Intelligence Community. It receives input data from various devices and security sensors as network firewalls and intrusion prevention systems, web authentication systems and classifies the threat.²⁹ The alerts with mitigation measures for potentially harmful activity are uploaded in near real-time directly to company's detection and prevention systems for further restraining intrusions.

Therefore, the Cybersecurity for the Operational Technology Environment (CyOTE) is designed to unify approach to countering cyber threats in operational technology and the Department of Homeland Security Information Network (HSIN) provides the exchange of software products for cyber incident response.³⁰ Along with this, there is a 24-hour cyber surveillance program (Cyber Watch) which receives reports through the iGuardian (formerly eGuardian, created in 2007) and provides for cooperation of the Federal Bureau of Investigation and infrastructure representatives.³¹

4. Detecting, Reporting and Monitoring Cyberattacks as Suppression Method

Back in 2009, NERC developed a system for detecting cyberattacks recording 41 cases and in 2016 (after 2 advanced ones) obliged corporations to report on cyber incidents.³² Both PPD-21-2013 and the Cybersecurity Information Sharing

²⁸ Cybersecurity Capability Maturity Model (C2M2), U.S. Department of Energy (Jul. 20, 2023), available at <https://www.energy.gov/ceser/cybersecurity-capability-maturity-model-c2m2>.

²⁹ Sourav Mukherjee, *Implementing Cybersecurity in the Energy Sector* (2019).

³⁰ Belous 2020.

³¹ Cyber Resources, Domestic Security Alliance Council (Jul. 20, 2023), available at <https://www.dsac.gov/topics/cyber-resources> & iGuardian, FBI (Jul. 20, 2023), available at <https://www.fbi.gov/i-guardian>.

³² Russ Banham, *How energy companies are leading the way in cybersecurity*, Spectra by Mitsubishi Heavy Industries Group, 27 June 2019 (Jul. 20, 2023), available at <https://spectra.mhi.com/how-energy-companies-are-leading-the-way-in-cybersecurity>.

Act of 18 December 2015 required owners and operators to report cybersecurity incidents to the Cybersecurity and Infrastructure Security Agency within reasonable time, but no later than 12 hours after the incident. If it is impossible to provide a full report immediately, at least an internal report with materials must be provided. However, in accordance with Cyber Incident Reporting Law of 15 March 2022, now energy companies must regularly report to CISA within 72 hours from the moment of a cyberattack about the causes, consequences and methods or within 24 hours in case of making a ransom payment.³³ Non-compliance results in fines and the Attorney General has power to enforce the CISA decision.³⁴ Now there are the National Cyber-Awareness System (NCAS) of CISA and the National Vulnerability Database of NIST.

According to CISA, there is a continuous monitoring methodology that enables to prevent or, at least, mitigate consequences of cyberthreats via the Continuous Diagnostics and Mitigation (CDM) Program. A wider approach is presented by the Enhanced Cybersecurity Services (ECS) Program that facilitates IT protection and offer intrusion detection in terms of sink-holing and email filtering. Alike Intervention Teams there are incident response teams that fall under the guidance of the CISA Central Hunt and Incident Response Team (HIRT) and have 4 engagements: remote assistance, advisory, remote and on-site deployment. Generally, it takes about 1–2 months to reduce risks, limit damage and deliver a report.

In accordance with the Executive Order of the President of the United States “Improving National Cybersecurity” of 12 May 2021, CISA issued Cybersecurity Incident & Vulnerability Response Playbooks: Operational Procedures for Planning and Conducting Cybersecurity Incident and Vulnerability Response Activities in FCEB Information Systems of 24 January 2022.³⁵ They proposed general schemes for the sequence of actions of a company in case of a cyberattack using the Trusted Automated Exchange of Indicator Information (TAXII). Previously, there was a situation Manual “Elections cyber tabletop exercise package” of January 2020 (SitMan) that provided the scenario narratives to prevent ordinary online hazards.

³³ Lisa M. Ropple et al., *President Biden Signs Cyber Incident Reporting for Critical Infrastructure Act*, Lexology, 1 March 2022 (Jul. 20, 2023), available at <https://www.lexology.com/library/detail.aspx?g=aec4634f-68ed-4040-a89f-60ff5c78a66a>.

³⁴ Peters and Portman Introduce Bipartisan Legislation Requiring Critical Infrastructure, U.S. Senate, Committee on Homeland Security and Governmental Affairs (2021) (Jul. 20, 2023), available at <https://www.hsgac.senate.gov/media/majority-media/peters-and-portman-introduce-bipartisan-legislation-requiring-critical-infrastructure-entities-to-report-cyber-attacks>.

³⁵ CISA releases incident and vulnerability response playbooks to strengthen cybersecurity for federal civilian agencies, CISA, 24 January 2022 (Jul. 20, 2023), available at <https://www.cisa.gov/news/2021/11/16/cisa-releases-incident-and-vulnerability-response-playbooks-strengthen> & CISA, *Cybersecurity Incident & Vulnerability Response Playbooks Operational Procedures for Planning and Conducting Cybersecurity Incident and Vulnerability Response Activities in FCEB Information Systems* (November 2021) (Jul. 20, 2023), available at https://www.cisa.gov/sites/default/files/publications/Federal_Government_Cybersecurity_Incident_and_Vulnerability_Response_Playbooks_508C.pdf.

In Russia a similar system was developed earlier, in 2013. The state system of detection, prevention and elimination of consequences of computer attacks (GosSOPKA) is designed for collection and storage of detected threats or identified incidents, about which the so-called subjects of critical information infrastructure are required to notify within 24 hours. It also provides for means of information exchange and is governed pursuant to the Decree of the President of the Russian Federation on creation of the state system of detection, prevention and liquidation of consequences of computer attacks on information resources of the Russian Federation dated 15 January 2013, the Federal Law on critical information infrastructure security in the Russian Federation dated 26 July 2017 and a range of Orders of the Federal Secure Service dated 2018 and 2019. Still, the experts doubt that it is suitable for sharing experience, although there is an idea of launching a platform for sharing information about cyber incidents between information-security companies.³⁶ The authors hope that in future such a platform is going to cover both public and private sectors, Federation, regional and local levels as a core suppression method.

5. Results and Discussion

There are lots of general principals in establishing a common cybersecurity baseline. Examining various cybersecurity strategies and plans one may assume that the USA promotes the following oil and gas industry-specific cyber-resilience principals:

(a) Creating a complex model, inter alia handling third parties' risk, leads to the *cyber-resilience governance*;³⁷

(b) *Resilience by design* is supposed to be at the stage of project, construction and operation³⁸ and requires secure-by-design and secure-by-default systems, services and interfaces, which demands for qualified personnel;

(c) *Corporate responsibility for resilience* means data systematisation on cyber incidents and countermeasures and establishment of access controls and management of critical assets;

(d) *Holistic risk management approach* involves standard and safety practice implementation³⁹ and configuration management;

³⁶ Государственная система обнаружения, предупреждения и ликвидации последствий компьютерных атак ГосСОПКА // TAdviser. 1 сентября 2022 г. [State System of Detection, Prevention and Elimination of Computer Attacks GosSOPKA, TAdviser, 1 September 2022] (Jul. 20, 2023), available at [https://www.tadviser.ru/index.php/Статья:Государственная_система_обнаружения,_предупреждения_и_ликвидации_последствий_компьютерных_атак_\(ГосСОПКА\)](https://www.tadviser.ru/index.php/Статья:Государственная_система_обнаружения,_предупреждения_и_ликвидации_последствий_компьютерных_атак_(ГосСОПКА)).

³⁷ The ability to anticipate, withstand, recover from, and adapt to adverse conditions, stresses, attacks, or compromises on systems that use or are enabled by cyber resources in accordance with such standards as NIST SP 800-160 Vol. 2 NIST SP 800-172 from NIST SP 800-160 Vol. 2. *See more* Cyber resilience, NIST (Jul. 20, 2023), available at https://csrc.nist.gov/glossary/term/cyber_resiliency.

³⁸ For instance, the building information modeling may help foresee and estimate cyber-risks.

³⁹ For instance, ISO/IEC 27000, C2M2, NIST Cybersecurity Framework.

(e) *Ecosystem-wide collaboration* means information sharing measures;

(f) *Ecosystem-wide cyber-resilience plans* include developing the cyber literacy and education of employees, assessment and annual update of the list of measures implied.⁴⁰

Taking into account the reasons for cyberattacks in the U.S. energy sector, it is worth mentioning the following actions that are recommended by CISA and TSA within the Pipeline Cybersecurity Initiative (PCI) of 2018. These rules may be referred as good security habits.

(a) Implementation of protected subnet in order to divide operational technologies and control system via Virtual Dispersive Networking (VDN) and to secure Incident Command System (ICS) and the Internet via proxy server in corporate network or virtual private network (VPN), using encryption and multi-factor authentication;

(b) Use of different devices, inter alia protected computers, in order to get access and administer Information Technology (IT) and Operational Technology (OT);

(c) Monitor key internal security capabilities and analyze anomalous traffic and user behavior (for instance, several simultaneous logging, logging outside domestic network or during non-working hours)⁴¹;

(d) annual audit and keep software up to date, monitoring types and versions, installation data;

(e) adopt policy that obliges to put down any changes to the systems and their software and incidents;

(f) restrict access to the OT and classify it (for instance, only for essential personnel).⁴²

Such principles may be implemented as a guidance for the Russian Federation, although we can conclude that it's a common situation that the U.S. sectors don't follow them and suffer. Every forth energy company is vulnerable and reason for that in a half of cases is out of date software or devices that do not comply with the necessary security level in the USA. The same applies to Russia, since about half of energy sector uses foreign software and hardware. Still, According to Positive Technologies Report 2021, 87% of unacceptable events were confirmed in verification projects in the sphere of industry and energy.⁴³ Under these grounds, companies are

⁴⁰ World Economic Forum, *Advancing Supply Chain Security in Oil and Gas: An Industry Analysis*, White Paper (August 2021) (Jul. 20, 2023), available at https://www3.weforum.org/docs/WEF_Advancing_Supply_Chain_Security_in_Oil_and_Gas_2021.pdf.

⁴¹ Steven Bowcut, *Protecting the power grid: Cybersecurity in the energy sector*, Cybersecurity Guide, 25 June 2021 (Jul. 20, 2023), available at <https://cybersecurityguide.org/industries/energy/>.

⁴² The US pipeline attack shows the energy sector must act now on cybersecurity. Here are 6 ways how, World Economic Forum, 17 May 2021 (Jul. 20, 2023), available at <https://www.weforum.org/agenda/2021/05/oil-gas-cybersecurity-ransomware-colonial-pipeline/>.

⁴³ Всё кибербез за один час. Итоги 2021 года и прогнозы на 2022-й в области кибербезопасности по версии Positive Technologies // Positive Technologies. 21 января 2022 г. [Everything about cybersecurity in an hour. Results of 2021 and forecasts for 2022 in terms of cybersecurity by Positive Technologies, Positive Technologies, 21 January 2022] (Jul. 20, 2023), available at <https://www.ptse->

to switch domestic tools and in 2022 FSTEC announced a tender to create a unified environment for the development of secure domestic software.

Such does a great concern arise after cyberattack on the Colonial Pipeline⁴⁴ that quiet radical idea of baring ransom payments, as it has become a common practice for business.⁴⁵ Such initiatives are promoted in some states such as New York and North Carolina, Pennsylvania, Texas. The information bulletin of the U.S. Department of the Treasury's Office of Foreign Assets Control "Updated Advisory on Potential Sanctions Risks for Facilitating Ransom" of 21 September 2021 also disapproves of it.⁴⁶ According to the provisions of International Emergency Economic Powers Act of 18 October 1977 and Trading with the Enemy Act of 6 October 1917, it is prohibited for U.S. citizens and legal entities to conclude any transactions with certain persons, organizations, states, included the black-listed or they are liable for fines from 1,000 to 307,922 U.S. dollars.⁴⁷ However, this approach is criticized by American cybersecurity experts, since the safety of significant data and the need for a prompt solution to the problem often come first.⁴⁸ To achieve indispensable position, following the Executive Order of the U.S. President to improve National cybersecurity of 12 May 2021, the FBI, CISA and the U.S. Department of Energy disseminate information to owners and operators of critical infrastructure that should help to identify ransomware and mitigate its consequences. Now within the company, state and federation cyber resilience plans are adopted and Cyber Incident Reporting Law requires tacking other ways to resolve the issue before paying a ransom.

On 30 June 2021, a desktop application which was released by CISA and called Cyber Security Evaluation Tool (CSET) has got a new module Ransomware Readiness Assessment (RRA) that asses itself risks and reports in both summarized and detailed manner. It is advisable for Russia to take precautions and avoid such bad practice.

curity.com/upload/corporate/ru-ru/analytics/Positive_Technologies_Whitepaper_ves-kiberbez-zachas_20_01_2022.pdf.

⁴⁴ The U.S. Department of Justice discloses that FBI succeeded in partial returning the ransom (different resources report on various sum: 63,7 or 66 out of 75 bitcoins).

⁴⁵ Вадимова Е. Цифра против ТЭК // Нефть и капитал. 29 июня 2021 г. [Ekaterina Vadimova, *Digital Against Fuel and Energy Complex*, Oil and Capital, 29 June 2021] (Jul. 20, 2023), available at <https://oilcapital.ru/news/2021-06-29/tsifra-protiv-tek-1031234>.

⁴⁶ The U.S. Department of the Treasury's Office of Foreign Assets Control, *Updated Advisory on Potential Sanctions Risks for Facilitating Ransom*, 21 September 2021 (Jul. 20, 2023), available at https://home.treasury.gov/system/files/126/ofac_ransomware_advisory.pdf.

⁴⁷ Anthony C. LoMonaco & Peter A. Nelson, *Taking the Ransom Out of Ransomware? Debate on Ransomware Payments Picks Up*, Lexology, 27 July 2021 (Jul. 20, 2023), available at <https://www.lexology.com/library/detail.aspx?g=f1ee994a-0874-473b-9117-04676b06b811>.

⁴⁸ Edward Segal, *Banning Ransomware Payments Could Create New Crisis Situations*, Forbes, 8 June 2021 (Jul. 20, 2023), available at <https://www.forbes.com/sites/edwardsegal/2021/06/08/banning-ransomware-payments-could-create-new-crisis-situations/?sh=58292f872982>.

Physical safety is also a great concern in terms of information security, because it increases the likelihood of unauthorized access to computers. Under the Federal Law of the Russian Federation on fuel and energy complex facilities security dated 21 July 2011, the National Guard of the Russian Federation (Rosgvardiya) is entitled to carry out on-site inspections of fuel and energy complex facilities, whose number reaches 6501, and check their security passport. About 25 thousand of violations were detected, which implies 65% don't follow the requirements.⁴⁹

Unlike Russian authorities, American ones pay almost no attention to the physical security of energy utilities. There is a satellite-based map called Analysis of Geo-Located Energy Information or simply EAGLE-1 that allows monitoring oil and natural gas utilities, electricity bulk power systems nearly in real time, but the information is collected and downloaded by energy companies themselves. Apparently, they do it after some incidents or even fail to do it. Moreover, on September 2016, the U.S. Department of Energy announced transition of EAGLE-1 to Oak Ridge National Laboratory (ORNL).⁵⁰ Thus, one may conclude that apart from standards there are no mechanisms or schemes to provide physical security.

One may assume that the competence of some authorities is unclear, though they are aimed at collaboration in depth between federal, state, local, tribal, and territorial levels and private sector in general. For instance, ISACs and Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) of the U.S. Department of Defense provide assistance not only in terms of information sharing coordination, but also response scenarios while detecting cyberattacks (and other cyberthreats), although, for instance, the National Cybersecurity and Communications Integration Center (NCCIC) is in charge of the latter. There are lots of centers and divisions within the scope of the U.S. Department of the Interior, the U.S. Department of Defense, the U.S. Department of Justice and the Federal Bureau of Investigation. For instance, Internet Crime Complaint Center (IC3), Digital Cyber Crime Center (DC3). Some bodies may be rearranged as huger groups such as Unified Coordination Group (Cyber UCG) that was established under Presidential Policy Directive "United States Cyber Incident Coordination" of 26 July 2016 (PPD-41) in order to evaluate, assess and handle cyber incidents and coordinate provision of necessary resources to the victims. Currently, a Cyber UCG is formed at the direction of CISA NCCIC. Previously Cyber UCG was introduced in SolarWinds case in 2019, but there is no data on activity

⁴⁹ Объектам ТЭК нужны действенные системы безопасности // ITR Group. 21 марта 2022 г. [Fuel and energy facilities need effective safety systems, ITR Group, 21 March 2022] (Jul. 20, 2023), available at <https://itr.group/press/bezopasnost-obektov-tek/>.

⁵⁰ DOE Announces Transition of EAGLE-I to Oak Ridge National Laboratory (ORNL), Taking Advantage of the Laboratory's World-class Capabilities and Expertise, U.S. Department of Energy, 27 September 2016 (Jul. 20, 2023), available at <https://www.energy.gov/oe/articles/doe-announces-transition-eagle-i-oak-ridge-national-laboratory-ornl-taking-advantage>.

in energy sector.⁵¹ Ambiguous competence and responsibility of the authorities leads to confusion, which body and how a representative of an energy company (victim) should apply. Another example is NIST that elaborates guidance and standards and meanwhile created the National Vulnerability Database (NVD) similar to NCAS CISA. Thus, one may doubt why such a great number of bodies should exist and be spent money on, taking into account the fact that institutions work out separately on their own.

The large number of new divisions within departments and agencies and other bodies in the cybersecurity sphere is a complex bureaucracy. In 2013 there was an experiment which implied intentional abruption of electricity facilities and lack of federal control in California. It led to blackouts and delays, which has been estimated as one of the most serious problems.⁵² Authors assume that the issue hasn't been properly solved yet. Poor efficiency and lack of a consistent comprehensive approach complicate the systemic impact on cyberattacks in the U.S. energy sector.

Fortunately, the Russian Federation doesn't repeat American mistakes and the system is supposed to be more coordinated. On federal level there are the National Computer Incident Response and Coordination Center (NCIRCC) within Federal Security Service and Unified Industry Center for Coordination and Counteraction to Cyberattacks (Energy ERT) as a pilot project within the Ministry of Energy. NCIRCC is going to have sectoral centers.⁵³ On regional level each constituent entity has its own specialized cybersecurity Headquarters.⁵⁴

Conclusion

In conclusion, there is no doubt that cybersecurity is one of key elements of the national security in both states, although their approaches to defining it differ which has influence on preventive measures, monitoring mechanisms, information

⁵¹ Feds Stand Down UCG'Surge'Responses to Solar Winds, Microsoft Hacks, MeriTalk, 19 April 2021 (Jul. 20, 2023), available at <https://www.meritalk.com/articles/feds-stand-down-ucg-surge-responses-to-solar-winds-microsoft-hacks/>.

⁵² James A. Lewis, *Assessing the Risks of Cyber Terrorism, Cyber War and Other Cyber Threats*, Center for Strategic and International Studies, Washington, D.C. (December 2002) (Jul. 20, 2023), available at <https://www.ojp.gov/ncjrs/virtual-library/abstracts/assessing-risks-cyber-terrorism-cyber-war-and-other-cyber-threats>.

⁵³ Ого, какая ИБ! Особо горячие обстоятельства из мира кибер-безопасности. Итоги 2022-го и прогнозы на 2023 год по версии Positive Technologies // Positive Technologies. 13 января 2023 г. [Wow, what an IS! Particularly hot circumstances from the world of cyber security. Results of 2022 and predictions for 2023 by Positive Technologies, Positive Technologies, 13 January 2023] (Jul. 20, 2023), available at <https://www.ptsecurity.com/upload/corporate/ru-ru/analytics/Ogo-kakaya-IB.pdf>.

⁵⁴ Дмитрий Чернышенко: В каждом регионе России созданы и функционируют штабы по борьбе с киберугрозами // Правительство России. 7 сентября 2022 г. [Dmitry Chernyshenko: Every region of Russia has created operating headquarters to combat cyberthreats, Government of the Russian Federation, 7 September 2022] (Jul. 20, 2023), available at <http://government.ru/news/46461/>.

sharing plans and reporting. There are diverse ways to counter cyberattacks as one of the main cyberthreats, inter alia developing operate response and reporting on cyber incidents.

Preventive measures include programs for the exchange of information, experience and technologies, exercises and standardization of the critical-infrastructure-facility operation. An effective way to significantly enhance the energy sector cybersecurity is application of standards and methodologies in order to establish control mechanisms, eliminate vulnerabilities of operational-technology system and have minimum requirements for physical and virtual access to it. However, therein lies the problem as to its non-compulsoriness, as well as low practice-oriented tools, taking into account the noxious practice of paying a ransom that the FBI occasionally fails to return (the Colonial Pipeline case confirms). Paying ransoms is a malicious practice that should be fought against rather encouraged, which the Russian Federation should take into account. Although the supervision of standards, technical regulations and appropriate safety passports seems to be more effective, the guidelines are to be updated in terms of cybersecurity.

The main suppressive measures are various cyber surveillance and near-real-time monitoring programs, as well as platforms that furnish the best solutions to minimize cyber risks and to eliminate the consequences of cyber incidents based on protocols. Russian specialists traditionally signify physical safety of facilities and they are actively elaborating cyber issues, while American ones prefer the latter.

Nevertheless, the lack of a systematic approach exacerbates the effectiveness of the applicable tools for assessing the state of cybersecurity and investigating cyber incidents, as well as automatic detection of intrusions. The activities of law enforcement agencies and companies are aimed largely at developing measures to prevent, rather than suppress, cyberattacks in the U.S. energy sector, while non-following centralized response leads to an increase in the vulnerability of the object of crime. That's why the government and representatives of energy companies should reshape their approach in order to effectively work together. As for Russia, there are some developing mechanisms, but the interaction is to be strengthened.

It is also worth taking into account social preventive measures that depends on economic, technological, cultural and social grounds for cyber-criminality. It implies actions that provide physical security of energy utilities and affect such phenomena as disgruntled employees (insiders), intruders (commercial spies), cyber-terrorism and cyber-extremism. This issue calls for further detailed investigation and be subject to future research.

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APPLICATION OF BLOCKCHAIN IN CORPORATE GOVERNANCE: ADAPTABILITY, CHALLENGES AND REGULATION IN BRICS

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The digital revolution has changed many facets of daily life over the past few decades. Think about how personal computers and smartphones are becoming more powerful and smaller, how the Internet has spread throughout the world and led to the emergence of new forms of social interaction, and how there is always access to massive volumes of automated algorithms processing cloud-based data that is utilised in a number of settings. Similarly, it has been observed that blockchain technology has the potential to provide clever fixes for traditional inefficiencies of corporate governance, particularly in the dynamically evolving paradigm in the emerging economics like BRICS nations i.e., Brazil, Russia, India, China, and South Africa. This paper aims to explore the possibilities of adopting blockchain technology within the arrays of internal governance mechanisms while emphasizing on the redressal to legal and regulatory challenges. The paper also critically analyzes the implication and utility of this evolved technology in the corporate governance systems of BRICS nations.

Keywords: BRICS; blockchain; digital technology; corporate governance; regulations.

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Introduction

Blockchain is a cutting-edge technology that can, among other things, provide clever solutions for long-standing inefficiencies in the corporate governance area. However, the euphoria about the phrase “blockchain” is mostly centred on speculation with digital tender like bitcoin. Whereas, corporate governance is typically governed by a combination of hard law –binding provisions in company legislation that govern the fundamental structure of a company’s governance, the responsibilities of directors, and the rights and safeguards for minority shareholders – and soft law – best practises standards outlined in corporate governance codes. The theories of Corporate Governance also formulate contractual and regulatory solutions and concentrates on the issue of how to influence company board members to behave considering the best interests of all the stakeholders. While, Corporate law seeks to mitigate agency concerns by requiring a range of required disclosures, such as yearly financial statements and ad hoc securities law disclosure, as well as special reports, such as on CEO remuneration and, more recently, on sustainability and diversity issues, as well as measures that might align incentives, such as well-structured executive pay.¹ Further, according to Jensen, these solutions are typically expensive and will cost shareholders and delegated directors money for monitoring and bonding. The Annual General Meeting (AGM) is when a significant portion of this direct (collective) shareholder monitoring occurs. On behalf of the shareholders, the supervisory board or the non-executive directors also keep an eye on the management board or the executive directors. The external auditor also contributes to the system of checks and balances. Jensen also said that, despite thorough monitoring and bonding, there will be some disparities between the agent’s decisions and those that would maximise the welfare of the principle. This expense to the main is known as a “residual loss.” Accordingly, numerous research, including those conducted outside the corporate sphere, have been produced as a result of agency theory, which seeks to improve the legal framework governing the relationship between directors and shareholders in corporations. However, despite these attempts, agency cost can never be completely eradicated, according to the idea of Jensen, unless the basic corporate feature of a delegated management structure can be removed.²

¹ Michel Callon et al., *Acting in an Uncertain World: An Essay on Technical Democracy* (2009).

² Mark Fenwick & Erik PM Vermeulen, *Technology and Corporate Governance: Blockchain, Crypto, and Artificial Intelligence*, 48(1) Tex. J. Bus. L. 1 (2019).

1. Overview of Blockchain Technology

Blockchain can be considered as a distributed ledger that may record transactions between participants in a verifiable and immutable fashion. In a blockchain system, which operates on a decentralised peer-to-peer network, a public ledger or a private ledger tracking all executed transactions is employed. This system sets itself apart from traditional ledgers by being transparent; as opposed to a traditional ledger, which overwrites previous records, every advanced transaction is categorized with other transactions in a block and is added in the blockchain system in a linear, systematic and sequential manner.³ Traditional ledgers are stored centrally in the infrastructure of a single organisation, such as all bank clients' accounts or the accounts of any other trusted central party. As a result, the ledger contains all of the previous blockchain transactions. Miners are responsible for adding new blocks to the blockchain and validating transactions by competing to solve challenging coding issues. When a modification is made to one of the decentralised databases that the ledger is mirrored in, all of them are simultaneously updated.

In the absence of a trusted middleman, transaction validation is consequently dependent on a mechanism for obtaining consensus among all interested parties or nodes. To further assure the immutability of each transaction, each block includes a copy of the block header from the preceding block. Because the blocks are linked in this way, changing a transaction requires changing not just the relevant block but also all subsequent blocks. As a result, once a block is finished, it is regarded as immutable and is added to the ledger forever. This implies that blockchain technology may foster both trust and transparency between parties. Smart contracting is only one of the many uses for which blockchain technology may be applied. Smart contracts keep track of agreed-upon terms and automate payments when they are met. A smart contract is a syntax that may be used in conjunction with blockchain technology to negotiate, execute, and enforce agreement stipulations. Because the terms and conditions are kept on the blockchain, they can no longer be amended, avoiding the danger that one of the parties may want to renegotiate the agreement. Smart contracts may be implemented on a variety of platforms. The most well-known is Ethereum, a decentralised platform that allows for smart contracts. Ethereum users may create their own processes and apps by utilising smart contract programming. The Ethereum Wallet allows users to develop and execute smart contracts, generate their own digital currencies, and access decentralised apps on the Ethereum network. As a result, smart contracts are used for a range of purposes, including awarding shares or membership in an organisation.

For parties looking to enter into any kind of transaction or agreement, blockchain technology often offers two crucial components: Transparency is achieved by

³ Tien T.A. Dinh, et al., *Untangling Blockchain: A Data Processing View of Blockchain Systems*, in IEEE Transactions on Knowledge and Data Engineering 1366 (2018).

a verifiable way of documenting transactions, and trust is achieved through the immutability of these transactions. These two components have an impact on corporate governance. It can be observed under the existing governance of major firms. Minority shareholders usually rely on their appointed board members, who may act against their and these owners' best interests, leading in agency costs. It can be contended that this technology could provide a fix for the agency issue and its associated expenses. Actually, if smart contracts allow the agency link between shareholders and board members in a blockchain system, established transparency and trust may decrease practically all agency expenditures that parties must endure.

The founders of Slock introduced the first decentralised autonomous organisation, often known as "The DAO," in mid of 2016. It uses the Ethereum blockchain platform and is also known as the "employee-less corporation." Based on their ownership position, the shareholders of this decentralised venture capital fund, who used Ether to purchase virtual DAO tokens, had complete power over it. Through the sale of its virtual tokens to its shareholders, the DAO raised more than \$150 million USD to put into initiatives that would bring in profits for its investors. Additionally, stockholders might engage in secondary trading by selling their virtual currency on a variety of websites. The White Paper states that shareholders might exchange these DAO tokens for Ether tokens through "a difficult, multi-week process known as a DAO Entity 'split'" and that they could also transfer these DAO tokens on the Ethereum network. The DAO was "hacked" in mid of 2016, by an unidentified "hacker," who took advantage of the rules and conditions of the smart contracts to allow for the theft of between approximately 50 million USD from the fund. One of the cornerstones of blockchain technology, trust between parties, was undermined when the majority of blockchain shareholders opted to reclaim the cash, modifying the purportedly immutable code.⁴ This situation is strikingly similar to the theory on corporate law that we presented at the beginning of this contribution, according to which corporations typically have centralised management that is capable of making decisions quickly and effectively because the allocation of power to anatomic shareholders is inappropriate in practise. Actually, it appears that in the case of the DAO, the lack of centralised authority also results in a less than ideal scenario. It follows that by eliminating the requirement for a central delegated authority, blockchain technology has the potential to reduce agency costs in the business setting. However, the DAO has demonstrated to us that organisations that are decentralised can still experience governance issues. The agency connection between corporate actors may still be facilitated by smart contracts, opening up new opportunities for building trust and transparency. The following part focuses on how the AGM may be improved and

⁴ Marc Andreessen, *Why software is eating the world*, Wall Street Journal, 20 August 2011 (Aug. 10, 2023), available at <https://www.wsj.com/articles/SB10001424053111903480904576512250915629460>.

modernised to leverage blockchain technology and smart contracts to reduce the agency costs for both company and its stakeholders.

On these lines, few corporations are utilizing some of the popular blockchain systems for improving their governance. Few of these such systems are:

Stellar is one of the most used systems wherein a distribution ledger is built on the blockchain that starts asset value transactions. When it comes to trading fiat money and cryptocurrencies, it is like a wave. The Star Network will benefit all mobile wallets, smart devices, and financial applications. Users may comprehend financial transactions without depending on a closed system thanks to the Star Compatibility Protocol (SCP).⁵

Tezos is the independent decentralised blockchain network that establishes the actual commonwealth of digital assets. It is built on a platform for decentralised applications and smart contracts akin to Ethereum.⁶

Codra is a cutting-edge blockchain network that enables businesses to engage with smart contracts directly. Only registered users can access data throughout the whole network using the authorised blockchain application Corda. It lacks any built-in tokens or cryptocurrencies. It functions in an authoritative manner, which enhances anonymity and offers exact control over access to digital information.⁷

Hedera is a quick, reliable, and comparable platform called Hedera Hashgraph Network, it presents a new kind of distribution consensus that does not require the computation of a difficult proof-of-work technique. It gives developers the tools they need to create a new breed of modular, decentralised apps. The Hedera Hashgraph Board is the platform's governing body, and the Hedera Governance Rules ensure that no one person or small group has undue influence over the platform as a whole.⁸

Ripple intends to reduce chargebacks between banks, enterprises, payment providers, and exchanges of digital assets. It permits international transactions using the virtual currency known as "Ripple" which, together with ether and bitcoin, is currently one of the most well-liked cryptocurrencies.⁹

Quorum is created by JP Morgan, created i.e., referred as a replica of Ethereum. It alters Ethereum's fundamental design, making it possible for alerts to be added

⁵ Leo M. Bach et al., *Comparative Analysis of Blockchain Consensus Algorithms*, in 41st International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO) (2018).

⁶ Lennart Ante, *Smart Contracts on the Blockchain – A Bibliometric Analysis and Review*, 57 *Telemat. Inform.* (Article 101519) (2021).

⁷ Shafi Mohamad et al., *Blockchain Technology: Implications for Accountants*, *Int'l J. Innov. Creativity Chang.* 101 (2020).

⁸ Leemon Baird et al., *Hedera: A Public Hashgraph Network & Governing Council: The Trust Layer of the Internet*, White Paper, Hedera (2019), at 9–10 (Aug. 10, 2023), available at https://hedera.com/hh_whitepaper_v2.1-20200815.pdf.

⁹ George C. Dumitrescu, *Bitcoin – A Brief Analysis of the Advantages and Disadvantages*, 5(2) *Glob. Econ. Obs.* 63 (2017).

more rapidly and effectively. It uses a variety of voting-based algorithms to process hundreds of transactions per second, unlike other blockchain networks.¹⁰

Ethereum is renowned for its capacity to carry out smart contracts on personal blockchains. To obtain the best discounts, use the Ethereum Virtual Machine (EVM), which offers an Ethereum runtime environment. Without permission, it is a decentralised blockchain network created for private usage rather than public use.¹¹

Table 1: **Utility and Comparison of Blockchain Systems**

Usage	Industry-Fit	Smart Contracts	Consensus Algorithm
Blockchain Systems			
Codra	Financial Sector	Yes	Pluggable Framework
Ripple	Financial Sector	No	Probabilistic Voting
Quorum	Cross Sectors	No	Majority Voting (e-Voting)
Ethereum	Cross Sectors	Yes	Proof of Work

2. Application of Blockchain in Corporate Governance Mechanisms

Annual General Meeting or AGM is crucial to shareholder monitoring theoretically. In further detail, the traditional AGM serves three purposes for the shareholders: it informs them, provides a forum for discussion and question-and-answer sessions, and allows them to make choices. One of the main purposes of AGMs is frequently thought to be decision-making. As a result of corporate owners' inadequate decision-making, the board of directors is in charge of business strategy and day-to-day decision-making. However, shareholder approval is still necessary for some corporate acts deemed critical to the owners, such as a merger or the nomination of directors. Despite playing a significant role in corporate governance, the AGM's traditional format remained the same. Despite the modernisation of company law and decades of changing corporate governance, many rules that regulate shareholder rights and AGM processes come from the 19th century.¹²

¹⁰ Melanie Swan, *Blockchain for Business: Next-Generation Enterprise Artificial Intelligence Systems*, 111 Adv. Comput. 121 (2018).

¹¹ Mayukh Mukhopadhyay, *Ethereum Smart Contract Development: Build Blockchain-Based Decentralized Applications Using Solidity* (2018).

¹² Mark Fenwick et al., *The End of "Corporate" Governance: Hello "Platform" Governance*, 20 Eur. Bus. Organ. L. Rev. 171 (2019).

To date, the information, forum, and decision-making roles of the AGM have all been at least substantially hollowed out. First, all material must be published and is frequently done so well in advance of the AGM due to market securities law and other disclosure duties. Second, experience suggests that the existing forum role of the AGM is mostly unnecessary for shareholders. According to research, whereas listed businesses may have thousands of shareholders, on average eight owners in a wide sample of Dutch corporations reported concerns. Additionally, during the AGM, there is typically less time available, and shareholders' speaking time may be limited. A normal general meeting must be completed within six hours., for instance, the Bundesgerichtshof determined that a provision in the articles of association limiting speaking and questioning time complies with the German Stock Corporation Act. It is deemed fair to set a speaking time cap of ten minutes per shareholder individually and forty-five minutes overall for all shareholders. Further, in actuality, the decision-making process has flaws as well. Economic theory predicts that, because voting costs are often higher than the benefits, small shareholders in particular will have minimal incentives to participate in decision-making. For instance, a tiny shareholder's voting stake has about negligible marginal impact, yet these shareholders must pay voting expenses. Furthermore, minority shareholders have the option to dispose their shares if they are unsatisfied with the management, free-riding on the monitoring efforts of other, bigger shareholders.¹³

Especially in the case of international voting, shares are typically held through intricate networks of middlemen. The vast majority of shareholders do not buy their shares directly from the listed businesses; instead, they open accounts with their national banks or other financial intermediaries, which either have direct accounts with the Central Securities Depository (CSDs). Scholars have been debating the cost of cross-border shareholder involvement and the chain of intermediaries for more than ten years. Although there are additional barriers, all of these middlemen raise the transaction costs for shareholder engagement. As specified in the Shareholder Rights Directive (EU Directive), the identification of shareholders is essential to allow distant shareholder participation in the AGM, for example, via the nomination of a proxy. Further, the other aspects of transparency, verification, and identity are the key challenges with the present systems of intermediaries and distant voting, and these issues are pertinent to the advantages of blockchain technology. It is evident that no existing transactions are overwritten when a new transaction is added to the distributed ledger. The shareholders, who may inspect their transactions in this system of blockchain, administer similar decentralised databases in which the ledger is copied and automatically updated. Because the blocks that contain transactions are chained together, making it impossible to change just one block without also changing every other preceding block in the ledger, security is established. Additionally, in a blockchain-based system, a shareholder's

¹³ Geoff Colvin, *The 21st Century Corporation: Every Aspect of Your Business Is about to Change*, 172(6) *Fortune* 39 (2015).

digital wallet identification or an external authentication evidence can be maintained in the blockchain to identify them. The firm and shareholders with a sufficient number of shares may submit proposals in a private blockchain operated by the company and accessible exclusively to shareholders. With the use of smart contracts, the private ledger may be set up so that the blockchain contains all pertinent data, including the access rights and majority rules outlined in the AoA and the contemporary legislation. When a specific proposal is placed into the blockchain, shareholders who possess company shares are immediately notified and have a limited amount of time to exercise their voting rights. Following a cut-off point, the results of the vote may be made public immediately, and a majority is required to make the decision binding and verifiable within a certain time limit. Although shareholders can monitor their transactions, no shareholder should be able to see the outcomes of other shareholders' votes. Due to their existing enterprise resource planning (ERP) systems, such as SAP, and the fact that implementing blockchain technology is an expensive activity, the main firms in the world have only partially done so. As a result, even the huge companies are investing slowly. According to the enterprise blockchain survey conducted by SAP (shown in Figure 1), businesses recognise the efficiency and benefits of blockchain technology, but the costs are higher and the returns are lower than anticipated in the short term. However, in the long run, it will be advantageous and give businesses a competitive edge similar to what ERP did two decades ago.

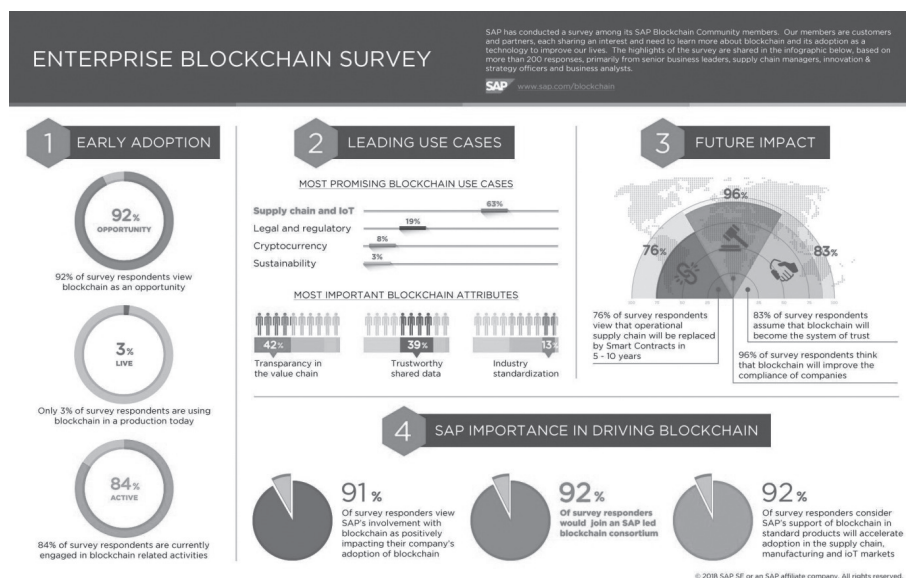


Fig. 1: Enterprise Blockchain Survey by SAP¹⁴

¹⁴ Naveen Rajora, *Blockchain Technology – A Basic Need of the Pharmaceutical Industry*, 10(4) Int'l J. Adv. Res. Comput. Sci. Eng. 26 (2022).

3. Adoption of Blockchain in BRICS Nations

The BRICS¹⁵ countries i.e., Brazil, Russia, India, China, and South Africa are well known for having a variety of economies, yet they also have particular difficulties fostering accountability, transparency, and trust in their business sectors. Accordingly, there are few corporate governance challenges that BRICS nations commonly face i.e., widespread corruption, an absence of transparency, poor shareholder engagement, and ineffective regulatory frameworks. These concerns have often discouraged the foreign investment, resulted in impeding economic expansion, and eroding public confidence in corporations. Thereby, the newly introduced technology of blockchain provides innovative redressal to these problems. As a matter of fact, the effective management of supply chains are common problems in nations like Brazil and South Africa. Hence, the inclusion of transparency in the supply chains may be greatly aided by blockchain technology's capacity to produce an immutable record. Whereas, by producing a transparent and traceable record of financial transactions, blockchain's transparency can operate as a disincentive against corrupt practises. This may aid in regaining public confidence in businesses and regulatory agencies. For instance, 'Camara-e.net' which is a Brazilian association of electronic commerce has adopted this technology to ensure the security and transparency of shareholder's voting and participation. This initiative has lately aimed to enhance corporate governance by ensuring the integrity of shareholder decisions.¹⁶ While, the central securities depository of Russia i.e., National Settlement Depository (NSD), has been exploring the implications of blockchain technology for a number of use cases in the financial sector. They have further evaluated the possibilities of transiting shareholder voting and proxy mechanisms on blockchain through their pilot projects.¹⁷ Similarly, adoption of blockchain technology for interbank settlement and clearance was successfully executed by the South African Reserve Bank. Likewise, in China, Ant Financial which is a subsidiary of renowned Alibaba Group has unveiled a blockchain-based platform for monitoring charitable donations. Similarly, Indian political organisations are migrating

¹⁵ BRICS is an acronym derived from the initials of Brazil, Russia, India, China, and South Africa, which are its members. It was established originally as BRIC in Yekaterinburg (Russia) in 2009, with Brazil, Russia, India, and China as its members; see the relevant documents of the summit at Events, President of Russia, 16 June 2009 (Aug. 10, 2023), available at <http://en.kremlin.ru/events/president/news/4478>. South Africa later joined the platform in 2010 (BRICS (Brazil, Russia, India, China and South Africa), South African Government (Aug. 10, 2023), available at <https://www.gov.za/about-government/brics-brazil-russia-india-china-south-africa-1>).

¹⁶ Federico Panisi et al., *Blockchain and Public Companies: A Revolution in Share Ownership Transparency, Proxy Voting and Corporate Governance?*, 2(2) Stan. J. Blockchain L. & Pol'y 189 (2019)

¹⁷ Vedat Akgiray, *The Potential for Blockchain Technology in Corporate Governance*, OECD Corporate Governance Working Papers No. 21 (2019) (Aug. 10, 2023), available at <https://www.oecd-ilibrary.org/docserver/ef4eba4c-en.pdf?expires=1700190077&id=id&accname=guest&checksum=23C9152E1959E0C3EDCB411A4F1AF342>.

to nations with more benevolent legislation in the current regulatory climate. As a result, India has extremely limited access to jobs, money, local creativity, and positions in the absence of a thriving talent ecosystem. From global perspective, the countries like Estonia, UAE, Sweden, USA, Georgia and the United Kingdom have already embraced blockchain technology.¹⁸ The development of blockchain technology is being led by the public sector and the government. Moreover, Dubai projects that switching all government transactions to the blockchain by 2020 will result in savings of up to 1 trillion pages of paperwork, almost 30 million hours of work, and close to 400 million kilometres of travel. India is painstakingly moving towards accepting the blockchain. It is still up for debate in several Indian states whether to use Blockchain. For instance, a Swedish business has established a cooperation with Chromaway-11 in Andhra Pradesh to safeguard citizen data on the blockchain and investigate blockchain uses in other fields including smart cities and transportation. Document No. 12 from the Reserve Bank of India's Institute for Development and Research in Banking Technologies covers the use of blockchain technology in India's banking and financial sectors (IRDBT). Despite considerable progress, India is only just beginning to adopt blockchain technology.¹⁹

This initiative has exemplified the potential of blockchain in enhancing transparency and accountability in various sectors.

There are other potential areas where this technology can be implemented such as Shareholder's voting process. Considering the dispersed nature of shareholding, the minority shareholders in BRICS nations can cast their respective vote using blockchain based system. This will ensure the transparency and accuracy in the entire process, thus, ensuring the increased participation. On the similar lines, the application of smart contracts can be adopted to automate various internal governance processes such as distribution of dividend, contract enforcement, and regulatory compliance. Thereby, the concerned regulatory authorities fetch an access to real-time data of corporate decisions while confirming the appropriate adherence to legal requirements. From other perspective, China, who is duly acknowledged for its extensive global supply chain network can make an effective utilization of the transparent and traceable ledger feature of blockchain, to track the flow of commodities and ensuring ethical sourcing.

¹⁸ Maciel M. Queiroz & Samuel F. Wamba, *Blockchain Adoption Challenges in Supply Chain: An Empirical Investigation of the Main Drivers in India and the USA*, 46 Int'l J. Inf. Mgmt. 70 (2019).

¹⁹ Aarti Patki & Vinod Sople, *Indian Banking Sector: Blockchain Implementation, Challenges and Way Forward*, 4(1) J. Bank. Fin. Tech. 65 (2020).

4. Practical Efficacies and Regulatory Challenges

According to the aforementioned conjectures, it is apparent that Blockchain technology offers various methods to catalyse the governance in corporate organizations. However, the technology also has few below-mentioned challenges which are yet to be addressed. With continuously growing ledger volumes, scalability in blockchains appears to be a well acknowledged concern. The issue appears to be more evident for public blockchains, since each network user must store a complete, immutable copy of the ledger, which is the fundamental building block of blockchain integrity. This goes against the fundamental tenet of decentralisation since it necessitates constantly expanding storage space for all users and can become a significant barrier to entry. Expanding ledgers ultimately lead to issues with storage capacity and processing power. In addition to this, identity and behaviour are both parts of privacy.²⁰ The issue of privacy has always been out of control, both legally and technologically. Big financial institutions and technological corporations already hold a virtual monopoly on data regarding identities and transactions. Private data is now by far the most valuable asset, entirely and centrally housed on these corporations' servers. Artificial intelligence and big data analytics are two of the most researched new technologies for creating business models that use private data. The end outcome is a scenario where people freely and voluntarily divulge their personal information before losing control over it. This is a centralised network-specific issue that is inherently difficult to address through rules and regulations alone. As was previously indicated, a distributed ledger constructed on the blockchain can result in a workable solution to the data monopoly issue. Further, as blockchain technology becomes more widely used across many businesses, governance of the system is frequently mentioned as a crucial concern.²¹ The Ethereum DAO event, in which a token holder utilised a technical flaw to transfer nearly one-third of the network's entire value to their own account, brought the matter to more people's notice. Blockchains for cryptocurrencies frequently experience governance breakdowns. A recent theft of digital currency valued at more than \$500 million from the Coincheck exchange in Japan was primarily the result of a poor governance framework, which in turn was brought on by a lack of standards to allow prompt regulatory action.

Although blockchain technology is still in its infancy, there is a rapidly expanding genuine interest in its possibilities. In contrast to other disruptive technologies like TCP/IP and the internet, the number of use cases is constantly growing, and there appears to be a greater international interaction between important stakeholders

²⁰ Raj Jain, *Extending Blockchains for Risk Management and Decision Making*, Invited talk at Innovation and Breakthrough Forum (2018).

²¹ Stylianos Kampakis, *Auditing Tokenomics: A Case Study and Lessons from Auditing a Stablecoin Project*, 5(2) J. of The British Blockchain Assoc. 1 (2022).

from various nations. Regulators have also begun assessing the growth of blockchains and taking appropriate action. However, practically all of the concrete regulatory responses made to yet focus on blockchain-related elements like cryptocurrencies and initial coin offerings (ICOs), as well as on certain legal matters like Know Your Client (KYC) and Anti-Money Laundering (AML) compliance programs.²² There isn't yet a thorough regulatory response to blockchain as a whole. Most authorities have this view of blockchain as a comprehensive new business model. In regard to this, regulators are working to conceive and comprehend the potential fundamental and transformative consequences of blockchains for economies and society, much like the majority of individuals and institutions. Blockchain terminology and standards are not widely adopted since the technology is still in its early phases of development. Although this is the case, certain jurisdictions have begun to pass new rules and regulations. There is a chance that new laws will have unintended consequences and require modifications in the future since technology is still developing. Additionally, it is frequently feasible to regulate a firm through extensive and hence expensive regulation, which creates a barrier to entry for creative start-ups. Independent local or national regulation may also lead to legal ambiguity in the absence of a standard worldwide understanding of a new technology.²³ Some jurisdictions have come to the conclusion that it is unsafe to wait and see as well as premature to introduce new regulation in light of the limitations of the aforementioned views. They have opted to offer sandboxing chances for new models as well as regulatory guidance on how new technology fit within current legal frameworks.

In reference to the BRICS nations, the Blockchain technology is still existing in a regulatory grey area as the respective governments are still deliberating how to position themselves on this technology. Consequently, leading to lack of thorough legal frameworks for effectuating the proper regulation. This uncertainty may deter the corporations from adopting blockchain for corporate governance. Furthermore, in rural regions of the nations like India, China and Brazil, there is an inadequacy in accessing to the internet and improper technological infrastructure.²⁴ Hence, the blockchain, which requires robust digital infrastructure, may not be adopted in these regions. Another challenging issue is the conflict between data privacy regulations of respective nations and blockchain's transparency. It has been evidenced that the immutability and transparency in governance model offered by blockchain technology contradict with privacy laws stringent privacy regulations like EU's General Data Protection Regulations (GDPR). Furthermore, protecting intellectual

²² Stuart Cunningham, *Joseph A. Schumpeter, Capitalism, Socialism, and Democracy*, 16(1) Int'l J. Cult. Pol'y 20 (2010).

²³ Julia Black, *Proceduralisation and Polycentric Regulation*, Especial 1 Direito GV L. Rev. 99 (2005).

²⁴ Rustam Lalkaka, *Business Incubators in Developing Countries: Characteristics and Performance*, 3(1-2) Int'l J. Entrep. Innov. Mgmt. 31 (2003).

property presents a variety of challenges. Whereas, the decentralised nature of blockchain technology can make it more complex, hence, the BRICS nations ought to cooperate together to develop standardized Intellectual Property frameworks which are specifically designed for blockchain technology, as this would bring clarity and promote innovation.

Conclusion

In this article, the possibilities presented by blockchain and smart contracting technologies were discussed thoroughly. As per the above-mentioned discussions, the adoption of blockchain technology has a number of intriguing advantages for corporate governance. Yet, it is not a universally applicable solution. The regulatory, technological, and organisational aspects must be carefully taken into account for the successful integration of blockchain into corporate governance. Accordingly, the effective cooperation between regulators, corporations and technology specialists is an essential element to create an ecosystem that can fully utilise blockchain's potential while minimising hazards. The technology may become more important in influencing corporate governance practises within the BRICS group due to the dynamic technological and legal landscapes in each nation. In reference to few corporate scandals in India and Brazil, implementation of blockchain-based solutions for recording financial transactions and board decisions can provide a transparent and auditable trail, making it difficult for unscrupulous executives to manipulate data for their personal gains. Additionally, the BRICS countries play a significant role in global trade and commerce. Thus, adoption of blockchain technology can streamline international trade and increase trade productivity. Hence, these nations can improve the element of transparency, efficiency, and accountability in their corporate sectors by embracing this technological advancement. However, each nation is expected to cooperate to develop enabling regulatory frameworks, methods of spreading awareness among stakeholders, and legislate stringent legal structures to address technology issues such as data privacy, securing intellectual property, preventing cyber related crimes and others. Finally, it is imperative to acknowledge that blockchain technology is not a panacea rather it's a tool which can offer transparent, efficient, and accountable corporate governance practices.

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A COMPARATIVE STUDY OF DOMESTIC VIOLENCE IN BRICS NATIONS – PRE AND POST COVID-19

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The most common kind of sexual or physical abuse suffered by women is that by a partner. Human rights are violated when males or boys use violence against women or girls. When it comes to domestic abuse, it is estimated that one in three women will experience some kind of gender-based violence at some point in their lives. The number of women who have been abused by a romantic partner or a non-relationship sexual partner is estimated to reach 736 million. For years, the world's leaders have recognised its seriousness. In 1995, the Beijing Declaration and Platform for Action said that violence against women must be eliminated. Within the "UN's 2030 Agenda for Sustainable Development," a worldwide goal to abolish "all kinds of violence against women and girls in public and private spaces" was added. Global action was called for in 2016 by the "World Health Assembly's" Resolution 69.5, which urged a national multisector approach to combating violence against women and young girls. In spite of all of these responsibilities, 49 countries still don't have a clear policy on domestic abuse. Lower and lower-middle-income women nations are particularly vulnerable to this violence, which has long-term effects on their health and well-being. In the world's poorest nations, women aged 15 to 49 have a lifetime frequency of domestic abuse of 37 percent. One in every four women who have ever been in a relationship has been a victim of domestic abuse at some point in their lives.

Keywords: BRICS; domestic violence; women; gender; abuse; law.

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Introduction

By looking at crises through the lens of social interactions, we get a better understanding of the “social structure of societies, organisations, families, and other interpersonal relationships” from which catastrophic events emerge. The ability to critically analyse power dynamics in pandemic circumstances is enhanced when we pay attention to the gender interactions that occur during disasters. Various research and observations have revealed that women may suffer a “re-emphasis on traditional and lower family status and deteriorating conditions” during times of catastrophic disasters.

It is vital to point out the distinctions between “IPV, domestic violence (DV), and gender-based violence (GBV),”¹ which are sometimes used interchangeably. Any behaviour that occurs in an intimate relationship between partners or ex-partners (whether married or cohabiting) that has the potential to inflict physical, psychological, or sexual harm to those involved in the intimate relationship is often referred to as “IPV.”²

¹ The 1993 United Nations Declaration on the Elimination of Violence Against Women defines “gender-based violence” as “an act that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women (including threats of such acts), or coercion or arbitrary deprivation of liberty, whether occurring in public or private life.” The focus of this paper is Domestic Violence – the most common form of GBV against women.

² Violence against women, World Health Organization (WHO), 9 March 2021 (May 7, 2023), available at <https://www.who.int/news-room/fact-sheets/detail/violence-against-women>.

This concept has been defined as “acts that are physically and emotionally harmful or that carry the potential for physical harm and may also include sexual coercion or assaults; physical intimidation; threats to kill or harm; restriction of normal activities and freedom; and denial of access to resources” by the “US National Institutes of Mental Health Committee” on Family Violence,³ however. In contrast, the World Health Organization (WHO) defines “domestic violence” (DV) as any act of hostility, physical, psychological, sexual, or economic, that occurs inside or between members of a domestic unit, such as a family or an intimate relationship. An intimate male partner/cohabiting partner, parent(s), sibling(s), family member(s), or anyone known to the family can commit DV against a woman/child/adolescent. In other words, the term “DV” is a more inclusive phrase than “IPV.” Beyond “IPV and DV, GBV” refers to acts of violence perpetrated against a person solely because of their gender. It is often used to describe any kind of violence that is based on exploiting gender disparities. GBV may cause physical, sexual, psychological, and economic suffering, much like IPV and DV.⁴

Girls and women are vulnerable particularly to “gender-based violence (GBV),” which has been shown to be one of the most apparent symptoms of gender inequality. As a result, research shows that DV surges at times of crisis and happens in all countries across the globe, regardless of socioeconomic level. Women and children were entrusted with the task of preparing meals at evacuation centres after the 2010 earthquake and tsunami in East Japan. Internally displaced individuals (IDPs) in Haiti following the 2010 earthquake had to deal with male-dominated assistance committees that controlled the distribution of supplies, resulting in some women being compelled to bargain for relief items via sexual favours. There have been reports of similar situations in IDP camps in North-East Nigeria, too. Despite this, victims’ ability to disclose abuse is frequently hindered by society’s pressure.

In 2005, after Hurricane Katrina, the rate of rape among women who had to leave their homes in Mississippi’s highest baseline rate was 53.6 times higher in 2004. The rate of rape in close relationships was 16 times higher than the annual average in the U.S. A study in Karamoja, Uganda, found that violent behaviours such as rape, DV, and child marriage increased during droughts. Female genital cutting was also shown to be more common during these times.

Nearly a decade after the outbreak of the crisis according to reports, violence against women and girls has continued unabated across the Middle East. Since the beginning of the crisis, sexual harassment, underage marriage, forced marriage, domestic violence, sexual violence, and other forms of GBV have been reported.

Examples of crises that exacerbate lopsided gender relations include pandemics, natural catastrophes, and war. Depending on family support during and after a crisis

³ National Research Council, *Understanding Violence Against Women* (1996).

⁴ Joel N. Tochie et al., *Intimate Partner Violence during the Confinement Period of the COVID-19 Pandemic: Exploring the French and Cameroonian Public Health Policies*, 35 Pan Afr. Med. J. 54 (2020).

has been demonstrated to enhance existing power relations, further removing women's agency and control. Despite the essential insights that a gender analysis provides, data collection on sex, age, and disability is rarely fully undertaken during and after a pandemic crisis, despite gender-sensitive evaluations and assessments. In the aftermath of the global coronavirus epidemic, this dynamic is still playing out.

"Gender-based violence (GBV)" has also been linked to the role women and girls play in disaster and crisis circumstances. Women and girls in the Sahel, for example, are forced to go great distances to get water and fuel, increasing their vulnerability to harassment and sexual assault.⁵

As a result, research has shown that men's addictions to alcohol, drugs, and gambling are linked to an upsurge in violence against girls and women during catastrophes. According to a study conducted following Myanmar's Cyclone Nargis, an increase in alcohol intake was linked to a 30 percent rise in DV. When coronavirus pandemic spreads through a community, women and girls are more likely to get sick than men because the general population has more sexually transmitted diseases (STDs).⁶

1. Domestic Violence in Russia and Brazil

In both Brazil and Russia, the decisions of international and regional human rights authorities had a strong impact on the country's citizens. "Prior to 2001, there was little interest in domestic violence in Brazilian society," despite the fact that some measures had already been implemented (such as the opening of shelters, special police stations for women, and the Supreme Court's condemnation of "honour defence" in cases of wife-killing).⁷ Domestic abuse and "honour murders" were only brought to the public's notice in high-profile incidents because of a lack of specific legislation.⁸ Although high-profile instances resulted in convictions, criminals were often sentenced to just a few months in prison for their crimes. There was a flurry of activity following the Commission's findings on the Maria da Penha case, which included media coverage, NGO action, and public debates. The year 2004 was dubbed the "Year of the Woman" in Brazil, where many conferences and seminars were conducted to discuss various governmental remedies to the issue.

⁵ Amnesty International, *"Circles of Hell": Domestic, Public and State Violence against Women in Egypt* (2015).

⁶ IFRC, *Unseen, Unheard: Gender-Based Violence in Disasters* (2016) (May 7, 2023), available at <https://www.ifrc.org/sites/default/files/2021-08/1297700-Gender-based%20Violence%20in%20Disasters-EN.pdf>.

⁷ As of 2014, there were 74 "safe houses" operating in Brazil. See Table IV.4. Latin America and the Caribbean: shelters and safe houses for women victims of violence, in Economic Commission for Latin America and the Caribbean, *Confronting Violence Against Women in Latin America and the Caribbean: Annual Report 2013–2014* (2014), at 60 (May 7, 2023), available at <https://repositorio.cepal.org/server/api/core/bitstreams/2d092ec3-57df-4bb1-9c72-086aa991f65f/content>.

⁸ Paula Spieler, *The Maria da Penha Case and the Inter-American Commission on Human Rights: Contributions to the Debate on Domestic Violence Against Women in Brazil*, 18(1) *Indiana J. Glob. Leg. Stud.* 121 (2011).

Violence against women: In 2005, as part of the National Campaign, Tolerance Zero was started.

Amendments to the civil and criminal laws in Brazil are aimed at promoting gender equality in marriage and eliminating moralistic terms like “honest lady” or “virgin woman”, respectively. A lot of money was given to the “National Pact to Combat Violence Against Women” (“Pacto Nacional para Enfrentamento à Violência contra a Mulher”) so that it could carry out its plans.⁹

Furthermore, in 2006, Brazil passed the “Maria da Penha Law (Law No. 1134/2006),” which integrated gender-based considerations into the federal penal code. Special courts and harsher punishments for criminals were among the measures contemplated by the legislation, which applied to cities with populations of “more than 60,000 (for example, police stations and shelters for women).”¹⁰ As of 2011, “Brazil’s National Council of Justice reported favourable results: more than 331,000 prosecutions; 110,000 final judgements; and over two million phone contacts to the Service Center for Women.”¹¹ It was only in 2018 that the legislation was changed to include a provision requiring perpetrators of domestic violence to compensate the Unified Health System for any costs associated with treating their victims. Rehabilitative and re-education programmes may also be required of the aggressor under Bill 5001/16.¹²

It was in 2015 that the country’s criminal law was amended to include femicide (i.e., gender-related killing) as a crime that warranted the same punishment as murder.

Researchers also noted that Brazil’s foreign policy has become more pro-women’s rights as a result of the country’s increased international involvement.

Brazil’s National Action Plan on Women, Peace, and Security was announced in March 2017 as part of the country’s commitment to the agenda outlined in the series of United Nations Security Council resolutions starting with Resolution 1325 (2000).¹³

⁹ See Table IV.3: Latin America and the Caribbean: campaigns against violence against women, in Economic Commission for Latin America and the Caribbean, *supra* note 7, at 59–60.

¹⁰ Maria da Penha Law: A Name that Changed Society, U.N. Women, 30 August 2011 (May 7, 2023), available at <https://www.unwomen.org/en/news/stories/2011/8/maria-da-penha-law-a-name-that-changed-society>.

¹¹ Galina Nelaeva, *Violence Against Women in Russia and Brazil: International and Domestic Responses*, 8(4) BRICS L.J. 76 (2021).

¹² Spieler 2011, at 136–7. For more details, see Secretaria de Políticas para as Mulheres da Presidência da República, *Pacto Nacional pelo Enfrentamento à Violência contra as Mulheres* (2011) (May 7, 2023), available at <https://www12.senado.leg.br/institucional/omv/entenda-a-violencia/pdfs/pacto-nacional-pelo-enfrentamento-a-violencia-contra-as-mulheres>.

¹³ Mónica Salomón, *Exploring Brazilian Foreign Policy Towards Women: Dimensions, Outcomes, Actors and Influences*, 63(1) *Revista Brasileira de Política Internacional* 1 (2020).

It's still not enough, according to the "Inter-American Commission on Human Rights (IACHR)" in 2019, because four women are slain every day in Brazil, even if the legislation is in existence. In particular, Human Rights Watch highlighted the fact that According to the statute, "barely 8 percent of towns had police stations specialising in violence against women and only approximately 2 percent had women's shelters."¹⁴

Brazil's President, Jair Bolsonaro, has come under fire for his anti-feminist views and for slashing funding for women's rights initiatives. Even though the results of the above activities have been uneven and different, "the spread of human rights rules seems to have been significant" since the special laws were passed.¹⁵

Since the 1990s, Russia has been considering the adoption of a law to address domestic abuse. Even after 40 submissions to the State Duma for consideration over the previous 10 years, this law has never made it beyond the first of its three readings.¹⁶

For months after *Volodina v. Russia* was decided, a new draught bill was proposed in the Federation Council, which sparked controversy in the public arena. Controversy over the bill demonstrated the difficulty of gaining public support for legislation in such an emotionally charged area of the law. When a new version of the bill came out, activists and people who work to protect human rights who had helped write the bill in the beginning were upset and unhappy.

"Family and domestic violence" is one of the most controversial themes in the proposed draught legislation, attacked by both liberal and conservative organisations in society. In other words, people were upset because this phenomenon was defined as a deliberate act that causes or threatens physical or mental discomfort, as well as property damage, but does not include elements of an administrative violation or a criminal offence.

It was impossible to imagine what situations the drafters were referring to when they proposed this definition of violence, since violence, as such, usually had components of either an administrative or criminal crime. Due to this conceptual vagueness, practising attorneys pointed out that legislation like this would be of little benefit to victims.

There has also been a lot of discussion about a restraining/protection order. What kind of structure should this order have? How and by whom should it be put into effect? The victim's safety is a concern. Isn't it possible that state officials may use it as a pretext to remove children from their parents? Since there is no mechanism to

¹⁴ Sebastián Essayag, *From Commitment to Action: Policies to End Violence Against Women in Latin America and the Caribbean: Regional Analysis Document*, U.N. Development Programme & U.N. Women (2017) (May 7, 2023), available at https://oig.cepal.org/sites/default/files/from_commitment_to_action_policies_to_end_vaw_in_latam_and_the_caribbean.pdf.

¹⁵ Katy Watson, 'Feminism is sexist': The women backing Brazil's Bolsonaro, BBC News, 23 October 2018 (May 7, 2023), available at <https://www.bbc.com/news/world-latin-america-45944164>.

¹⁶ Olimpiada Usanova, *Russia's "Traditional Values" and Domestic Violence*, Kennan Cable No. 53 (June 2020) (May 7, 2023), available at <https://www.wilsoncenter.org/publication/kennan-cable-no-53-russias-traditional-values-and-domestic-violence>.

safeguard victims from their abusers, it has been noted in the literature as a severe problem. Even in nations where such directives may be enforced, it is important to keep in mind that doing so might be challenging. Abusers often don't get punished because the police don't do anything or aren't good at what they do, and because the police themselves are rude and biased.

Due to legal shortcomings that make it difficult for victims to seek justice, a specific statute is needed to address this issue in the first place. So-called private processes, in which victims are expected to gather evidence of crimes on their own, may be problematic since they sometimes require certain abilities that the victims do not possess. When it comes to those who have been subjected to years of abuse and trauma, it may be tough even for trained experts.

It was also decriminalised in 2017 for non-aggravated first-time battery incidents, which are now administrative crimes. The category of "near individuals" was eliminated by "Federal Law No. 8-FZ" "On Amendments to Article 116 of the Criminal Code of the Russian Federation," rendering relatives and strangers alike equal before the law. This has been seen as a risky move, in part because the police no longer perceive the need to engage in family problems, and hence many incidents go undiscovered.¹⁷ Aside from that, administrative penalties levied against the abuser are often met from the family's financial resources. As homicide rates continue to rise, victims who take action in self-defense may wind up being convicted of murder under "Article 105 of the Criminal Code" because of their impotence and invisibility. According to a survey conducted by the United Nations, 82% of women, compared to 18% of males, were victims of intimate partner murder worldwide in 2019. Intimate partner/family homicides account for 64% of female homicides and 36% of male homicides.¹⁸

As a third concern, the state's protective measures may only be used in criminal cases; they do not extend to administrative violations; therefore, victims of battery are not qualified for them.

A particular statute alone isn't enough; it requires sophisticated measures such as "law enforcement officer training and education, adequate counselling and service provision for victims, and legal and psychological aid for family members" of individuals who have been damaged by such crimes. There must be extensive and long-term procedures put in place to safeguard the safety of the victims. These methods must be easily available.

The culture of impunity and quiet contributes to the problem of domestic abuse and violence against women, which is why it is critical to see it as a systemic issue rather than a one-off event.¹⁹

¹⁷ Criminal Procedure Code of the Russian Federation, Art. 20(2).

¹⁸ Sandra S. Park, *CEDAW's Promise for Strengthening Law-Enforcement Accountability to Survivors of Domestic and Sexual Violence in the United States*, 2014 Mich. St. L. Rev. 357 (2014).

¹⁹ U.N. Office on Drugs and Crime, *Global Study on Homicide* (2019) (May 7, 2023), available at <https://www.unodc.org/documents/data-and-analysis/gsh/Booklet1.pdf>.

1.1. Domestic Violence and COVID-19 in Russia and Brazil

Unprecedented difficulties confronted the world in 2020. Lockdowns, cordoning off cities, and other “self-isolation” regimes were implemented throughout the globe in unprecedented numbers. The most vulnerable elements of society, including children, the elderly, and women, have begun to be targeted by human rights organisations and international organisations in this context. Many women and girls were susceptible to violence from their spouses or other intimate partners in quarantine because of the lack of help from specialist groups, friends, or family members. According to Antonio Guterres, U.N. Secretary-General on 6 April 2020, “healthcare providers and police are overwhelmed and understaffed ... local support groups are paralyzed or short of funds. Some domestic violence shelters are closed; others are full.” Local support organisations are immobilised or underfunded. Some shelters for victims of domestic abuse are no longer open, while others are completely packed.²⁰

Other groups quickly followed suit. They pointed out how vulnerable women were during the crisis and asked their members to help protect those who were hurt.²¹

It became clear in late March and early April 2020 that the situation was much more complicated than first thought. Despite the fact that victims did not disclose the abuse because they were terrified of reprisal if they sought assistance from the police or other family members, domestic violence increased dramatically.²²

It’s hard to get an accurate estimate of how many people will be abused by their partners in 2020, but it’s still shocking: according to U.N. projections, “243 million women and girls (ages 15-49)” were victims of sexual and/or physical violence in their relationships in that time frame.

The pandemic showed that traditional ways of working on women’s rights in times of crisis and health problems need to be rethought and changed a lot.

The first social distancing measures were implemented in Russia around the end of March and beginning of April, when domestic violence reports began to rise. The relationship between domestic violence and the epidemic was initially established in Russia, in collaboration with other countries such as China, who had previously experienced the disaster and recorded widespread abuse in self-isolation. Travel throughout the city was forbidden, hostels were closed, and trains and buses were

²⁰ “For many women and children, the home is not a safe place”: Statement by the President of GREVIO, Marceline Naudi, on the need to uphold the standards of the Istanbul Convention in times of a pandemic, Council of Europe, 24 March 2020 (May 7, 2023), available at <https://rm.coe.int/grevio-statement-covid-24-march-2020/pdfa/16809cf55e>.

²¹ COVID-19 et violence à l’égard des femmes: Ce que le secteur et le système de santé peuvent faire, World Health Organization (WHO), 7 April 2020 (May 7, 2023), available at <https://www.who.int/fr/publications-detail/WHO-SRH-20.04>.

²² Jamie Grierson, *Domestic abuse killings “more than double” amid Covid-19 lockdown*, The Guardian, 15 April 2020 (May 7, 2023), available at <https://www.theguardian.com/society/2020/apr/15/domestic-abuse-killings-more-than-double-amid-covid-19-lockdown>.

cancelled, making it impossible to physically separate abused victims from their abusers. At the same time, the number of calls to the assistance centres serving the victims has skyrocketed. Based on information from NGOs and the media, Russia's Human Rights Commissioner, Tatiana Moskalkova, indicated that domestic abuse instances decreased under lockdown. A 2.5-fold rise in numbers was reported by the woman (from 6,054 in March 2020 to 13,000 in April 2020). During the outbreak of the pandemic, progress on a domestic abuse bill was put on hold. When asked when the work on the bill will restart, Russian Federation Council Speaker Valentina Matvienko said that the "circumstances allow."²³

However, both the government and private actors have taken some steps in this direction. Gosuslugi, a public service site, published information on how victims of domestic abuse should proceed, and police stations were mandated to offer information on social services to anyone seeking assistance. During lockdown, women were permitted to remain at several hotels. It was found that most of these measurements were found to be deficient and difficult to obtain. Another important thing about how the pandemic affected women was that it caused a lot of social and economic problems, especially for older women, single mothers, pregnant women, etc.²⁴

While domestic abuse has received increasing attention from activists and policymakers, scholars have also received attention. In Russia, the number of publications on this subject was relatively low before 2020, but that number is expected to skyrocket. Researchers examined "domestic violence and violence against women, including psychological abuse, domestic violence against minority women, etc.," were examined by researchers. Aside from legal and procedural concerns, Russian courts' case law was analysed to point out potential difficulties with the investigation of such crimes. For example, determining the seriousness of a storm may be challenging since storms might be dangerous yet leave no obvious signs of their presence. Additionally, judges were cited for their prejudiced views against the victims (who were frequently blamed for what occurred because they were, for example, too afraid to flee from the abuser). Because even if the lawmakers weren't quite clear about why or how to implement special legislation, they all agreed that the issue needed to be addressed.

Russia and Brazil both encountered comparable difficulties at the same time. To begin with, the quantity of services available to women was drastically decreased. Statistics collected by "Brazil's Public Security Forum" show that the number of emergency protective measures issued in Sao Paulo dropped by 38 percent in April

²³ Anna Andreeva et al., *Women's Rights and the Feminists' "Dirty Plans": Media Discourses During the COVID-19 Pandemic in Russia*, 36(3) *Affilia* 319 (2020).

²⁴ Domestic Violence in Russia: The Impact of the COVID-19 Pandemic, Chatham House, 20 July 2020 (May 7, 2023), available at <https://www.chathamhouse.org/2020/07/domestic-violence-russia-impact-covid-19-pandemic>.

compared to the same month last year, while calls to the state's emergency 190 hotline for domestic violence went up by 45 percent.²⁵

In addition, "police stations are still open 24 hours a day in several states, such as Rio de Janeiro, Sao Paulo, and the Federal District. However, police stations, including those for women established by the historic Maria da Penha statute in 2006," are functioning under restricted schedules. Virtual domestic abuse complaints are now allowed in Sao Paulo and Rio de Janeiro, and Sao Paulo magistrates may now impose emergency protective measures online and send summonses over WhatsApp.²⁶

More than 27% women called support lines in Brazil during March-April 2020, more than they did a year earlier, according to World Bank projections. It's possible that women were having difficulty getting in touch with the police, since fewer offences involving violence against women were reported.²⁷

The presence of "alcohol and drug use, anxiety and boredom during confinement, as well as dysfunctional personality qualities or personality disorders" enhanced the chance of violent conduct, particularly among people with dysfunctional personality features or personality disorders.²⁸

Domestic violence and violence against women were addressed in Brazil by the civil society and government through awareness campaigns, information distribution, online platforms and applications for reporting crimes (which would allow for the uploading of photographs and videos), and other measures. For the most vulnerable people under quarantine, a "special decree (Decree No. 10.282)" mandated that they receive critical assistance.

2. India

In India, domestic violence against women is a complicated and deeply ingrained phenomenon. Women are abused not just by their spouses but also by members of their own families, both before and after they are married. In terms of social and economic status, Indian women and girls often have fewer advantages than their male counterparts. Women's sexuality and its safe transfer to husbands, who are supposed to "own" them, are still considered vital for a girl to get married. The

²⁵ Anya Prusa et al., *Pandemic of Violence: Protecting Women During COVID-19*, Wilson Center, 15 May 2020 (May 7, 2023), available at <https://www.wilsoncenter.org/blog-post/pandemic-violence-protecting-women-during-covid-19>.

²⁶ O Combate à Violência contra a Mulher (VCM) no Brasil em época de COVID-19, World Bank, 25 June 2020 (May 7, 2023), available at <https://www.worldbank.org/pt/country/brazil/publication/brazil-addressing-violence-against-women-under-covid-19>.

²⁷ Violência doméstica durante a pandemia de Covid-19, Fórum Brasileiro de Segurança Pública, 29 May 2020 (May 7, 2023), available at <https://forumseguranca.org.br/wp-content/uploads/2020/06/violencia-domestica-covid-19-ed02-v5.pdf>.

²⁸ Lisieux E. de Borba Telles et al., *Domestic Violence in the COVID-19 Pandemic: A Forensic Psychiatric Perspective*, 43(3) Braz. J. Psychiat. 233 (2020).

sexist sex ratio has dropped to 929 females for every 1,000 males, demonstrating the pervasiveness of gender discrimination (1991 census). But regional and local variances do exist. Karve (1965) notes that northern women have a lower degree of autonomy than their southern counterparts and are less likely to have a say in the allocation of economic resources. There are a few upper-class metropolitan women who have some of the advantages of education, employment, and financial freedom. Regional distinctions in women's roles in society have little to do with variances in the prevalence of domestic violence. The prevalence of domestic violence is widespread across all situations, geographies, and religions.

Domestic abuse in India has historically been seen as a serious danger to women's lives because of the dowry system. As a result, an amendment to the Dowry Prohibition Act was the first piece of legislation in the nation to address the problem of so-called "dowry fatalities (1961)."²⁹ "Section 304B of the Indian Penal Code" makes any violence against a spouse or in-laws for dowry demands a crime. As feminist studies and activism developed, cross-disciplinary studies helped to clarify the wide variety of causes and effects on women of marital and familial violence.²⁹

Many women across the world, including those in India, live in a state of continual vulnerability. They are the easy prey for a wide range of criminal and repressive operations. For women, it seems that sexual assault is a constant presence in their daily lives. Even more shocking, the number of crimes perpetrated against women and, in particular, spouses in marital homes has increased massively in India, according to government statistics. Domestic violence, on the other hand, has been around for a long time and may be found in all socioeconomic and age brackets. Violence against women has been suggested to be inherent in every traditional ritual or practise. There has been an increase in the prevalence of male-biased norms and beliefs in Indian society as a result of the country's economic growth. According to the National Family Health Survey-3,

34% of all women aged 15 to 49 in India have experienced violence at some point in their lives (IIPS 2007: 499). As a result, the percentage of crimes against women in India has climbed from 13.2 percent in 2003 to 52.24 percent in 2013.

Since India's independence, the government has worked to improve the status of women and reduce violence against them (as well as children) by enacting new legislation. Gender equality was not a major topic of discussion while the Indian Constitution was being drafted, although it has been said that the Indian Constitution's authors were sensitive to this subject. Consequently, they declared

²⁹ Dowry Prohibition Act 1961, Ministry of Women & Child Development (May 7, 2023), available at <https://wcd.nic.in/act/dowry-prohibition-act-1961>.

that all people would have “Equality of Status and Opportunity” as well as “Social, Economic, and Political Justice”. In India, sex discrimination is illegal, and equality before the law is a fundamental right. While it was not possible to achieve the aim of “equal pay for equal labour” for men and women, the directive principle of equal pay for equal effort will be adopted at a later period. Again, Article 44 of the Constitution’s long-cherished ambition of creating a uniform civil code to secularise and homogenise family law is a Directive Principal. Although Hindu law, which is meant to be a personal law of divine origin like others, has been taken up by the legislators for the purpose of introducing amendments and creating uniformity among Hindus. Thirty-three percent of the seats in panchayats and municipalities are reserved for women, and a law ensuring that the same reservation is made at the highest level of electoral organisations is now before Parliament.

In addition to these changes,

the Indian Penal Code (IPC), Special & Local Legislation (SLL), and other laws affecting women have been drafted by the government. Several of these laws and acts were changed later on in order to make them relevant and effective. Some of the most notable include: the Special Marriage Act, 1954; the Hindu Marriage Act, 1955; the Hindu Succession Act, 1956; the Immoral Traffic (Prevention) Act, 1956; the Dowry Prohibition Act, 1961; the Indian Divorce Act, 1969; the Indecent Representation of Women (Prohibition) Act, 1986; the Commission of Sati (Prevention) Act, 1987; the Prohibition of Child Marriage Act, 2006. The Indian Penal Code (IPC) includes specific provisions for crimes against women, such as rape (Section 376), kidnapping and abduction (Sections 363-373), homicide for dowry, the death of dowry, or attempts to commit homicide for dowry (Section 302/304-B), torture or cruelty by a husband or a relative (Section 498-A), molestation (Section 354).³⁰

It’s more common for rural and illiterate women in rural areas to be abused than their more educated or metropolitan counterparts. Such growing incidences of violence against women have prompted the Indian women’s movement to seek a swift judicial response in the last several decades. Every campaign has resulted in a legislative change as a consequence of these initiatives. However, these regulations are seldom enforced, and as a consequence, fewer people have been convicted as a result of stricter punishments being included in the code of conduct. Because of this, people who fight for women’s rights now question how well laws protect women from violence.

³⁰ Government of India, Ministry of Health and Family Welfare, *National Family Health Survey 4, State Fact Sheet* (2014-15) (May 7, 2023), available at http://rchiips.org/nfhs/pdf/NFHS4/PB_FactSheet.pdf.

The government of India passed the new protection legislation named The Protection of Women from Domestic Violence Act, 2005 in response to escalating domestic violence incidents and pressure from women's activists and NGOs (PWDVA).

Many feminists believe that laws have not always treated women equally and fairly in comparison to males, but many campaigners have hoped that the new legislation will offer much-needed protection and redress to women victims.³¹

The Indian Penal Code established domestic abuse as a criminal offence under section 498-A in 1983, yet it has remained one of the gravest hazards to women in the country. Women who have been victims of domestic violence by their spouses or in-laws may now seek instant help under the Protection of Women from Domestic Violence Act, 2005 (PWDV).³² As of now, domestic violence is a problem in India regardless of social status or religious beliefs. It has been on this list since 2006, when the PWDVA was added.³³

In 2018, there were 28.3 (95.5 percent CI: 28.1-28.5) documented cases of domestic violence in India, a 53 percent increase from 2001. This rate fluctuated widely at the state level in 2018, ranging from 0.5 to 113.7 (95 percent confidence intervals 0.5 to 1.5). In 2018, there were an estimated 2.0 (95 percent CI 2.0-2.0) and 1.4 (95 percent CI 1.4-1.4) dowry-related fatalities and suicides in India. Most states reporting has remained stable during these years, with the exception of a handful that accounted for the temporal variance in these rates. Crime-related incidents were underreported due to NCRB reporting system flaws. People arrested for these offences have been decreasing in numbers on average during the last several years. Just 15.5 percent of the cases went to trial, and only 6.8 percent of the defendants were convicted.³⁴

Spousal violence has been shown to be on the rise in India, according to

NFHS surveys conducted between 2006 and 2019. While states such as Himachal Pradesh and Sikkim had a decline in 2015 and 2016, new states such

³¹ India Code, Section 498A. Husband or relative of husband of a woman subjecting her to cruelty (May 7, 2023), available at <https://indiankanoon.org/doc/538436/>.

³² Government of India, Protection of Women from Domestic Violence Act, 2005, India Code (2005).

³³ Ata Duvvury, *Domestic Violence in India: A Summary Report of Three Studies*, International Center for Research on Women and The Centre for Development and Population Activities (September 1999) (May 7, 2023), available at <https://www.icrw.org/wp-content/uploads/2016/10/Domestic-Violence-in-India-1-Summary-Report-of-Three-Studies.pdf>.

³⁴ Violence against women prevalence estimates 2018, World Health Organization (WHO), 9 March 2021 (May 7, 2023), available at <https://www.who.int/publications/i/item/9789240022256>.

as Maharashtra and the newly established union territories (UTs) of Jammu & Kashmir and Ladakh saw a surge in 2019. There are places like Karnataka, for example, where the rate of domestic violence against women is extremely alarming. Data from the fifth National Health and Nutrition Examination Survey (2019-21) suggests that Karnataka, Bihar, and Manipur are the three states where marital abuse is most prevalent.³⁵

2.1. Domestic Violence and COVID-19 in India

Five million people have died and more than 300 million have been infected as a result of the ongoing COVID-19 epidemic. Lockdowns and a stop to economic activity have generated a tremendous economic catastrophe, with nations still suffering from the effects. The epidemic has also had significant social and humanitarian consequences. Experts have dubbed it a “shadow pandemic” – the rise in violence and abuse that occurred amid the several lockdowns and service interruptions. Increased levels of stress owing to the double-duty load of caring and home responsibilities have exacerbated the hazards. Domestic violence reports have increased by 30% or more in several countries.

There's no doubt that the epidemic has brought to light just how critical it is to deal with domestic violence as a matter of public health. It's not only the COVID-pandemic that's to blame for a surge in domestic violence. Women have historically been hit harder by domestic violence when social infrastructure crumbles under the weight of catastrophes and crises. During the Ebola epidemic in Africa in 2014-16, for example, gender-based violence rose by 19 percent in Sierra Leone. No country or place is immune to the problem of violence against women being overlooked, ignored, or not getting enough money.³⁶

In the last two years, because of a pandemic that caused lockdowns, women have had less access to resources and have been more likely to have abusive spouses or other known risk factors.

Women's vulnerability to violence was worsened by stress, the disintegration of social and supportive networks, and a lack of vital sexual and reproductive health care. It was not unusual for victims of gender-based violence to put off seeking aid due to a lack of laws and regulations, the ineffective implementation of policy changes, and the related social stigma. As the health crisis went on, problems with mobility, worries about getting sick, and being alone only made the problem of underreporting worse.

From 2019 to 2021, there will be a rise in the types of gender-based violence that are officially recognised in India. Complaints from women in such distress are registered

³⁵ Neetu John et al., *Lessons Never Learned: Crisis and Gender-Based Violence*, 20(2) Dev. World Bioeth. 65 (2020).

³⁶ United Nations (2019) (May 7, 2023), available at https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/E_Infographic_05.pdf.

with the National Commission for Women (NCW), which attempts to address them without actively interacting with the judicial system. Cases involving domestic abuse, dowry harassment, and breaches of one's right to live in dignity have all experienced an uptick.³⁷ In all of these scenarios, the "safe" place of a home is involved.

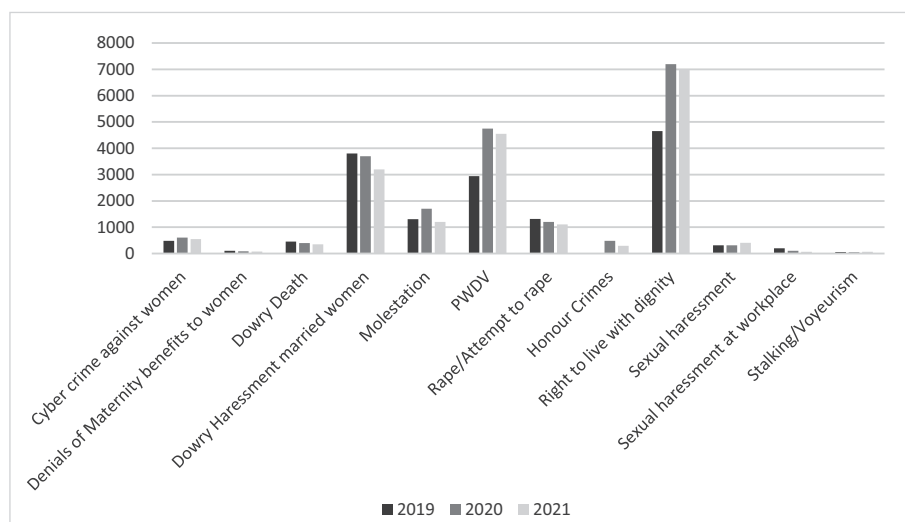


Fig. 1: **Comparative Analysis of Data of Crime against Women in India: 2019–2021**³⁸

Out-of-court settlements of civil disputes have skyrocketed in the last two years, but police-registered first information reports, which are necessary to begin legal action, have plummeted even more. Even though NCW statistics and news stories say otherwise, the number of reported cases has either stayed the same or gone down in most of India's states.³⁹

Under-reporting has been cited as a problem by many observers, not only in India, when it comes to domestic abuse. As a result of the 2012 Nirbhaya rape case, the Indian government launched the Sakhi programme, which encourages citizens to come forward and report crimes. For women in areas like "Telangana and Maharashtra," these crisis centres have been their first choice for reporting abuse.

³⁷ National Crime Records Bureau (2020) (May 7, 2023), available at <https://ncrb.gov.in/en/Crime-in-India-2020>.

³⁸ Source: National Commission for Women (as of September 2021).

³⁹ Payal Seth, *As COVID-19 Raged, the Shadow Pandemic of Domestic Violence Swept Across the Globe*, The Wire, 23 January 2021 (May 7, 2023), available at <https://thewire.in/women/covid-19-domestic-violence-hdr-2020>.

3. China

Since the founding of the “People’s Republic of China in 1949,” the position of Chinese women has changed considerably. There is still a long way to go until they achieve full equality and ultimate freedom in society. Women are subjected to rape, torture, persecution, and abuse in intimate relationships as a result of their gender. Even in times of peace, many women’s homes have become a battleground for domestic violence. In spite of the fact that violence against women is prohibited, or at least may result in legal repercussions, it persists. Violence against women in China has been largely disregarded by the government and, until recently, was considered to be socially acceptable in China. Until the 1990s, domestic violence in China was not given the attention it deserved, in terms of its prevalence, intensity, and scope.

Chinese women’s violence is only one part of a much larger issue that affects women all around the globe. Because of this, men expect women to be submissive and give up their own wants to serve the needs of their male partners.

Although domestic violence is a common problem in China, the word “domestic violence” is a relatively recent one in Chinese culture, and its first occurrence in national law can be found in the proposed amendment to the People’s Republic of China’s Marriage Law.⁴⁰ Domestic abuse was never considered a criminal offence or a social issue that needed to be handled by the government or the courts throughout China’s long history of civilisation. Hundreds of millions of Chinese women are victims of an epidemic of violence. Chinese culture has long tolerated domestic violence against women, which is a shame. Even though domestic violence is often criticised in the news, until recently, there wasn’t much attention paid to legal and social ways to stop domestic violence.⁴¹

Domestic violence in China was extensively studied in the 1990s by a number of different research teams. In Beijing, the “Beijing Women’s Federation” performed a study of eight districts and counties surrounding the capital and found that 20% of the families examined experienced domestic violence, with 80% of those instances involving wife abuse. Twenty-one percent of married males in Beijing have revealed to researchers that they have physically abused their spouses. One percent of men admitted to hitting their wives severely. The Beijing Marriage and Family Research Committee also found comparable results in its poll. “According to the committee’s findings, there is a 20% misuse rate. Only 15% of the men polled admitted to beating their spouses on a regular basis, while 4% admitted to the offence on occasion and 0.9% admitted to it often. A 1993 survey found that more than a third of all family

⁴⁰ The Chinese Marriage Law (Draft Amendment) was originally drafted by family law scholars and then submitted to the NPC Standing Committee for review and revision.

⁴¹ The term and concept of “domestic violence” (*Jiatingbaoli*) was first introduced into China in 1994 by the *Zhongguo Funo Bao*. See *Society Should Not Be Indifferent to Domestic Violence*, *Zhongguo Funo Bao* [China Women News], 11 February 1994.

fight in Shanghai between 1991 and 1992 “involved physical violence,” and that 21.2% of urban women and 31.4% of rural spouses were involved in a physical fight.⁴²

Domestic abuse is more common in rural regions, according to national studies. According to a poll conducted by the “All China Women’s Federation in 1990,” over 29% of Chinese wives report being subjected to physical violence by their husbands. When it came to domestic violence, a 1991 poll found that “26.9% of rural women and 17.9% of city women had been abused to some degree by their husbands. Domestic violence is a factor in 50 to 60 percent of divorce proceedings,” according to court data.⁴³

Domestic abuse seems to impact women from all socioeconomic groups; however it may be more common in rural places where traditional perceptions of women are more engrained. According to representatives from a women’s federation at the county level in a rural part of central China, 80% of the complaints they dealt with concerned domestic abuse. Most agree that husbands and their abused victims are committing acts of domestic violence against one another.

It is clear from these findings that domestic violence is a major issue in China and that the country’s lawmakers and policymakers should make it a top priority to address this issue as soon as possible.⁴⁴

The “Chinese Communist Party (CCP)” is the sole recognised political party in China. Despite the Communist Party’s stranglehold on power, no one dares challenge its rule. The President and Prime Minister of China are chosen by the “National People’s Congress (NPC).” The Communist Party maintains power over the legislature-in-exile known as the Chinese National Congress Performer Committee. The country’s opposition was able to block the country’s respect for human rights.

When the CCP came to power, social and economic advancement for Chinese women grew, but they were unable to make any progress in the Chinese political arena. The party-female state’s leaders come from outside the party and have lower-status positions than their male counterparts.⁴⁵ In other words, despite the fact that only a small number of women participate in politics and are mostly influenced by male party members, they lack political power. For example, Wu Yi is one of the few successful female politicians in Chinese politics. She was dubbed “Iron Lady” by Chinese media and “Goddess of Transparency” by Time magazine while serving as the country’s highest-ranking female official. At the time of her service, she was the

⁴² 21% of Capital’s Husbands Admit Battering Their Wives, S. China Morning Post, 6 October 1998.

⁴³ Catherine So-Kum Tang & Beatrice Pui-Yee Lai, *A Review of Empirical Literature on the Prevalence and Risk Markers of Male-on-Female Intimate Partner Violence in Contemporary China, 1987–2006*, 13(1) *Aggress. Violent Behav.* 10 (2008).

⁴⁴ Pan Teng et al., *The Association Between Social Resources and Depression Among Female Migrants Affected by Domestic Violence*, 5 *Eur. J. Psychotraumatol.* (2014).

⁴⁵ Chen Tingting, *Battling Domestic Violence in China*, East Asia Forum, 28 June 2016 (May 7, 2023), available at <https://www.eastasiaforum.org/2016/06/28/battling-domestic-violence-in-china/>.

only female member of the Politburo Central Committee, which had 24 members. When she stepped down as vice premier in 2008, she was succeeded by a guy named Li Keqiang (Regional Business News 2012). Political structures, social factors, and cultural norms are preventing women from pursuing political careers.

Gender inequality in Chinese politics is well-known to the Chinese government. Moreover, in an effort to avoid highlighting the disparity between men and women, the Chinese government has taken complete control of the quantity of information in this area and provided figures such as women's representation in the "NPC (National People's Congress)." Selection of female leaders from marginalised groups and appointing these leaders to less powerful positions are two kinds of gender inequality that affect Chinese women. Gender equality in China is a complex issue because none of these factors is obvious. However, the Chinese government has vowed to improve gender equality and increase the number of women in politics. The lack of progress in political involvement, on the other hand, continues to annoy Chinese women. According to several research on gender equality in Chinese politics, female leaders are disproportionately chosen from non-CCP members, and their chances of becoming a senior leader are very slim. Furthermore, the Chinese Communist Party has highlighted the fact that women make up 20% of the NPC's membership to demonstrate its success in achieving gender parity. However, when compared to other nations at a similar level of economic growth, this data is regarded as remarkable. However, in terms of Chinese politics, this parallel may be deceptive.⁴⁶ As reported by Regional Business News, more women in politics may serve as the "glue" that ties society together and reduces conflict. Women are more caring and tolerant than men.

Chinese women and girls are often subjected to many sorts of abuse, including sexual assault, human trafficking, damaging traditional practises, and other acts of aggression against their physical and mental well-being and basic human dignity. The scope and complexity of China's pandemic of domestic violence cannot be overstated. Despite the presence of laws that promotes women's rights, such as in marriage and divorce, violence against women is endemic in China. Domestic violence against women is linked to societal inequality in China, and women's devaluation supports the cycle of oppression and violence against women.⁴⁷

"The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)" and other Chinese laws forbidding domestic violence and abuse against women do not represent the reality of women's lives in China. Despite the fact that domestic violence is banned in China, a huge percentage of Chinese women are supposedly victims of it. Under the "CEDAW," domestic violence laws, marriage law, and Chinese law respecting women's rights, China is obligated to abolish all types of

⁴⁶ Jun Zhao, *China and the Uneasy Case for Universal Human Rights* (2015).

⁴⁷ Campaigning for Kidney Health, *The Lancet*, 12 March 2016 (May 7, 2023), available at [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)00688-7/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)00688-7/fulltext).

discrimination against women and to take appropriate efforts to promote gender equality. Because the Chinese government recognises domestic violence as a social problem, there are laws prohibiting it. As soon as a problem is found, the laws are used as a starting point to find out how the government works on a regular basis.

Violations against women are on the rise in China, and the ramifications for victim's ability to function in their own families and in society at large are grave. It's critical to lay forth the specifics of this phenomenon, such as its size and kind. Although domestic violence and abuse against women are illegal in China, justice and equality between men and women have not been implemented in practise. To put it another way, they're just words on paper. China's laws outlaw domestic violence, but its patriarchal society has made women seem unstable because of the control males have over them, which is a major factor in the abuse of women and their families, according to all of China's domestic violence regulations. When women are in distress, it might be difficult for them to seek assistance since domestic abuse is a private affair that they may tolerate due to financial constraints.

As part of a wider system or framework of "family dynamics, cultural norms, and social values, a psychosocial formulation" views the issue as accepting violence in many forms. It's time to address the problem of violence in our society. Violence against women is expected to go down if the amount of violence in society as a whole goes down.

A woman's ability to function in the public and private spheres is eroded when she is subjected to domestic violence and abuse. It's also false to claim that there is a distinction between the public and private domains. The reason for this is that in China, the family is governed by the state and its laws. Women and girls are hurt more than men and boys when cultural reasons are used to justify breaking all of their human rights.

According to Chinese law, it is a crime in China to harm or abandon a member of one's family in such a way as to constitute family violence. By law, a private prosecution may be filed by the victim at the people's court, and relevant public security agencies will conduct investigations, and the people's procuratorate responsible for prosecuting the offender will do so in accordance with the law. Additional damages may be sought by an innocent person who was subjected to domestic violence that resulted in the divorce of a husband and wife. Domestic abuse would be treated more seriously and less often if these laws had been put into effect. As a result, China's legislation on domestic violence has fallen short due to a lack of effective prevention measures and support services for victims. It is not considered a social crime in China to violate a member of one's own family on the basis of interracial relations. When it comes to a private matter, the courts don't take the right steps and instead see domestic violence as a crime against society.⁴⁸

⁴⁸ U.N. General Assembly, Report of the Working Group on the Issue of Discrimination Against Women in Law and in Practice, A/HRC/23/50, 19 April 2013 (May 7, 2023), available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G13/132/51/PDF/G1313251.pdf?OpenElement>.

A violation of the legislation against domestic violence includes acts of “psychological, physical, and other harm committed by family members, such as restraints, maiming, and beating, limits on one’s bodily liberty, intimidation, or repetitive verbal abuse.” The state, society, and families all have a role to play in preventing domestic abuse, according to the law “(Domestic Violence Law 2015: articles 1, 2, and 3).” Neither is it concerned with how to assist abused women to leave their relationships or how to avoid domestic violence. There won’t be less domestic abuse if women can’t leave their abusive relationships because they need their partners for money.

Women who have been abused often find that they are unable to leave their abusive spouse because they are trapped in the relationship. For a variety of reasons, women put up with domestic violence. It’s possible they’ll feel embarrassed, humiliated, or powerless. Fearing retaliation from the abuser, they refuse to tell anyone about the violence or seek assistance outside of the house. As a result, women lack the tools to take charge of their own lives and become traumatised to the point of being unable to make rational decisions. Another thing to remember about victims and abused women is that they are not responsible for their own circumstances. Otherwise, they risk losing the most important aspects of their existence, such as child custody, due to the category that denotes a completely dysfunctional mother. Furthermore, this kind of behaviour is depicted as a problem, with serious ramifications in terms of women’s failure to recognise hitting and injury, as well as the practical consequences of being labelled odd. Abused women in China lose not only their children but also their lives as a consequence of their behaviour that has led them to condone violence against them.⁴⁹

3.1. Domestic Violence and COVID-19 in China

Despite the lack of data on domestic abuse events in China, there is a clear trend of rising use of domestic violence hotlines in the area. The mass media has reported that phone volume has increased by up to a whopping 33 percent. An upsurge in call volume was reported by a CSO-operated hotline in China. The comparisons between reports of phone calls to helplines should be regarded with a grain of salt. It is possible to determine percent changes in certain articles by comparing call volumes across time periods ranging from years to months to weeks. Given the conflicting variables on call volume, volumes might fall if women are continually supervised- these data may only show part of the rise in calls for assistance services.⁵⁰ The number of domestic abuse cases that shelters and women’s groups are dealing

⁴⁹ Nina Verfaillie, *The Connection Between Poverty and Domestic Violence*, BORDEN Magazine, 5 November 2013 (May 7, 2023), available at <https://www.bordenmagazine.com/connection-poverty-domestic-violence/>.

⁵⁰ Du Qiongfang, *Chinese families see surge in domestic violence amid COVID-19 lockdown*, Global Times, 12 March 2020 (May 7, 2023), available at <https://www.globaltimes.cn/content/1182484.shtml>.

with is also on the rise, according to a number of recent stories. According to one report, the number of cases addressed during a lockdown has tripled. For the first time offenders, a large number of domestic violence incidents have been recorded. There is a strong possibility that pandemic circumstances are causing this amount of hostility in spouses. Increased Internet usage during the epidemic may have led to an upsurge in digital violence. Because this is a new type of VAW, in many regions, the infrastructure for reporting and dealing with it may not yet be in place. It's possible that reports of online and ICT-enabled violence are missing or undercounting incidents. Several research demonstrate that the COVID-19 outbreak has increased the incidence of domestic violence in China, despite the fact that there is no good national statistics on the subject. For example, the large-scale lockdown may have contributed to an increase in violence in families, as well as economic suffering and anxiety induced by pandemics among family members and a lack of assistance for victims of family violence during these times. During the current COVID-19 epidemic, family violence has emerged as a critical societal problem that must be addressed effectively and quickly. During the epidemic, both "governmental and non-governmental organisations (NGOs), as well as agencies and service sectors, must be aware of the requirements of family violence victims and give quick and appropriate help". Even more disturbing than the apparent rise in VAW is the silence of victims whose predicament goes unnoticed. A generalised assumption may be made that women are at greater danger in all corners of the globe because of their restricted mobility and lack of support networks. There's no better time than now to ponder how the Chinese society and government help reduce the spread of VAW and provide assistance to those who are affected by the outbreak.⁵¹

4. South Africa

In South Africa, patriarchy and sexism are prominent in the same ways they are in other countries. There is comparable violence against women in other places. Violence against women in South Africa, on the other hand, has distinct patterns. The first is about the scope of the issue, and the second is about the unique legacy of racism and patriarchy that has resulted in an all-pervasive masculinity in South African society, regardless of sector, class, or culture. According to "Justice Albie Sachs of the South African Constitutional Court," patriarchy is a form of oppression because it is "one of the country's few genuinely non-racial institutions."⁵²

Because of three distinct cultural traits, men in South Africa have developed a strong sense of masculinity. As a first cause, the militarization of the nation while the Nationalist

⁵¹ European Alliance for Hope and Empowerment (ECFJA), *COVID 19 Within the Approach of Domestic Violence and Child Abuse* (2020) (May 7, 2023), available at <https://www.efjca.eu/news/covid-19-within-the-approach-of-domestic-violence-and-child-abuse>.

⁵² Carol E. Lockwood et al. (eds.), *The International Human Rights of Women: Instruments of Change* 25 (1998).

government was in power and the conscription of significant numbers of white males began in the 1960s.⁵³ Apartheid was kept in place by a huge military apparatus. For white South Africans, the cost of sustaining this system rested on those who were required to do two years of military duty as a result of the country's segregation policy. Both within and outside South Africa, white South Africans felt and were subjected to an oppressive feeling of siege as a consequence of the intense opposition to Apartheid.⁵⁴ This led to repressive actions against the majority black population. In the final report of the "Truth and Reconciliation Commission," the government of South African use of its security apparatus to perpetuate white supremacy is documented in great detail. In 1994, South Africa had an authoritarian, racist government. During this time, there was a lot of militarism, and the new democratic government thought that black women were loose and promiscuous.⁵⁵

The second recent event that adds to the macho culture is the political fight in the black townships, which gave young people who didn't have jobs or political power the chance to challenge the government's security and police apparatus.

Because of this conflict and the violence that followed, the urban comrade, who is almost always a man, has become a symbol of black manhood standing up to the apartheid beast.

For the most part, this conflict was "genuine." Many young black boys in South Africa felt politically and economically disadvantaged as a result of the country's racial segregation. These people were jobless and impoverished, yet they fought tirelessly to improve their lives. It's true that some of the comrades went above and beyond politics. Black youth unemployment and economic have dominated sociologist's discussion of "comrades" and "amaqabane." Many young people's hopes and dreams have been shattered by the first sign of unemployment. There is a lot of focus on the link between unemployment and hostility and violence. Another indicator is "normlessness," which refers to the inability to maintain values; a lack of collective social solidarity; and subsequent anti-social behavior.

The "necklacing" of alleged informers and Winnie Mandela's football squad demonstrate acceptable limits. It was common in the 1980s to see "jackrolling" and "modelling" as especially harmful activities. The phrase is used to describe "modelling" is a name used to describe the practise of forcing female informers to walk through the street's nude. "Jackrolling" represents the systematic practise of groups of men raping young women in Soweto, most commonly schoolgirls.⁵⁶

As for the third part, it comes from the fact that the law and society have always seen women as children who need to be watched over by men.

⁵³ Christopher G. Weeramantry, *Apartheid: The Closing Phases?* 103 (1980).

⁵⁴ Joseph Hanlon, *Apartheid's Second Front: South Africa's Wars Against its Neighbours* (1986); Peter Vale, *The Search for Southern Africa's Security*, 64 *Int'l Aff.* 697 (1991).

⁵⁵ Gavin Woods, *Rebels with a Cause: The Discontent of Black Youth*, 7 *Indicator S. Afr.* 62, 64 (1999).

⁵⁶ Ari Sitas, *The Making of the 'Comrades' Movement in Natal, 1985–91*, 18(3) *J. S. Afr. Stud.* 629, 631 (1992).

The marginalisation and distortion of African culture and customs, resulting from successive colonial regimes and the apartheid state, have left them vulnerable. "It played a significant role in preserving the position of women as subordinates." To add insult to injury, the need to adjust to the brand-new circumstances of "Gender equality advocates in African South Africa are in danger of having their political agenda pushed forward by patriarchs who don't necessarily agree with them."

A distinct brand of South African masculinity emerged as a result of the mix of a white militarised and racist state, widespread revolt in the form of armed resistance, and patriarchal indigenous legal systems, which left women in a particularly vulnerable position. The shocking statistics on female violence serve as a sharp reminder of our vulnerability.

Violence against women in South Africa seems to have reached epidemic proportions, according to both scientific and anecdotal data. Abuse against women has always been an issue, but apartheid's distortions reduced it to a private matter, as in domestic violence, or to an issue isolated to black neighbourhoods, where the police had no jurisdiction, as in rape or witchcraft. This issue has been more well-known and publicised in the current political climate.⁵⁷

Rape and domestic abuse are the two most common types of violence inflicted on women in South Africa, and those topics are the subject of this study. Domestic abuse affects women of all races and socioeconomic backgrounds, but rape has a disproportionate impact on black women.⁵⁸

4.1. Violence Within a Family Context

However, contrary to popular belief, men who abuse women can hold respectable positions in society and hold respectable professions such as those of doctors, psychologists, priests, and business executives, despite the fact that the stereotype of the abusive husband as an uneducated, unemployed working-class man is prevalent in popular culture. Many women have had interaction with an abusive male at some point in their lives, and we refer to them as monsters. "He's just liked any other person."

In South Africa several women's organisations have conducted research that shows that domestic violence is widespread in the country. More than half of married women in a poll undertaken by the "Human Sciences Research Council (HSRC)," a government-funded research body, said that they had been divorced because of "marital rape or abuse in the Cape Town metropolitan region." In 1992, the Rape Crisis claimed that one in three women had been abused by their male companion.

⁵⁷ Joanne Fedler, *Lawyering Domestic Violence Through the Prevention of Family Violence Act 1993 – An Evaluation After a Year in Operation*, 112(2) S. Afr. J. Hum. Rts. 231, 232–3 (1995).

⁵⁸ Catherine Campbell, *Learning to Kill? Masculinity, the Family and Violence in Natal*, 18(3) J. S. Afr. Stud. 614 (1992).

"The Women's Bureau" believes that around one in four women are assaulted by their relationships. "The Advice Desk for Abused Women" believes that one in six women is frequently attacked by her husband and that one in four women is compelled to depart due to a life-threatening scenario in her house at some point throughout the year. In addition, one out of every six women, according to POWA and the Coordinated Action for Battered Women, is the victim of domestic violence.⁵⁹

In 1994, a study in Soweto indicated that one in three women who went to a clinic for any reason had been beaten by their spouse or lover at some point. In response to a survey conducted by the "Women's National Coalition," worrying figures reveal that domestic abuse has become all too commonplace in recent years "to not seek aid outside of one's family and friends' informal network of support." In its complete report, Human Rights Watch reported on the following conclusions from its surveys: Violence in a male-female relationship is typically considered natural and unavoidable in rural regions because men are viewed as essential to economic stability.⁶⁰

For a variety of reasons, accurate data on domestic violence is difficult to come by. Police records do not differentiate between domestic violence and other kinds of assault. Furthermore, women who have been assaulted, especially black women, believe that the police are uncaring and uninterested in their plight. The lack of a national census on domestic violence and other types of violence against women is also a problem.

Because South Africa lacks a longstanding legacy of refuges and shelters for battered women, the majority of abused women turn to family and friends for help. That's all starting to change. As a result, most of the evidence is based on hearsay. Domestic abuse victims are afraid of being shunned by their families, whether they are under pressure to stay in an "abusive relationship or their relatives, even if supportive, are afraid of the stigma that comes with domestic violence". Finally, due to the prevalence of domestic violence and the common perception that it is an inevitable part of close relationships, particularly marriage, women who have been assaulted report that 38% of the women they surveyed knew someone who had been abused.

CEDAW's commitment to protect women's rights to security, fair treatment, health, and development is increasingly being seen as interfering with domestic abuse, which is a breach of CEDAW. The "South African Parliament" passed the "Domestic Violence Act 168" in December 1998, which proves that this is true and shows that the government is serious about fixing this problem.⁶¹

⁵⁹ Pat Singh, *Protection from Violence Is a Right*, in *The Constitution of South Africa from a Gender Perspective* 136, 140 (1995).

⁶⁰ *Id.*

⁶¹ DVA, in Lillian Artz & Diane Jefthas (eds.), *Reluctance, Retaliation and Repudiation: The Attrition of Domestic Violence Cases in Eight Magisterial Districts*, GHJRU/University of Cape Town (2011).

4.2. Domestic Violence and COVID-19 in South Africa

Prior to the onset of the COVID-19 pandemic, South Africa had the most recorded GBV cases in the world. According to reports, a woman is murdered in South Africa on average every three hours, and many of them have been attacked and raped before they are slain, according to reports. Protests have already broken out around the nation as a result of this trend. GBV and femicide have been declared national catastrophes as a result of the South African government's recognition of the poor situation of women in the country in September 2019.⁶²

During the lockdown, sources say that about "148 people have been arrested and charged with GBV-related crimes in South Africa." In the first week, reports say that almost 2,000 complaints were made to South Africa's police.

More than 12,000 calls have been made to the GBV Nationwide Command Center since the lockdown was implemented, which runs a national contact centre. There were also claims of women being raped in the COVID-19 reaction camps for the homeless.

Despite this, South Africa is one of the only African nations to impose very stringent anti-discrimination regulations during lockdown. Cigarettes and alcohol, which have been linked to DV as well as a weakened immune system, were banned by the government.⁶³

The majority of women in South Africa, and particularly the majority of black women, are in a precarious position. There is no guarantee that women's constitutional and enabling laws will be translated into real-world rights. For something to happen, there are a number of requirements that must be met. First, the government needs to come up with ways to enforce the constitutional rights that have been set up.⁶⁴

Adjudicators must take into account South Africa's social, economic, and cultural context when interpreting these rights. All South Africans who wish for a society free of injustice and discrimination against women need to keep up their vigilance.

The fight against gender and racial injustice is far from done. Nonetheless, racism has lost all its clout, and any prospect of racism reappearing has been eradicated by the political commitment to non-racism. Despite the fact that sexism and violence against women have been eradicated, a masculinist culture that reinforces women's subservient roles acts as a safe haven for the eradication of these concerns. South African women will be working hard for a long time to make a change in this scenario.

⁶² Nonhlanhla Sibanda-Moyo et al., *Violence Against Women in South Africa: A Country in Crisis*, Centre for the Study of Violence and Reconciliation (2017) (May 7, 2023), available at <https://www.csvr.org.za/pdf/CSVr-Violence-Against-Women-in-SA.pdf>.

⁶³ Joanne Chukwueke, *The "Shadow Pandemic" of Gender-Based Violence*, Atlantic Council (May 2020) (May 7, 2023), available at <https://atlanticcouncil.org/blogs/africasource/the-shadow-pandemic-of-gender-based-violence/>.

⁶⁴ Boram Jang & Khanyo Farise, *Gender Based Violence During the COVID-19 Pandemic and Economic, Social and Cultural Rights*, *Opinio Juris*, 23 April 2020 (May 7, 2023), available at <http://opiniojuris.org/2020/04/23/gender-based-violence-during-the-covid-19-pandemic-and-economic-social-and-cultural-rights/>.

5. Causes and Remedies

Threatening or other violent behaviour inside a family may involve “physical, sexual, psychological, or economic abuse of children,” as well as domestic violence against a spouse or significant other. Violence in families during pandemics is exacerbated by variables such as economic stress, disaster-related instability, and an increase in exposure to exploitative relationships. People living in dangerous family violence circumstances are confined to their houses as a result of social isolation measures established across the world in an effort to prevent the spread of COVID-19. Individual and communal vulnerabilities are exacerbated by social isolation, which reduces readily available and familiar sources of support.⁶⁵ Higher demand for domestic abuse services and allegations of increased danger to children not attending school have already been documented in BRICS nations. This pattern of social isolation has been witnessed before during diseases and pandemic outbreaks. According to the police in India, when stay-at-home orders went into effect, crime dropped by 40 percent while domestic violence callouts rose by 5%. According to Google, there was a 75% rise in the number of queries related to domestic abuse help on the internet.

This is a common trend across the world. Since social isolation and quarantine measures were implemented, there has been an upsurge in reports of domestic abuse and family violence. Anecdotal data from the “United States, China, Brazil, and Australia” shows an upsurge in violence towards women, children, and their partners as a result of isolation and quarantine. In February 2020, there were three times as many reports of domestic violence in Wuhan, China, then the year before. This was the first country to impose a wide-scale quarantine.

5.1. Isolation and Domestic Violence

Several nations have taken proactive steps to restrict the spread of the new coronavirus via mitigation and containment. Numerous nations public health strategies centre on social exclusion and social stigmatisation, and violators of these rules often face harsh punishments. A family forced to stay at home due to social isolation will see an increase in contact and a decrease in the number of existing support networks, including those provided by extended family members and other social or community-based networks for at-risk families. Additionally, seclusion puts children at an increased risk of neglect and abuse, including “physical, emotional, sexual, and domestic violence.” People across the world are living in stressful situations because of (required) mandated social distance and isolation methods, as well as the consequent shortages of basic supplies and economic implications of these efforts. Despite the fact that social isolation is an effective infection control

⁶⁵ Nicole E. van Gelder et al., *COVID-19: Reducing the Risk of Infection Might Increase the Risk of Intimate Partner Violence*, 21 *EClinicalMedicine* (2020).

tool, it may have substantial “social, economic, and psychological effects,” all of which can act as a trigger for stress and, ultimately, violence.

5.2. Ideal Conditions

With the pandemic’s associated psychological and economic strains and possible increases in negative coping methods (e.g., excessive alcohol intake), an unprecedented wave of marital violence might be sparked. People are increasingly drinking more at home because of the rise in alcohol sales due to social distancing measures and the closure of bars and restaurants. There has been a dramatic surge in unemployment throughout the globe, with millions signing up for welfare benefits and a global recession expected in the near future. Domestic violence risk factors include substance addiction, financial stress, and isolation. People who are isolated because of familial violence have fewer options to seek assistance. Family violence and abuse are more difficult for outsiders to see if you are isolated from the rest of society.

5.3. Coercive Control and COVID-19

Coercive control mechanisms, such as the use of confinement, fear, and the threat of infection as a strategy of abuse, have been reported to be utilised by abusers with COVID-19. Charities that assist victims of domestic violence have expressed worry over claims that intimate partners are abusing their victims by employing COVID-19. Intimate partners have allegedly misled one another about quarantine restrictions and other COVID-19-related mistreatment. Reports indicate that domestic violence victims may be reluctant to seek medical attention for fear of getting COVID-19.⁶⁶

During these trying times, rethinking family violence survivors support systems is essential. This is a difficult moment for everyone, but particularly for the most vulnerable families and children. We understand this. The “U.N. Secretary-General” has urged nations to prioritise help and put-up emergency warning systems for those who are coping with domestic abuse in their families. Some domestic abuse support organisations have released COVID-19 information that focuses on what friends and family can do to help those who feel isolated in the fight against domestic violence. When it comes to helping people who are dealing with domestic violence, charities know how important it is to help their neighbours by telling them how to spot signs of abuse and getting them to talk to their neighbours.

Conclusion

Women’s rights activists’ credit international and regional human rights organisations for blurring the lines between public and private discourse, which had

⁶⁶ Sarah Fielding, *In quarantine with an abuser: surge in domestic violence reports linked to coronavirus*, The Guardian, 3 April 2020 (May 7, 2023), available at <https://www.theguardian.com/us-news/2020/apr/03/coronavirus-quarantine-abuse-domestic-violence>.

previously concealed and minimised the experiences of women who had been victims of abuse. Women's rights are a global issue, and U.N. and regional tribunals have proved that they have an influence on local issues. International and regional human rights organisations have made progress in recognising the many circumstances and experiences of women who are victims of violence and other social problems.

But the problem of intersectionality must be addressed at the international and local levels. In light of pandemic 2020's demonstration that domestic violence cannot be separated from women's social and economic rights, including financial autonomy, access to healthcare, psychological counselling, and legal assistance. It remains to be seen how these international and regional institutions will respond to such complex issues as violence against women during health emergencies. According to researchers, concentrating on physical harm obscures (or even negates) other types of suffering that women may experience as a result of structural inequities. Violence against women and children is exacerbated by alcohol and drug abuse, mental illness, and a lack of adequate housing, making it difficult to address this issue in isolation.

Domestic violence is now more dangerous and alienating than it has ever been because of the lack of access to official institutions, medical care, and informal networks of support. Quarantining children and women with a violent spouse or father may be as deadly as the epidemic for some, if not more so. Poverty and infectious illness are known to be linked, and this association may be worsened by gender power imbalances and a lack of faith in public institutions. Unfortunately, as the example of Russia demonstrates, victims' isolation was compounded even more by the absence of specific legislation to protect them, and the issue of drug misuse, physical violence, sexual assault, and verbal violence was increasingly covered by the media. Despite the existence of a legal framework, it was difficult in Brazil to guarantee the constant protection of women, particularly those who belonged to minorities or were refugees. For this reason, it seems that women must also be included in national and local crisis decision-making, particularly women who are directly involved in healthcare, as well as humanitarian work in general.

However, considering that domestic violence is a global issue, it is obvious that international measures to fight it must be enhanced. With regard to post-pandemic situations, we hope that in addition to local legislation and other measures, governments will understand the need to address the issue both domestically and globally.

Pandemics provide an enabling climate for a wide range of violent acts to be exacerbated or sparked. Restrictions on travel and the closure of critical community services are likely to increase the probability of family violence. Politicians and Governments must raise awareness of the higher risk of violence during pandemics and emphasise the significance of individuals keeping in contact (while adopting cautious measures) and reporting any concerns about abuse. Keeping in touch with loved ones, especially if you fear they are in danger of domestic abuse, is a vital

tactic to employ when you are feeling alone. It is also important to inform the general public about resources that are available in the area (such as hotlines and telehealth), respite care services such as shelters, and rape crisis centres, as well as counselling) via a variety of sources such as social media and the mainstream media. By offering first-line psychological care such as listening empathetically, asking about concerns, validating people's experiences and emotions, increasing safety, and linking individuals to appropriate support resources, mental health professionals may help people (WHO 2020).

As a final point, nations should consider adopting an extra protocol to the "CEDAW Convention," or a new convention, to control issues such as online abuse against women. As seen in Pandemic 2020, technology may be an integral part of people's daily lives, but it can also cause emotional exhaustion and social media addiction. Despite numerous appeals from international organisations and NGOs, international treaties have not yet addressed the issue of "cyber violence and cyber bullying," especially among school children or teenagers, even though international organisations and NGOs have repeatedly urged nations to penalise cyber violence in their criminal law. Partners, ex-partners, co-workers, classmates, and even strangers are all examples of perpetrators.

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THE COVID-19 RESPONSE OF BRICS AND MULTILATERAL DEVELOPMENT BANKS

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This article conducts an analysis of the BRICS member countries in terms of their national and international institutions, with a special emphasis on how these institutions affect the stability of the global financial system and the promotion of development. To this end, the work was guided by the attributions of national central banks and the role played by the G20 in maintaining international financial stabilization. Additionally, the analysis examines the activities of national development banks and their institutions established within the BRICS nations, such as the Contingent Reserve Arrangement and the New Development Bank. The descriptive method was used to interpret the dynamics of international political and legal relations. The article concludes by recognizing the decreasing significance of multilateral solutions and highlighting the need for the national central and development banks of the BRICS countries to engage in communication with international organizations of financial cooperation.

Keywords: BRICS; emerging markets; multilateral development banks; investment law; Contingent Reserve Arrangement; New Development Bank; COVID-19 pandemic.

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Introduction

The 21st century began with the participation of a new group of actors in the international economic scenario, characterized by strong economic and investment performances and standing out from the group of developing countries, namely the emerging economies.

These countries are recognizable not only by their recent industrialization and relevant economic performance but also by their assertive position in international relations, including representation in the decision-making spheres of international organizations and the creation of institutions and innovative multilateral forums.

The change in the international economic paradigm also results in alterations in field of international investment law, as reflected in recent international norms on investments and the creation of new institutions to deal with long-term investments.¹

Among the innovations in international relations are the actions taken by the BRICS countries and the forums of the Group of 20 countries (G20) on international economic stability and coordination.

The acronym BRIC (which stands for Brazil, Russia, India and China) was created in 2001 by Jim O'Neill, chief economist of Goldman Sachs, who predicted that these four countries together could surpass the six world's major Western economies in thirty years. In 2010, the BRIC countries approved the inclusion of South Africa into their group, becoming known by the acronym BRICS since then.²

¹ Muthucumaraswamy Sornarajah, *The International Law on Foreign Investment* 67 (2017).

² See Jim O'Neil, *Building Better Global Economic BRICs*, Global Economics Paper No. 66, Goldman Sachs (2001) (Jul. 2, 2023), available at <https://www.goldmansachs.com/intelligence/archive/archive-pdfs/build-better-brics.pdf>; Robert Howse, *The End of the Globalization Debate: Continued*, in Susy Frankel & Meredith K. Lewis (eds.), *International Economy Law and National Autonomy* 7 (2010); Tomer Broude et al., *Introduction: Some Observations on the Politics of International Economic Law*, in Tomer Broude et al. (eds.), *The Politics of International Economic Law* 376 (2011); Jose E. Alvarez, *The Public International Law*

In addition to international forums, Multilateral Development Banks (MDBs) are an important instrument for promoting long-term investments, particularly in sectors such as infrastructure, sustainable development and incorporation of technologies, and innovation for developing countries. Its performance and success through loans and donations constitute relevant investments for the public sector of the host countries. Emerging countries, especially the BRICS countries, devote close attention to foreign aid received through the participation of traditional MDBs and the development of new institutions, such as the New Development Bank (NDB), established by the BRICS countries and formerly known as the BRICS Development Bank, and the Contingent Reserve Agreement (CRA), both of which were established at the BRICS Summit in Fortaleza, Ceará State (Brazil), in 2014.³ Furthermore, the issue of development through infrastructure demands substantial long-term investments. The annual demand for infrastructure in developing countries is estimated at USD 1.1 trillion. Despite the influx of foreign investments in the form of loans by the World Bank and the Asian Development Bank (ADB), this demand for infrastructure is still huge, which is not likely to be adequately met solely by the NDB.

Nonetheless, the New Development Bank allows for greater financial control over the institution's operations.⁴ According to available data, the demand for new infrastructure corresponds to 1.3% of the world's gross national product (GNP). Allied to this fact, the need to maintain the existing infrastructure requires reinvestments in the order of 1.2% of the world's GNP.⁵ Despite this, the high demand for investments in infrastructure is only marginally met by the current MDBs.⁶ The G20 was created in 1999 in response to the series of financial crises experienced by Mexico (1994), the Asian Tigers (1997) and Russia (1998). However, the importance of the forum as the principal gathering to promote finance stabilization came only after the 2008 financial crisis, replacing the G7, which could be associated with the economic performance of the emerging economies since the beginning of the 21st century. Notably, the G20 is composed of nineteen countries and the European Union, which collectively represent

Regime Governing International Investment 144–45 (2011); Tafadzwa T. Chitenderu, *Integration of the New Development Bank into the International Financial Architecture*, PhD Thesis, Nelson Mandela University (2018), at 120; Sergio G. Suchodolski & Julien M. Demeulemeester, *The BRICS Coming of Age and the New Development Bank*, 9(4) *Glob. Pol'y* 1 (2018); Thiago F. Almeida & Roberto L. Silva, *The Development Bank of BRICS*, 5(4) *BRICS L.J.* 5 (2018); Andrew F. Cooper, *The BRICS: A Very Short Introduction* (2016); Stephanie Jones, *BRICS and Beyond: Executive Lessons on Emerging Markets* (2012); Oliver Stuenkel, *The BRICS and the Future of Global Order* (2015). Also, to some experts, the period of 2000–2010 is characterized as the BRICS Decade. See Dominic Wilson et al., *Is this the "BRICS Decade"?*, Goldman Sachs (2010) (Jul. 2, 2023), available at <https://www.goldmansachs.com/intelligence/archive/archive-pdfs/brics-decade-pdf.pdf>.

³ Chitenderu 2018, at 120.

⁴ Chitenderu 2018, at 125–6; Suchodolski & Demeulemeester 2018.

⁵ Barbara Weber et al., *Infrastructure as an Asset Class: Investment Strategy, Sustainability, Project Finance and PPP* 2–3 (2016).

⁶ Suchodolski & Demeulemeester 2018, at 5.

90% of the world's GDP, 80% of global commerce and two-thirds of the world's population. Moreover, eleven of these member countries are considered emerging economies (South Africa, Saudi Arabia, Argentina, Brazil, China, South Korea, India, Indonesia, Mexico, Russia and Türkiye) and all BRICS countries are part of this group.⁷

With the advent of the infectious disease detected in the city of Wuhan, China, at the end of 2019, COVID-19 was recognized as a pandemic on 11 March 2020⁸ and triggered profound negative effects on the international economy.

This article, therefore, is intended to investigate the role of multilateral and national development banks in BRICS countries. The analysis focuses on the performance of the G20 in the establishment of policies and programs to combat the negative effects of the COVID-19 pandemic on the global economy. The article concludes with a reflection on the existence of programs aimed at assisting countries most impacted by the pandemic and their effects on the economic systems of these countries.

Even more relevant is the debate as to whether such international measures are truly effective in implementing measures that largely benefit developing countries, which have greater economic fragility and are less equipped to respond adequately to global health crises.

1. BRICS: From its Creation at the Beginning of the 21st Century until the COVID-19 Pandemic

Since the announcement of the acronym by Jim O'Neil in 2001, the four BRIC countries have shown significant economic performance. The trajectory of these emerging countries that make up the BRICS, starting from the beginning of the 21st century, can be divided into three phases: (a) the period of great economic growth between 2000–2008, observed in each of its member states, which led this period to be known as the “BRICS’ Decade”; (b) the second period of growth, primarily in China and India, with a downward trend in the long term and accompanied by fiscal crises in Brazil, Russia and South Africa, which some experts referred to as IC (India and China);⁹ and (c) the current economic scenario characterized by a precipitous drop in the gross

⁷ Fan Xu, *Opportunities and Risk Assessment of BRICs New Development Bank*, 1(1) Macro Mgmt. & Pub. Policies 27, 29 (2019); O Brasil no G20, Brazilian Ministry of Foreign Relations (Jul. 2, 2023), available at <http://antigo.itamaraty.gov.br/pt-BR/politica-externa/diplomacia-economica-comercial-e-financeira/15586-brasil-g20>. It is important to differentiate the G20, created in 1999 and dedicated to cooperation and global financial stability, from the G20 coalition of 23 countries created within the World Trade Organization (WTO) to coordinate the positions of developing countries and press for reforms in the agricultural sector. See Groups in the negotiations, World Trade Organization (WTO), 18 December 2017 (Jul. 2, 2023), available at https://www.wto.org/english/tratop_e/dda_e/negotiating_groups_e.htm.

⁸ Timeline of the WTO's Response to COVID-19, World Health Organization, 29 June 2020 (Jul. 2, 2023), available at <https://www.who.int/news-room/detail/29-06-2020-covidtimeline>.

⁹ Kathryn Hopkins, *Down but Are BRICs Out?*, Raconteur, 10 September 2015 (Jul. 2, 2023), available at <https://www.raconteur.net/business-innovation/down-but-are-brics-out>.

domestic product of all countries, both developed and developing, resulting from the COVID-19 pandemic.

The 2008 financial crisis provided the first evidence showing the positive performance of emerging economies, especially those that comprise the BRICS members. In the years after the 2008 financial crisis, Brazil, Russia and South Africa experienced internal fiscal crises, which compromised their previous trajectory of economic growth.

In 2020, under the effects of the COVID-19 pandemic, there was a sharp fall in the countries' gross domestic products, a drastic reduction in consumption and changes in people's ways of life. According to the 2022 World Investment Report, published by the United Nations Conference on Trade and Development (UNCTAD), the forecast for 2020 was fully in line with the actual trend, indicating a 35% reduction in the flow of foreign direct investments (FDIs) for 2020 compared to 2019. FDI will largely recover by the end of 2022 based on forecasts, which assume an improvement in health (widespread vaccination) and economic situations. The same forecasts point to a financial recovery only after 2022. According to the UNCTAD report of 24 January 2021, the decline in FDIs from emerging economies was 69% in the year 2020 compared to 2019, and for developing countries, it was 12% over the same period. When comparing the drop in the same period between developing regions, Latin America and the Caribbean saw a reduction in FDIs of 37%, Africa of 18% and Asia of only 4%. The relatively smaller decline in Asia is a consequence of the resilient Chinese economy, which took the lead as the top destination for FDIs in 2020. Furthermore, the Investment Trends Monitor of UNCTAD, January 2022, highlighted that Europe will have more than 80% of the increase and the United States will double in flows due to cross-border mergers and acquisitions. FDI flows will increase by 20% in South-East Asia and levels in Latin America and the Caribbean will recover to near pre-pandemic levels.¹⁰

According to data provided by the International Monetary Fund, in 2020, China increased its GDP by 2.3%, while the United States experienced a decline in its GDP of -3.4%, Europe by -5.6% and Brazil by -4.1%. In addition, the Brazilian Institute for Applied Economic Research (IPEA) revised its country's GDP projection in 2021 to +4.5% and forecasted a meager increase of 1.1% for 2022.¹¹

¹⁰ UNCTAD, *World Investment Report 2020* (2020) (Jul. 2, 2023), available at https://unctad.org/en/PublicationsLibrary/wir2020_en.pdf; UNCTAD, *World Investment Report 2021* (2021) (Jul. 2, 2023), available at <https://unctad.org/webflyer/world-investment-report-2021>; UNCTAD, *Global Investment Trends Monitor*, No. 38, 24 January 2021 (Jul. 2, 2023), available at <https://unctad.org/webflyer/global-investment-trend-monitor-no-38>; UNCTAD, *Global Investment Trends Monitor*, No. 40, 19 January 2021 (Jul. 2, 2023), available at <https://unctad.org/webflyer/global-investment-trend-monitor-no-40>.

¹¹ Ipea revisa para 4,5% a previsão de crescimento do PIB em 2021, Institute for Applied Economic Research, 22 December 2021 (Jul. 2, 2023), available at https://www.ipea.gov.br/portal/index.php?option=com_content&view=article&id=38810&Itemid=3; Jonathan Cheng, *China Is the Only Major Economy to Report Economic Growth for 2020*, *The Wall Street Journal*, 18 January 2021 (Jul. 2,

It is noted that the performance of the BRICS at the international level goes beyond the global economic sphere, playing a relevant role in international politics by criticizing the development of international law and moving away from the passive behavior of rule-takers to a context of greater assertiveness (rule-makers).

Among the BRICS countries, China stands out in terms of its assertive behavior. Until the end of the 20th century, it presented itself discreetly on the international scene, focusing on its own economic and industrial growth. However, from the 2000s onwards and continuing through the financial crisis of 2008, China's economic growth was fundamental in reducing the negative international impacts. In addition, China presents itself as a prominent member of the developing countries, mainly on the climate change agenda. On the other hand, China's assertive position consists of the country's interest and determination to address the internal and external challenges in relation to the survival of its government regime, economic development, and territorial integrity and sovereignty.¹²

2. The G20: The Economic Stabilization Challenge and the COVID-19 Pandemic

The emerging countries took their first coordinated action in 2008, through the BRICS group and the G20, in which they were essential components of a multilateral response to the international financial crisis.¹³ It was a prompt and decisive response that raised the G20 meetings to the level of heads of states and governments.¹⁴ As a result of the joint action of emerging markets, and with their participation, the counterpart of the financial rescue package was the quota division review established at the International Monetary Fund (IMF).

2023), available at <https://www.wsj.com/articles/china-is-the-only-major-economy-to-report-economic-growth-for-2020-11610936187>; Monitor do PIB sinaliza que economia teve retração de 4% em 2020, Agência Brasil, 19 February 2021 (Jul. 2, 2023), available at <https://agenciabrasil.ebc.com.br/economia/noticia/2021-02/monitor-do-pib-sinaliza-que-economia-teve-retracao-4-em-2020>; Real GDP Growth, International Monetary Fund (2023) (Jul. 2, 2023), available at <https://www.imf.org/external/datamapper>.

¹² Suisheng Zhao, *China: A Reluctant Global Power in the Search for its Rightful Place*, in Vidya Nadkarni & Norma C. Noonan (eds.), *Emerging Powers in a Comparative Perspective: The Political and Economic Rise of the BRIC Countries* 101, 101–02 (2013).

¹³ Perhaps prematurely, the solution to the financial crisis in 2009 was announced through the agreement of the G20 to invest a trillion dollars in the world economy. Although the effects of the crisis lasted in subsequent years, the G20 coordination reduced the impact on the international economy. See Andrew Sparrow et al., *Today's G20 Deal Will Solve Financial Crisis, Claims Gordon Brown*, *The Guardian*, 2 April 2009 (Jul. 2, 2023), available at <https://www.theguardian.com/world/2009/apr/02/g20-summit-gordon-brown-hails-deal>.

¹⁴ O Brasil no G-20, Brazilian Ministry of Foreign Affairs (Jul. 2, 2023), available at <http://antigo.itamaraty.gov.br/pt-BR/politica-externa/diplomacia-economica-comercial-e-financeira/15586-brasil-g20>.

In 2010, the IMF Executive Board¹⁵ approved the largest redistribution of quotas, which included a notable increase in the percentage allocated to emerging markets, mainly for the BRIC countries (Brazil, Russia, India and China).¹⁶ Despite the approval of the quota reform in 2010, in the context of the 2008 crisis, the reform did not become effective until 2016, following approval from the United States Congress.¹⁷ With the implementation of this reform, China became the third-largest country with voting power, along with all of the BRIC countries, among the top ten voting members. Additionally, China has experienced a notable increase in its voting percentage from 3.8% to 6.08%, while Brazil obtained a voting percentage of 2.22%, India gained 2.63% and Russia secured 2.59%. The reform came about as a result of an increased role on the part of emerging economies, especially China. Together, the BRIC group now accounts for 13.52% of the votes. And when including South Africa's voting power in the IMF (0.64%), which was not considered for an increase in the 2010 reform, the BRICS countries total voting percentage corresponds to 14.16%.

As a result of the reform that took place in 2010, the United States reduced its percentage from 16.7% to 16.5%, nevertheless still maintaining a quota higher than any other member country of the IMF and retaining its exclusive veto power on important IMF decisions. Any important decision taken by the IMF,¹⁸ such as the provision of financial aid in case of an imbalance of payments (the stand-by arrangements),¹⁹

¹⁵ The International Monetary Fund (IMF) was created with the International Bank for Reconstruction and Development (IBRD) by the Bretton Woods Agreement in 1944. Both institutions, placed in Washington, D.C., are subjects (international organizations) of international economic law.

¹⁶ "This historic agreement is the most fundamental governance overhaul in the Fund's 65-year history and the biggest ever shift of influence in favor of emerging markets and developing countries to recognize their growing role in the global economy," IMF Managing Director Dominique Strauss-Kahn said after the Executive Board's decision. See IMF Executive Board Approves Major Overhaul of Quotas and Governance, Press Release No. 10/418, International Monetary Fund, 5 November 2010 (Jul. 2, 2023), available at <https://www.imf.org/en/News/Articles/2015/09/14/01/49/pr10418>.

¹⁷ BRIC members took the position of the ten largest quota holders in the IMF, with China taking the third position. This decision took place at the 14th General Review of the Fund's Quotas. See IMF Member's Quotas and Voting Power, and IMF Board of Governors, International Monetary Fund, 16 November 2023 (Jul. 2, 2023), available at <https://www.imf.org/en/About/executive-board/members-quotas>.

¹⁸ The history of the International Monetary Fund is marked by numerous criticisms from developing countries, especially those in a situation of fiscal crisis. The Fund was created to promote the financial stability of member countries in periods of a short-term imbalance of payments. Members are permitted to carry out automatic withdrawals (swaps) from a certain percentage of each member state's quota. Only when the amount is large does the Fund's Board of Governors need to approve a contract, called a stand-by arrangement. The approval of a large financial recovery package depends on the member states' votes, including the United States. See IMF, Articles of Agreement of the IMF, adopted at the United Nations Monetary and Financial Conference, Bretton Woods, New Hampshire, 22 July 1944; amended and effective 26 January 2016 by the modifications approved by the Board of Governors in Resolution No. 66-2, adopted 15 December 2010.

¹⁹ IMF Stand-By Arrangement (SBA), International Monetary Fund, 21 October 2021 (Jul. 2, 2023), available at <https://www.imf.org/en/About/Factsheets/Sheets/2023/Stand-By-Arrangement-SBA>.

requires 85% of the votes. This implies that aid can be granted only with the approval of the United States (16.5%).²⁰

By comparison, despite having the second-largest economy in the world, China only has a slightly higher percentage than Italy. The twenty-seven European Union countries and the United Kingdom account for 29.6% of the voting power in the IMF, despite representing only 16.7% of the world's GDP, while the BRICS countries account for 31.4% as of 2017. In the voting power structure of the World Bank, the BRICS group accounts for 12.9% of the voting power, even though their proposal for reform was not even discussed here.²¹

According to the 11th BRICS Summit (2019) Final Declaration, in Brasília, there was a strong recognition of the failure to increase the number of quotas for emerging and developing countries, which remain underrepresented in the IMF.²² In addition, the IMF's Executive Board presented a report on 16 January 2020, to the Board of Governors proposing that they adopt the Resolution of the 15th General Review of Quotas, which does not approve the increase or re-division of the percentage for emerging economies and instead refers the matter to the 16th General Review of Quotas.²³

Therefore, there is a clear lack of political will on the part of developed economies, which hold the highest percentages of quotas in the Fund (mainly the United States, which holds 16.5%) to seek greater balance in the IMF core decision-making process, responsible for global economic stability. The impossibility of consensus, alleged in the report of the IMF Executive Board, keeps the BRICS members and other

²⁰ The financial recovery package approved for Argentina, worth US\$57 billion during the Macri government's tenure in 2018, was the largest in the IMF's history. However, the package is conditional on the state's commitment to carrying out structural reforms in the economy and society, such as controlling inflation and reducing the fiscal deficit. It is observed that the decision for granting the financial package was also based on political issues when the Fund gave a hand to this neoliberal government. The IMF's post-grant evaluation report recognized later that the package did not promote the expected objectives. IMF Executive Board Discusses the Ex-Post Evaluation of Argentina's Exceptional Access Under the 2018 Stand-By Arrangement, Press Release No. 21/401, International Monetary Fund, 22 December 2021 (Jul. 2, 2023), available at <https://www.imf.org/en/News/Articles/2021/12/22/pr21401-argentina>. Solutions not restricted to the traditional fiscal austerity package must be considered viable to promote economic recovery and long-term development. For positions other than austerity and criticism of the neoliberal agenda, see Joseph E. Stiglitz, *Globalization and its Discontents* (2002); Barry Eichengreen, *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System* (2011); Joseph E. Stiglitz, *Argentina's COVID Miracle*, Project Syndicate, 10 January 2022 (Jul. 2, 2023), available at <https://www.project-syndicate.org/commentary/argentina-covid-economic-miracle-by-joseph-e-stiglitz-2022-01>.

²¹ Chitenderu 2018, at 120; Suchodolski & Demeulemeester 2018, at 3–4.

²² The failure occurred in the IMF's 15th General Review of Quotas. See Declaração da 11ª Cúpula do BRICS, Brazilian Ministry of Foreign Affairs (Jul. 2, 2023), available at <http://brics2019.itamaraty.gov.br/2-uncategorised/108-declaracao-da-11-cupula-do-brics>.

²³ Fifteenth and Sixteenth General Reviews of Quotas, Report of the Executive Board to the Board of Governors, International Monetary Fund, 13 February 2020 (Jul. 2, 2023), available at <https://www.imf.org/en/Publications/Policy-Papers/Issues/2020/02/13/Fifteenth-and-Sixteenth-General-Reviews-of-Quotas-Report-of-the-Executive-Board-to-the-Board-49049>.

emerging countries away from a more equitable representation in the multilateral decision-making *fora*. This negative attitude simply fails to recognize the new economic situation marked by the repositioning of emerging countries in the global scenario.

As the quotas were only recalculated due to the fierce pressure from emerging countries, led by the BRICS countries, it is imagined that another approval is likely to happen again only when the developed economies are in a situation of financial fragility.

Additionally, during the 2008 financial crisis, the G20 created the Financial Stability Board (FSB), an international forum to monitor and present recommendations on the international financial system and promote the system's financial stability. The FSB was established in April 2009 as a successor to the previous Financial Stability Forum (FSF), created in 1999 by the G7.²⁴ By early January 2013, the FSB was officially established as a non-profit association based in Basel, Switzerland. Similar to how the G7 was replaced by the G20, the FSB replaced the FSF on the grounds of ensuring greater representation and institutional reinforcement in its operations.²⁵

The FSB's structure is defined in its Letter of June 2012,²⁶ the provisions of which are not legally binding. Its constitution as a non-profit association is provided for in the Articles of Association of the Financial Stability Council of January 2013.²⁷

In the backdrop of the effects of the COVID-19 pandemic on the international financial system, the FSB sent a letter²⁸ and report²⁹ to the G20 meeting of Ministers of Finance and Governors of Central Banks, on 18 July 2020, to advocate the inclusion of the economic effects of the pandemic in the discussions of financial stabilization. The letter brings together measures aimed at maintaining the stability of the financial system during COVID-19, including (a) assessing vulnerabilities caused during the pandemic crisis; (b) strengthening the resilience of non-bank financial

²⁴ The G7, created in 1975, is an informal group formed by the United States, Japan, France, the United Kingdom, Germany, Italy and Canada, to debate global economic issues. Its composition represents the major developed economies at the time of its creation. The European Union also participates in the group's meetings. See G7, European Commission (Jul. 2, 2023), available at https://ec.europa.eu/info/food-farming-fisheries/farming/international-cooperation/international-organisations/g7_en.

²⁵ History of the FSB, Financial Stability Board (Jul. 2, 2023), available at <https://www.fsb.org/about/history-of-the-fsb/>.

²⁶ Financial Stability Board, *Charter of the Financial Stability Board* (June 2012) (Jul. 2, 2023), available at <https://www.fsb.org/wp-content/uploads/FSB-Charter-with-revised-Annex-FINAL.pdf>.

²⁷ Financial Stability Board, *Articles of Association of the Financial Stability Board (FSB)*, 28 January 2013 (Jul. 2, 2023), available at <https://www.fsb.org/wp-content/uploads/FSB-Articles-of-Association.pdf>.

²⁸ Financial Stability Board, *FSB Chair's Letter to G20 Finance Ministers and Central Bank Governors*, 14 July 2020 (Jul. 2, 2023), available at <https://www.fsb.org/wp-content/uploads/P150720-1.pdf>.

²⁹ Financial Stability Board, *COVID-19 Pandemic: Financial Stability Implications and Policy Measures Taken*, Report submitted to the G20 Finance Ministers and Governors, 15 July 2020 (Jul. 2, 2023), available at <https://www.fsb.org/wp-content/uploads/P150720-2.pdf>.

intermediation;³⁰ and (c) identifying and evaluating responses to economic and financial public policies.

At the last G20 meeting, held virtually under the coordination of Saudi Arabia in November 2020, the declaration only recognized the impacts on health and the global economic system due to the COVID-19 pandemic.³¹ However, despite multilateral efforts, it is observed that the non-binding statements issued by the G20 have resulted in minimal pragmatic outcomes in terms of effectively coordinating the conduct of countries in the face of the pandemic.

Allied to the lack of multilateral engagement in the implementation of the measures proposed by the G20, an expansion of protectionist measures was observed during the period of the Trump administration in the United States (2017–2020). As an example, the United States and Israel officially withdrew from the United Nations Educational, Scientific and Cultural Organization (UNESCO) on 1 January 2019. In addition, the Trump administration blocked the appointment of judges of the Appellate Body (the permanent arbitral tribunal) of the World Trade Organization (WTO), thereby preventing the WTO dispute settlement system from acting in the resolution of conflicts over international trade. These steps were taken as a result of the Trump administration's understanding that multilateral action in the trade sphere would limit the United States' ability to oppose China's trade practices.³²

³⁰ For example, the People's Bank of China outperformed the U.S. Fed in encouraging non-banking institutions. See China's Central Bank Has Better Stimulus Options than the Fed, *Financial Times*, 19 July 2020 (Jul. 2, 2023), available at <https://www.ft.com/content/85224d6e-a80b-477a-a7fd-a692316830aa>.

³¹ Declaração de Líderes do G20 da Cúpula de Riade, Brazilian Ministry of Foreign Affairs, 22 November 2021 (Jul. 2, 2023), available at https://www.gov.br/mre/pt-br/canais_atendimento/imprensa/notas-a-imprensa/2020/declaracao-de-lideres-do-g20-da-cupula-de-riade-2013-16-e-17-11-2020.

³² The WTO Appellate Body is defined in Article 17 of the "Understanding on Rules and Procedures Governing the Settlement of Disputes" (DSU), and it exclusively analyzes questions of law decided by the panels, consisting of seven members, three of which are assigned to a particular case. Despite the fact that about 90% of the Appellate Body's decisions are complied with, the United States blocking the approval of the reappointment of Seung Wha Chang's second term raises questions about the need to review its structure. See Appellate Body, World Trade Organization (WTO) (Jul. 2, 2023), available at https://www.wto.org/english/tratop_e/dispu_e/appellate_body_e.htm; See also Jeffrey L. Dunoff & Mark A. Pollack, *O Trilema Judicial* 97–99, 123 (Lucas C. Lima & Lucas M. Felipe trans., 2021); Ernst-Ulrich Petersmann, *CETA, TTIP, and TiSA: New Trends in International Economic Law*, in Stefan Grillier et al. (eds.), *Mega-Regional Trade Agreements: CETA, TTIP, and TiSA: New Orientations for EU External Economic Relations* 17, 22–23 (2017); Keith Johnson, *How Trump May Finally Kill the WTO*, Foreign Policy Report, 9 December 2019 (Jul. 2, 2023), available at <https://foreignpolicy.com/2019/12/09/trump-may-kill-wto-finally-appellate-body-world-trade-organization/>; WTO Judge Blockage Could Prove "The Beginning of the End," DW News, 10 December 2019 (Jul. 2, 2023), available at <http://www.dw.com/en/wto-judge-blockage-could-prove-the-beginning-of-the-end/a-51613082>; A Quick Guide to the US-China Trade War, BBC News, 16 January 2020 (Jul. 2, 2023), available at <https://www.bbc.com/news/business-45899310>. It is important to highlight that during the Biden administration, there is no signal that the United Nations will end the blockage of the WTO Appellate Body. See Sarah Anne Aarup, *'All Talk and No Walk': America Ain't Back at the WTO*, Politico, 23 November 2021 (Jul. 2, 2023), available at <https://www.politico.eu/article/united-states-world-trade-organization-joe-biden/>.

The individual state responses of the various nations ultimately prevailed in approving economic recovery plans and vaccine purchases, leading to situations in which developed countries ended up with stocks larger than the number of their inhabitants. The reduction of multilateral efforts on topics of global importance was accentuated by the COVID-19 pandemic, which has been demonstrated by the countries closing their borders in an attempt to contain the entry of the virus into their territories,³³ approving economic recovery packages in developed regions³⁴ and contracting in advance large stocks of vaccines. Such measures have been adopted by the United States,³⁵ the European Union,³⁶ Germany, France, Italy and the Netherlands.³⁷ Specifically, Canada has secured vaccine contracts to inoculate a total of 154 million people, with a population of less than 40 million.³⁸ This reality is opposed to what happened in the 2008 financial crisis, during which multilateral cooperation was the single most important solution adopted by the G20.

The adopting individual measures by each of the states was not restricted to just the developed countries. In China, where the pandemic began to spread even as early as 2019, the government also acted by closing borders, implementing severe quarantine measures in the most affected cities, restricting displacement and ordering the closure of businesses.³⁹ In spite of this, what is observed is the perpetuation of the economic division that exists between developed and developing countries,

³³ Coronavirus: EU Urges Closing External Borders until Mid-June, DW News, 8 May 2020 (Jul. 2, 2023), available at <http://www.dw.com/en/coronavirus-eu-urges-closing-external-borders-until-mid-june/a-53374798>.

³⁴ The United States and the European Union announced major economic recovery plans, worth US\$ 1.9 trillion and €1.8 trillion, respectively, without any mention of an increase in investment supply or recovery plans for Third World countries. See President Biden Announces American Rescue Plan, United States Government, 20 January 2021 (Jul. 2, 2023), available at <https://www.whitehouse.gov/briefing-room/legislation/2021/01/20/president-biden-announces-american-rescue-plan/>; Recovery Plan for Europe, European Commission (Jul. 2, 2023), available at https://ec.europa.eu/info/strategy/recovery-plan-europe_en.

³⁵ US to Buy 100m Doses of Moderna's Potential Covid-19 Vaccine for \$1.5bn, Financial Times, 11 August 2020 (Jul. 2, 2023), available at <https://www.ft.com/content/b2b05819-ea85-46aa-8e35-c5ebad8aa6dd>.

³⁶ EU Strikes Deal with Sanofi for Supply of Potential COVID-19 Vaccine, DW News, 1 August 2020 (Jul. 2, 2023), available at <http://www.dw.com/en/eu-strikes-deal-with-sanofi-for-supply-of-potential-covid-19-vaccine/a-54398972>.

³⁷ Italy, Germany, France and Netherlands Sign Contract with Astrazeneca for COVID Vaccine, Reuters, 13 July 2020 (Jul. 2, 2023), available at <https://www.reuters.com/article/health-coronavirus-vaccines/italy-germany-france-and-netherlands-sign-contract-with-astrazeneca-for-covid-vaccine-idINL8N2DQ0A1>.

³⁸ Canada Has Reserved More Vaccine Doses Per Person Than Anywhere, Bloomberg, 7 December 2021 (Jul. 2, 2023), available at <https://www.bloomberg.com/news/articles/2020-12-07/canada-has-reserved-more-vaccine-doses-per-person-than-anywhere>.

³⁹ Desheng D. Wu & David L. Olson, *Pandemic Risk Management in Operations and Finance: Modeling the Impact of COVID-19* 4 (2020).

particularly in terms of taking measures to reduce the health and economic effects of the pandemic.⁴⁰

3. BRICS National Development Banks

On the subject of promoting development, each of the BRICS countries maintains national development banks committed to investments in infrastructure, industrial development and services with advantageous and subsidized interest rates offered by the respective state bodies.

In Brazil, the National Bank for Economic and Social Development (BNDES) is a state-owned company whose main objective is to provide long-term investments in different economic sectors, including infrastructure, industry, commerce and services. It was initially created by Federal Law No. 1,628 of 1952,⁴¹ and later framed as a federal public company (Federal Law No. 5,662 of 1971).⁴² The BNDES operates in structuring equity and granting non-reimbursable financing for projects involving social, cultural and technological development.⁴³

The China Development Bank (CDB), created in 1994, promotes long-term financing to consolidate and develop the Chinese economy through the allocation of resources to infrastructure, industry, urbanization, health, agriculture and education.⁴⁴

In turn, the Bank for Development and External Economic Relations (Vnesheconombank – VEB) aims to diversify the Russian economy by increasing investments in infrastructure, innovation, environmental protection and the exportation of national products.⁴⁵ The regulatory system of VEB, as a Russian state bank, was established by the Russian Federal Law in 2007 (amended in 2020). According to Article 3(1), the VEB aims to facilitate the long-term socio-economic development of the Russian Federation, create conditions for sustainable economic growth and improve the efficiency and expansion of investments in the Russian economy through the undertaking of localized projects on Russian territory as well as in other countries, focusing on areas such as infrastructure, industrial production, innovation,

⁴⁰ Wu & Olson 2020. The issue of global inequality, accentuated by the COVID-19 pandemic, was the central theme of the World Economic Forum in 2021. See COVID-19 has shown us the true extent of global inequality. In 2021, let's commit to ending it, World Economic Forum, 25 January 2021 (Jul. 2, 2023), available at <https://www.weforum.org/agenda/2021/01/covid19-inequality-virus-report-oxfam/>.

⁴¹ Brazil, Federal Law No. 1.628 of 1952 (Jul. 2, 2023), available at https://www.planalto.gov.br/ccivil_03/leis/1950-1969/L1628.htm.

⁴² Brazil, Federal Law No. 5.662 of 1971 (Jul. 2, 2023), available at https://www.planalto.gov.br/ccivil_03/leis/15662.htm.

⁴³ Brazilian National Bank for Economic and Social Development, BNDES (Jul. 2, 2023), available at <https://www.bndes.gov.br/wps/portal/site/home>.

⁴⁴ China Development Bank (CDB) (Jul. 2, 2023), available at <https://www.cdb.com.cn>.

⁴⁵ Vnesheconombank (VE) (Jul. 2, 2023), available at <https://www.veb.ru>.

special economic zones, protection of the natural environment, energy efficiency and promotion of exports of Russian industrial products. Furthermore, according to Article 5 of the Russian Federal Law, the VEB assets constitute the property of the profits and assets received by the reorganization of the Bank of Foreign Economic Affairs of the Soviet Union. The authorized capital of VEB, according to Article 7, is 70 billion rubles.⁴⁶ Based on the allocation of investments across sectors, approximately 54% goes to infrastructure and almost 22% to environmental projects.⁴⁷

In 2010, VEB created the Russian Direct Investment Fund (RDIF) as a Russian sovereign wealth fund with capital reserves of ten billion dollars⁴⁸ to raise foreign capital for the Russian economy and operate in high-tech sectors.⁴⁹

In terms of the COVID-19 pandemic, the RDIF was the financial body responsible for financing the production of the Sputnik V vaccine in Russian territory and in other countries such as Brazil, China, South Korea, India and Iran. Thus, the Sputnik V vaccine was developed by the Gamaleya National Research Institute of Epidemiology and Microbiology and funded by this Russian Fund.⁵⁰

The Export-Import Bank of India (Eximbank) was established in 1982 to integrate the Indian economy with the foreign market, with the goal of promoting exports and investments.⁵¹

Lastly, the Development Bank of Southern Africa (DBSA) was established in 1983 to further the economic development of both South Africa and its surrounding southern region. In 1997, the bank was qualified as a development finance institution, remodeling its institutional strategy to provide financial support for infrastructure development in African markets.⁵²

On 16 November 2020, through the BRICS Inter-Bank Cooperation Mechanism (BICM), the five national development banks of the BRICS countries and the NDB signed the Declaration of Principles for Responsible Financing. Its instrument is a consolidation of principles for financing with more careful socio-environmental, governance, integrity and fair market standards. Specifically, with regard to the

⁴⁶ VEB's Regulatory and Legal Framework, Vnesheconombank (Jul. 2, 2023), available at <https://вэб.рф/en/about-us/legal>.

⁴⁷ VEB Projects, Vnesheconombank (Jul. 2, 2023), available at <https://вэб.рф/en/projects/>.

⁴⁸ Russian Direct Investment Fund (RDIF) (Jul. 2, 2023), available at https://rdif.ru/Eng_About/.

⁴⁹ Banco de Desenvolvimento e Assuntos Econômicos Internacionais (VEB), BRICS Policy Center (November 2017) (Jul. 2, 2023), available at <https://bricspolicycenter.org/banco-de-desenvolvimento-e-assuntos-economicos-internacionais-veb/>.

⁵⁰ Henry Foy & Max Seldon, *Russia's COVID Vaccine Faces Global Production Hurdle*, Financial Times, 17 February 2021 (Jul. 2, 2023), available at <https://www.ft.com/content/316b77c1-e640-4d53-8dec-547b1b5651d8>.

⁵¹ Export-Import Bank of India (EXIMBANK) (Jul. 2, 2023), available at <https://www.eximbankindia.in>.

⁵² Development Bank of Southern Africa (DBSA) (Jul. 2, 2023), available at <https://www.dbsa.org>.

COVID-19 pandemic, there were no effective aligned measures taken between the national development banks of the BRICS member states.⁵³

4. The New Development Bank and the Contingent Reserve Arrangement

At the 2014 BRICS Summit in Fortaleza, the Contingent Reserve Arrangement (CRA) was approved to ensure a reserve fund to be used in cyclical events of payment imbalances.

The CRA is similar to the Chiang Mai Initiative (CMIN), which is a regional arrangement among ten Asian nations that is designed to prevent periodic fiscal crises and provide immediate resources to address payment imbalances. The CRA allows the withdrawal of only 30% of the country's quota, while the remaining 70% can be granted upon approval by the International Monetary Fund (IMF).⁵⁴

Compared to the IMF or CMIN, the CRA's distinguishing feature lies in its particular organizational structure. Each BRICS member country maintains separate deposits in its own respective central bank account. This organizational structure is not conducive to the creation of an easily accessible depository fund. Rather, the BRICS central banks hold the resources that could be used in case of a payment imbalance. The CRA, therefore, is afforded greater flexibility to permit quick responses in the event of a crisis related to a payment imbalance.

The creation of the Contingent Reserve Arrangement is commonly misunderstood as an institution created to replace the International Monetary Fund. The CRA itself is subject to the fund's approval if a member state needs more than 30% of the reserves. In addition, the amount available in the CRA is extremely lower than that offered by the IMF.

Under the terms of the arrangement, China can, without being on an IMF program, borrow up to \$6.2 billion; Brazil, Russia and India may borrow \$5.4 billion; and South Africa may borrow up to \$3 billion. But this is chicken feed compared to Russia and Brazil's crisis-related borrowing from the IMF over the past twenty years. For instance, the IMF approved a total lending of \$38 billion (SDR 24.786 billion) to Russia just in the 1990s. In 2002 alone, the IMF approved a 15-month standby credit arrangement of about \$30 billion for Brazil. Net private financial flows to emerging markets today are approximately ten times what they were in 2002, meaning that the size of the loans necessary to address balance of payments financing problems would be even larger now.⁵⁵

⁵³ BNDES assina Declaração de Princípios de Financiamento Responsável do BRICS, Brazilian National Bank for Economic and Social Development, 16 November 2020 (Jul. 2, 2023), available at <https://bndes.gov.br/wps/portal/site/home/imprensa/noticias/conteudo/bndes-assina-declaracao-de-principios-de-financiamento-responsavel-do-brics>.

⁵⁴ Stuenkel 2015, at 115.

⁵⁵ Benn Steil & Dinah Walker, *Is the BRICS Contingent Reserve Arrangement a Substitute for the IMF?*, Council on Foreign Relations, 6 August 2014 (Jul. 2, 2023), available at <https://www.cfr.org/blog/brics-contingent-reserve-arrangement-substitute-imf>.

Although the CRA's structure was created to help countries facing a balance of payments crisis, its resources were, ironically, not used during the COVID-19 pandemic.

On the other hand, the New Development Bank (NDB),⁵⁶ created concurrently with the CRA, at the Sixth Summit of the BRICS, which took place in Fortaleza, 2014, has its headquarters in Shanghai, an identical initial capital of US\$ 50 billion for each of the BRICS member countries and a total capital of US\$ 100 billion. In addition, the presidency of the Bank changes every five years among the BRIC countries, starting with India.

The division of voting power within the NDB is equitably distributed among the five founding members. If other states wish to join the bank, the five countries will maintain a share of at least 55% of the votes. If a developed country wants to join NDB, it can only participate as a non-borrower and have a maximum voting power of up to 20%. In this way, the decision-making power of its five members is ensured, just as the United States maintains control of the decision-making power in the World Bank and IMF.⁵⁷

Among the NDB's financial innovations is the issuance of green bonds in China by the NDB in 2016, by means of which it allows the use of credit from finance infrastructure and sustainable development projects. Moreover, the use of loans issued in local currency offers the opportunity to reduce the percentage of interest on the project, and the NDB already applies the renminbi currency to four of the three projects approved in China in 2017. Another notable innovation corresponds to the criteria for the approval of infrastructure projects, which encompass economic, social and environmental components in order to ensure the implementation of sustainable infrastructure. It is important to highlight the NDB's commitment to using the domestic systems of the borrowing countries, which represents a stark departure from the traditional position of the MDBs in imposing conditionalities and the application of their own rules. The adoption of local legislation and systems allows for a deeper development of local administrative structures. The NDB's performance is based on cooperation, which is observed in its partnership with twenty other international institutions, such as the ADB. Finally, its existence has the potential to reduce the dependence of its member countries on the dollar in international transactions.⁵⁸

In 2019, Brazil hosted the 11th Summit in Brasília. At that time, the official declaration mentioned the creation of regional offices of the New Development Bank in Russia and India.⁵⁹

⁵⁶ New Development Bank (NDB) (Jul. 2, 2023), available at <https://www.ndb.int>.

⁵⁷ Chitenderu 2018, at 129; Suchodolski & Demeulemeester 2018, at 2.

⁵⁸ Chitenderu 2018, at 132–5; Suchodolski & Demeulemeester 2018, at 5–7.

⁵⁹ Declaração da 11ª Cúpula do BRICS, Brazilian Ministry of Foreign Affairs, 14 November 2019 (Jul. 2, 2023), available at <http://brics2019.itamaraty.gov.br/2-uncategorised/108-declaracao-da-11-cupula-do-brics>.

At the 12th Summit in Saint Petersburg, held in Russia in 2020, the main topic of discussion was the COVID-19 pandemic. The official statement declared the NDB's efforts to provide financial resources to countries in light of the effects of COVID-19, through the Emergency Assistance Program, which would provide up to USD 10 billion in emergency loans to its partners.⁶⁰

According to the NDB, in March 2020, the amount of 7 billion renminbi was approved for China and a similar amount of 1 billion USD for India the following month, with the aim of helping the respective governments fight the pandemic. In June 2020, the NDB launched bonds in the capital market with a total value of 1.5 billion dollars, with the objective of financing the development of sustainable activities in its member countries, including providing emergency assistance to national banks. In the same month, South Africa was considered for a USD 1 billion loan through the Emergency Assistance Program and in the following month, a loan was approved for Brazil in the same amount.⁶¹ In September 2020, the NDB launched new bonds in the capital market with a total value of USD 2 billion in financial aid against the pandemic.

In December 2020, the NDB Board of Directors approved five sustainable infrastructure projects in member countries, including three in Brazil. In the same month, the NDB approved an additional USD 2 billion for Brazil and India, under the Emergency Assistance Program.⁶²

There are more than twenty multilateral development banks in operation around the world. The creation of the NDB and CRA can be attributed to the recognition of the inadequate representation of BRICS and other emerging countries in the current organizations that are part of the international financial system. This reality confirms the lack of commitment of traditional economic institutions to adapt to the new global context of the presence of emerging countries and the urgent need for investment in infrastructure and sustainable development.⁶³

⁶⁰ Declaração de Moscou da XII Cúpula do BRICS, Brazilian Ministry of Foreign Affairs, 17 November 2020 (Jul. 2, 2023), available at https://www.gov.br/mre/pt-br/canais_atendimento/imprensa/notas-a-imprensa/2020/declaracao-de-moscou-da-xii-cupula-do-brics.

⁶¹ Emergency Assistance Program in Combating COVID-19, New Development Bank, 20 July 2020 (Jul. 2, 2023), available at <https://www.ndb.int/emergency-assistance-program-in-combating-covid-19-brazil/>.

⁶² NDB Board of Directors Held 29th Meeting in Virtual Format Approved Five Projects, New Development Bank (Jul. 2, 2023), available at https://www.ndb.int/press_release/ndb-board-directors-held-29th-meeting-virtual-format-approved-five-projects/.

⁶³ Suchodolski & Demeulemeester 2018, at 2.

5. Other Multilateral Development Banks

In the field of international organizations,⁶⁴ the institutions for financial cooperation provide technical and financial assistance to projects aimed at promoting development, increasing infrastructure, improving public management and reducing socioeconomic inequalities.

However, when considering the Bretton Woods paradigm, the traditional international organizations created at the end of World War II, such as the International Bank for Reconstruction and Development (IBRD),⁶⁵ International Monetary Fund (IMF), the Inter-American Development Bank (IDB)⁶⁶ and the Asian Development Bank (ADB)⁶⁷ now face the challenge of a multipolar international scenario. In addition, their organizational structures are only able to partially address the need for investments in developing countries.⁶⁸

In turn, new financial institutions bring forth innovations, such as the ability to present alternative solutions and greater flexibility in granting investments. The possibility of lending in local currencies (which reduces the cost of foreign exchange transactions) and the more equitable division of quotas are examples of changes observed in the new international organizations of economic cooperation.⁶⁹ The NDB,⁷⁰

⁶⁴ An international organization can be defined as an association of states, constituted by a treaty, endowed with a constitution as well as common institutions, and having a legal personality distinct from that of the member states. Fitzmaurice apud Nguyen Dihn et al., *Public International Law* 1512 (Vitor M. Coelho trans., from the original *Droit International Public*, 2003).

⁶⁵ The Bretton Woods agreement of 1944 created the IMF and the IBRD. The latter is also known as the World Bank, as it was the first institution of the World Bank Group, which consists of a set of five international organizations: the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA) and the International Center for Settlement of Investment Disputes (ICSID). Both the IMF and IBRD have 189 member states and, because they were jointly founded, are known as the Sister Institutions. See World Bank Group (Jul. 2, 2023), available at <https://www.worldbank.org>.

⁶⁶ The IDB was created in 1959 and operates in Latin America. See Inter-American Development Bank (IDB) (Jul. 2, 2023), available at <https://www.iadb.org>.

⁶⁷ The ADB was created in 1966 and operates in Asia. See Asian Development Bank (ADB) (Jul. 2, 2023), available at <https://www.adb.org>.

⁶⁸ The procedures of action vary from institution to institution, on the basis of which borrowers adopt different regulations according to internal rules and obligations defined by the contract. The lack of uniformity generates legal fragility in the processes of acquisitions and implementation of projects, lacking transparency and accountability in the domestic control bodies of borrower states, like in Brazil. See Thiago Ferreira Almeida, *A Natureza Jurídica dos Empréstimos por Organizações Internacionais de Cooperação Financeira: As Licitações Brasileiras realizadas com Normas Internacionais* (2021). See also Henry G. Schermers & Niels M. Blokker, *International Institutional Law* (2018).

⁶⁹ James Ransdell, *Institutional Innovation by the Asian Infrastructure Investment Bank*, 9(1) Asian J. Int'l L. 125 (2019).

⁷⁰ In addition: "[b]ut a closer look at the two banks [NDB and AIIB] shows that this would be unwise. They are roughly as busy as each other. The NDB has approved \$5.7bn in loans, a touch more than AIIB's \$5.3bn.

the Asian Infrastructure Investment Bank (AIIB)⁷¹ and the current configuration of the Latin American Development Bank (CAF)⁷² can all be considered compelling evidence of the shift in the international development agenda. In addition, these organizations were created essentially by emerging countries, thus constituting a window of opportunity for greater transparency and flexible rules, knowledge sharing and technology transfer, as well as financial alternatives to traditional models.

The African Development Bank (AfDB)⁷³ was established in 1964 to mobilize resources for the economic and social development of Africa through technical and financial assistance to its member countries. The bank's head office is in Abidjan, Ivory Coast, and encompasses thirty regional offices. Between the years 1967 and 2011, the AfDB approved a total of 3,661 loans and grants worth approximately USD 100 billion in a variety of economic and social sectors, public-private partnership projects and structural adjustment programs, in addition to being the signatory bank of the Paris Convention on Aid Effectiveness (2005) and the Accra Agenda (2008)⁷⁴. On the other hand, the AfDB has a high percentage of overdue loans, resulting from the financial difficulties faced by borrower countries.

In the context of the COVID-19 pandemic, the AfDB held a seminar in 2020 titled "Policies for Inclusive Health in Post-COVID-19 Africa," which placed the discussion of this issue on the African regional agenda. By identifying that the health policies of most African states were not focused on the "production of health" but on the "destruction of disease," an approach identified as a colonial principle that would be more concerned with "health care" as in the management of disease outcomes rather than "public health service delivery" that would prioritize health inclusiveness and well-being from conception to the end of life, it was found that pandemics impacted African countries disproportionately compared to other regions of the world. In this context, experts call for a radical shift in Africa's health policy away from the focus

The AIIB has more full-time employees – 180 to NDB's 120 – but both are adding to their ranks by the week. They both now have international credit ratings, making it easier for them to issue bonds. The three big rating agencies awarded the AIIB triple-A scores last year. In August, the NDB received AA+ ratings, just a notch lower than S&P and Fitch. (...) The NDB is even managing to win some admirers. "Why do we need another World Bank? The AIIB looks a lot like what's out there. The NDB is looking more innovative," says Gregory Chin, a specialist in economic diplomacy at York University in Canada.

"The BRICS' walls are shaky these days. Their bank looks more solid." The Beleaguered BRICS Can Be Proud of Their Bank, *The Economist*, 29 September 2018 (Jul. 2, 2023), available at <https://www.economist.com/finance-and-economics/2018/09/29/the-beleaguered-brics-can-be-proud-of-their-bank>.

⁷¹ Asian Infrastructure Investment Bank (AIIB) (Jul. 2, 2023), available at <https://www.aiib.org>.

⁷² Apesar de constituído em 1970, o CAF ampliou os seus países-membros constituindo-se como o Banco de Desenvolvimento da América Latina na década de 2000, sendo membro o Brasil. See Development Bank of Latin America (CAF) (Jul. 2, 2023), available at <https://www.caf.com>.

⁷³ African Development Bank (AfDB) (Jul. 2, 2023), available at <https://www.afdb.org>.

⁷⁴ Itai Mukuvuri, *Learning Across Projects in the African Development Bank*, Master's Dissertation, Nelson Mandela Metropolitan University (2014).

on medical outcomes and towards the broader concept of inclusive health, which would entail ensuring quality health care for all people and identifying the urgency of a robust plan, similar to the Marshall Plan, to address health policy challenges in Africa in a unified and inclusive way.⁷⁵

The situation of African countries in the face of the COVID-19 pandemic is critical, given the current high rates of morbidity and mortality as well as low public spending on health in Sub-Saharan Africa, already at levels below 5.2% of the Gross Domestic Product (GDP). In addition, the region forecasts a decrease to 5.1% over the next ten years, reflecting a total financing deficit of approximately USD 66 billion per year. Moreover, approximately 22% of total African public health expenditure comes from Official Development Aid (ODA), and in some countries, such expenditures are dependent upon financial donations. The closing of borders and the adoption of protectionist policies by nations in response to fighting COVID-19 resulted in lower health assistance to African countries during the pandemic. On the other hand, the migration of qualified African professionals (brain drain process) generates a loss of about USD 2.1 billion per year for African countries, and the lack of investment in pharmaceutical research in African biomes that have a rich diversity demonstrates the challenges of a health system and advanced research development on the continent.⁷⁶

With this in mind, during the COVID-19 pandemic, the AfDB instituted 38 projects divided into three programs: (a) the Emergency Response Support Program (ERSP), to strengthen the health system of African states, restrain the effects of COVID-19 and mitigate the socio-economic impacts, like the project submitted by Sudan on 13 January 2021;⁷⁷ (b) COVID-19 Response Support Program, to finance projects to support the fight against the pandemic, as the project submitted by South Africa on 5 August 2020;⁷⁸ and (c) the COVID-19 Crisis Response Budget Support Program, to support the health system in the face of the COVID-19 crisis and mitigate its socioeconomic impact on families and businesses, through increasing public resources for the health sector and the resilience of the most vulnerable communities, and maintaining productive capacity, in order to facilitate the rapid

⁷⁵ Kevin Chika Urama et al., *Policies for Inclusive Health in Post-COVID-19 Africa*, Summary Outcomes of the African Development Institute (ADI) Global Community of Practice (G-CoP) e-Seminar, 22 and 23 June 2020 (Jul. 2, 2023), available at https://www.afdb.org/sites/default/files/post-g-cop-seminar_summary_report-inclusive_health_policies_in_post-covid-19_africa.pdf.

⁷⁶ *Id.* at 75.

⁷⁷ Sudan – Emergency Response Support Program (COVID-19 ERSP) – Project Appraisal Report, African Development Bank (AfDB), 13 January 2021 (Jul. 2, 2023), available at <https://www.afdb.org/en/documents/sudan-emergency-response-support-program-covid-19-ersp-project-appraisal-report>.

⁷⁸ South Africa – Covid-19 Response Support Programme (SACRSP) – Appraisal Report, African Development Bank (AfDB), 5 August 2020 (Jul. 2, 2023), available at <https://www.afdb.org/en/documents/south-africa-covid-19-response-support-programme-sacrsp-appraisal-report>.

economic recovery of African states, as the project submitted by Gabon on 24 June 2020.⁷⁹

The Inter-American Development Bank (IDB) is one of the main sources of official assistance in Latin America. One of the key organizations in Latin America that is a major provider of official assistance is the Inter-American Development Bank (IDB). It was created in the 1960s. The first announcements regarding the financing programs available during the COVID-19 pandemic, were made in March 2020. The resources that were made available through the Bank and its Fund (BID Invest) were directed to four areas: (a) immediate response to public health; (b) safety nets for vulnerable populations (via existing transfer programs, pensions and subsidies, as well as extraordinary transfers); (c) economic productivity and employment for small and medium-sized companies, providing financing and guarantees for short-term liquidity; and (d) fiscal policies to alleviate economic impacts, in support of countries in their fiscal measures spent during the health crisis. The Bank is actively working to redirect its portfolio of health projects to face the crisis, as well as indicating an additional USD 3.2 billion dollars to the program.⁸⁰

The Asian Infrastructure Investment Bank (AIIB) established the Crisis Recovery Facility to support its members in reducing the economic effects of the COVID-19 pandemic. The mechanism lasts for 18 months, from April 2020 to October 2021, in which up to USD 13 billion were offered for public and private financing in three key areas: the health system, the infrastructure and production capacity of countries and certain productive sectors. Specifically for low-income countries, the AIIB established the Special Fund Window (SFW).⁸¹ The Asian Development Bank (ADB), in turn, announced the availability of USD 17 billion to Asian countries.⁸²

Finally, in July 2020, in response to the COVID-19 pandemic, a joint declaration was issued by the WTO, ADB, AfDB and other MDBs, guaranteeing the provision of financial assistance for international trade.⁸³

⁷⁹ Gabon – Budget Support Programme in Response to the Covid-19 Crisis (PABURC) – Appraisal Report, African Development Bank (AfDB), 24 January 2020 (Jul. 2, 2023), available at <https://www.afdb.org/en/documents/gabon-budget-support-programme-response-covid-19-crisis-paburc-appraisal-report>.

⁸⁰ Grupo BID anuncia áreas prioritárias de apoio aos países afetados pelo COVID-19, Inter-American Development Bank (IDB), 16 March 2020 (Jul. 2, 2023), available at <https://www.iadb.org/pt/noticias/grupo-bid-anuncia-areas-prioritarias-de-apoio-aos-paises-afetados-pelo-covid-19>.

⁸¹ COVID-19 Crisis Recovery Facility, Asian Infrastructure Investment Bank (AIIB) (Jul. 2, 2023), available at <https://www.aiib.org/en/policies-strategies/COVID-19-Crisis-Recovery-Facility/index.html>.

⁸² ADB COVID-19 Policy Database, Asian Development Bank (ADB) (Jul. 2, 2023), available at <https://covid19policy.adb.org>.

⁸³ World Trade Organization (WTO), *Joint Statement by Heads of Multilateral Development Banks and the WTO on Supporting Trade Finance During the COVID-19 Crisis*, 1 July 2020 (Jul. 2, 2023), available at https://www.wto.org/english/news_e/news20_e/trfin_01jul20_e.pdf.

Conclusion

This article emphasized that the BRICS countries have certain characteristics in common, such as openness to global markets, global insertion, a sizeable domestic market and a number of national central and development banks. Another important achievement of its members was the creation of the New Development Bank and the Contingent Reserve Arrangement, which serve as alternative international organizations to the current global financial system, positioning themselves as new sources of funds for investments in infrastructure, development as well as for the purpose of combating the negative effects of COVID-19.

The context of the NDB is allied to that of other multilateral development banks and national development banks in providing long-term credit for projects of public interest. In this way, there can be seen a recognizable growth in the role of emerging countries in the global economy, and consequently, in international relations. However, the participation of these countries in global political decisions is still limited, particularly in international bodies such as the IMF and the World Bank.

The fiscal crises of some of the BRICS member countries in the aftermath of 2008 and the effects of the COVID-19 pandemic have partially reduced the international influence of these five countries, as well as the efforts of multilateral solutions to guarantee international financial stability and the flux of resources needed to promote development. To this end, it is acknowledged that the central and development banks of these countries can act in a coordinated manner, promoting alternatives to maintain the monetary stability of their economies and financing mechanisms for infrastructure, industry and services. Nevertheless, due to the constant demands and contemporary challenges, such as armed conflicts and climate change, the demand for resources offered by MDBs is well above their current offers. The use of alternative mechanisms for financing made available by MDBs in conjunction with national development banks as well as government policies could boost projects to promote development and reduce short-term negative impacts, such as those caused by the COVID-19 pandemic.

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THE SYSTEM OF INDIGENOUS PEOPLES' PROTECTION IN BRICS STATES: AN OVERVIEW OF LEGAL AND LITIGATION SUPPORT

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This article provides an overview of the international obligations of the BRICS member states related to the protection of indigenous peoples' rights, as well as discusses the current trends in the ethno-national policies of those countries. The authors arrive at the conclusion that though the majority of the BRICS states are parties to the basic human rights agreements, there is no full-fledged agreement on the protection of indigenous peoples within the BRICS framework specifically addressing the rights of indigenous people, even though the countries collectively have aboriginal communities. One of the primary and major reasons why the BRICS countries are reluctant to assume obligations under the existing agreements compared to the Euro-Atlantic bloc of Western states is the motley ethno-cultural "palette" of these countries, which complicates public administration in this area of legal relations. Both India and China are state parties to the International Labor Organization Convention 107, which provides for "paternalism" and "integration" of the indigenous population without explicitly recognizing their "right to self-determination" and development within the framework of this right. The main problems associated with ethno-politics in the BRICS countries are those pertaining to the provision of legal frameworks and litigation support to uphold the right to self-identification, protection of the native language and the preservation of traditional uses of natural resources.

Keywords: BRICS; indigenous peoples; ethno-politics; self-determination; integration; ILO Convention.

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Introduction

The BRICS association is one of the most promising platforms in the field of political, economic, social and cultural cooperation among countries that are not members of the North Atlantic Alliance (the so-called "Western ecumene") and one which offers an alternative scenario for international development and cooperation, multiculturalism and other similar issues.

Each of the BRICS countries has its own indigenous peoples as well as its own ethnic policies. In essence, the BRICS countries seek to demonstrate a traditionalist rather than an expansive course of development (primarily liberal modernist or "cultural Marxist"), based on such important social institutions as family, religion and tradition. These political trends are supported by legal initiatives and prominently portrayed in the media, clearly manifesting that society demands the protection of "traditional culture," "traditional knowledge," "traditional values" and "cultural sovereignty."

However, because the situation in each country has its own unique circumstances, it cannot be unequivocally said that the entire "pentarchy" of the BRICS countries is consistent in decisions related to the traditional way of life, management and crafts of the indigenous (aboriginal) communities. Russia, Brazil and South Africa, for example, exhibit comparable ethno-political regimes with less cultural assimilation. On the other hand, India, with its strong bias towards ancient and fundamental religious systems and still supporting social stratification, and China, with a very strong communist ideology and "root" Confucianism, represent rather different systems. The different approaches towards regulating ethnic relations are a kind of barrier to the international cooperation of these states.

The primary objective of this article is to provide an overview of the international regime and obligations of the BRICS countries in the field of indigenous peoples' rights. Additionally, the article seeks to propose potential scenarios for both

multilateral and bilateral cooperation across the BRICS countries, as well as to suggest political and legal recommendations in the areas of development and cooperation in ethno-political regimes.

1. International Obligations of the BRICS States Related to Indigenous Rights

International obligations are established on the basis of international treaties, covenants and agreements, which are mainly of a multilateral nature.

Undoubtedly, the key conventions that first introduced the terms “indigenous population” and “indigenous people” were the ILO Convention No. 107 of 1957 and the ILO Convention No. 169 of 1989. The ILO Convention No. 107 introduced the paternalistic approach to regulating indigenous communities based on the following:

- assimilation and rejection of traditional social institutions (cl. “b” and “c,” Art. 4);
- special integration programs (item 2, Art. 7);
- provisions for the gradual transition from one’s native language to the national (state) language (item 2, Art. 23).

ILO Convention No. 169, in turn, determined some essential rights of indigenous peoples, including the right to:

- self-determination (cl. 3, Art. 1);
- non-discrimination (Art. 3);
- consultation and consent, as well as the right to freely participate in the decision-making process (Art. 6);
- land rights (cl. 2, Art. 13);
- education programs and to their own educational institutions (Art. 27);
- maintain traditional crafts and a subsistence economy (cl. 1, Art. 23);
- preservation of the native language (cl. 1, Art. 28), etc.

The U.N. Declaration on the Rights of Indigenous People is the most comprehensive instrument detailing the rights of indigenous peoples in international law and policy, containing minimum standards for the recognition, protection and promotion of these rights. It establishes a universal framework of minimum standards for the survival, dignity, well-being and rights of indigenous peoples around the world. Specifically, it reaffirms the following rights:

- the right to self-determination, autonomy or self-government (Art. 4);
- the right to participate in political, economic, social and cultural activities of their states (Art. 5);
- the right not to be subjected to forced assimilation or destruction of their culture (Art. 8);
- the right to practice and revitalize their cultural traditions and customs (Art. 11).

Thus, the 2007 Declaration promotes a full spectrum of the rights of indigenous people and suggests national mechanisms for guaranteeing those rights.

Relevant international documents that directly or indirectly address issues of national (including racial, ethnic and religious) minorities had begun to be adopted long before the 2007 U.N. Declaration on the Rights of Indigenous Peoples (UNDRIP)¹ and the 1989 International Labor Organization Convention No. 169 (ILO 169).²

These documents contain unconditional references to such fundamental aboriginal rights as the right to self-determination, the right to development and the right to a traditional way of life, traditional culture and native languages.

The two most basic documents are the “U.N. Charter” of 1945³ and the “Universal Declaration of Human Rights” of 1948.⁴ They serve as the “foundation” of all other international norms written in the wake of the countless deaths of the Second World War. Then, of course, comes the “Genocide Convention” of 1948,⁵ which enshrines in the first paragraph of Article 2, protection from the physical extermination of a particular racial and ethnic group.

Following this, the protection against “ethnic segregation” was established by the first paragraph of Article 2 of the “Apartheid Convention” in 1973.⁶ The “Convention on Racism” of 1965⁷ prohibits the policy of racism or any other forms of racial and ethnic

¹ Декларация Организации Объединенных Наций (ООН) о правах коренных народов (принята резолюцией 61/295 Генеральной Ассамблеи от 13 сентября 2007 г.) // Организация Объединенных Наций [United Nations Declaration on the Rights of Indigenous Peoples (2007), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/declarations/indigenous_rights.shtml.

² Конвенция о коренных народах и народах, ведущих племенной образ жизни в независимых странах [Конвенция 169] (принята 27 июня 1989 г. Генеральной конференцией Международной организации труда на ее семьдесят шестой сессии) // Организация Объединенных Наций [Indigenous and Tribal Peoples Convention (1989), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/conventions/iol169.shtml.

³ Устав ООН // Организация Объединенных Наций [United Nations Charter, United Nations] (Aug. 5, 2023), available at <https://www.un.org/ru/about-us/un-charter/full-text>.

⁴ Всеобщая декларация прав человека (принята резолюцией 217 А (III) Генеральной Ассамблеи ООН от 10 декабря 1948 г.) // Организация Объединенных Наций [United Nations Declaration of Human Rights (1948), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/declarations/declhr.shtml.

⁵ Конвенция о предупреждении преступления геноцида и наказании за него (принята резолюцией 260 (III) Генеральной Ассамблеи ООН от 9 декабря 1948 г.) // Организация Объединенных Наций [Convention on the Prevention and Punishment of the Crime of Genocide (1948), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/conventions/genocide.shtml.

⁶ Международная конвенция о пресечении преступления апартеида и наказании за него (принята резолюцией 3068 (XXVIII) Генеральной Ассамблеи ООН от 30 ноября 1973 г.) // Организация Объединенных Наций [International Convention on the Suppression and Punishment of Apartheid (1973), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/conventions/apartheid1973.shtml.

⁷ Международная конвенция о ликвидации всех форм расовой дискриминации (принята резолюцией 2106 (XX) Генеральной Ассамблеи от 21 декабря 1965 г.) // Организация Объединенных Наций [International Convention on the Elimination of All Forms of Racial Discrimination (1965), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/conventions/raceconv.shtml.

“discrimination.” Thus, we see an upward trend in the movement against racism which led to segregation and genocide. In order to prevent the policy of racism and provide a “restitution of rights,” states can pursue a policy of “positive discrimination” (otherwise known as “affirmative actions”) (cl. 4, Art. 1 of the Convention on Racism).

In addition, the “UNESCO Convention on Education” of 1960⁸ requires that education at the national level contribute to interethnic harmony (subpara. “a,” item 1, Art. 5).

One of the first international environmental documents called “Agenda 21” of 1992⁹ defines the rights of indigenous peoples to land (item 26.4), and the Vienna Declaration and Program of Action of 1993 introduces the term “sustainable development” for the first time (item I.20).

The Genocide Convention was signed and ratified by all the BRICS member states, but China made a reservation stating that the ratification of the said Convention by the local authorities of Taiwan on 19 July 1951 on behalf of China is illegal and therefore invalid. It was also stated that the People’s Republic of China does not consider itself bound by Article IX of the said Convention.¹⁰ Thus, China confirmed that it does not recognize the independence of Taiwan, adheres to the concept of “one China” and that it rejects Article IX on the jurisdiction of the International Court of Justice on the recognition of an international crime as an act of genocide, in which China could potentially be considered the defendant. India also made a reservation under the same article, indicating that the consent of both parties to the dispute is necessary for the dispute to be referred to the International Court of Justice.

With regard to the Apartheid Convention, both Brazil and South Africa have not ratified it.¹¹ India specified that the Convention would enter into force from 1977.

The Convention on Racism (hereinafter the Convention) has been signed and ratified by all BRICS countries, but they have also expressed some reservations. In particular, Brazil recognizes the competence of the Committee on the Elimination of All Forms of Racial Discrimination to receive and consider complaints of violations of human rights, as provided for in Article XIV of the Convention.

⁸ Конвенция о борьбе с дискриминацией в области образования (принята 14 декабря 1960 г. Генеральной конференцией ООН по вопросам образования, науки и культуры на ее одиннадцатой сессии) // Организация Объединенных Наций [Convention Against Discrimination in Education (1960), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/conventions/educat.shtml.

⁹ Повестка дня на XXI век (принята Конференцией ООН по окружающей среде и развитию, Рио-де-Жанейро, 3–14 июня 1992 г.) // Организация Объединенных Наций [Agenda 21 (1992), United Nations] (Aug. 5, 2023), available at https://www.un.org/ru/documents/decl_conv/conventions/agenda21.shtml.

¹⁰ Convention on the Prevention and Punishment of the Crime of Genocide (1948), United Nations Treaty Collection (Aug. 5, 2023), available at https://treaties.un.org/pages/ViewDetails.aspx?src=IND&mtdsq_no=IV-1&chapter=4&clang=_en.

¹¹ International Convention on the Suppression and Punishment of the Crime of Apartheid (1973), United Nations Treaty Collection (Aug. 5, 2023), available at https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsq_no=IV-7&chapter=4&clang=_en.

Russia, represented by the Union of Soviet Socialist Republics (USSR), stated that the provisions of paragraph 1 of Article 17 of the Convention, according to which the right to sign the Convention is given only to U.N. member states, parties to the Statute of the International Court of Justice, and at the invitation of the U.N. General Assembly, is discriminatory and violates the principle of equality of states. According to them, the Convention should be completely open to all interested states without any restrictions or discrimination.

Moreover, in 1983, Russia made a very blunt statement that the ratification of the Convention of the so-called “Government of Democratic Kampuchea” referred to as “the Pol Pot clique of hangmen overthrown by the Kampuchean people” is completely illegal and has no legal force. It is noted that only representatives authorized by the State Council of the People’s Republic of Kampuchea can act on behalf of Kampuchea. The ratification of the Convention by “a puppet clique representing no one” is described as a “farce” that is “a mockery of the norms of law and morality” and “a direct insult to the memory of the millions of Kampuchean victims of the genocide committed against them.”

Additionally, in 1991, it was declared that the USSR recognizes the competence of the Committee on the Elimination of Racial Discrimination to receive and consider communications on situations and events that have occurred since the adoption of this declaration from individuals or groups of individuals within the jurisdiction of the USSR who claim to have been victims of a violation by the USSR of any of the rights set forth in the Convention.

India, similar to its stance in the Genocide Convention, stated that the referral of a dispute under Article 22 to the International Court of Justice requires the consent of both parties. It is also noted that Pakistan rejected India’s said reservation.

China refused to recognize the provisions of Article 22 of the Convention and again pointed to the recognition of the signing and ratification of this treaty by Taiwan.

South Africa noted that under paragraph 1 of Article 14, it recognizes the competence of the Committee on the Elimination of Racial Discrimination, but only after the resident applicants have exhausted all domestic remedies, and that under paragraph 2 of Article 14, it identifies the South African Commission on Human Rights as the main body for the consideration of these issues at the national level.

The UNESCO Education Convention has been signed and ratified by all BRICS members except India. China has made a reservation that this convention has special rules for territorial application, namely the Macau Special Administrative Region.

It is also important to note that the U.N. Special Rapporteur on the Rights of Indigenous Peoples operates within the U.N., and as part of his or her activities, the Special Rapporteur has conducted visits to three BRICS countries during different years, namely Brazil, Russia and South Africa.¹² For these countries, relevant recommendations

¹² Country Visits: Special Rapporteur on the Rights of Indigenous Peoples, U.N. Human Rights Office of the High Commissioner (Aug. 5, 2023), available at <https://www.ohchr.org/en/special-procedures/sr-indigenous-peoples/country-visits>.

have been made to improve the situation of indigenous peoples, which is also something that will be highlighted in the subsequent paragraphs.

2. Intergovernmental Levels of BRICS Cooperation

The BRICS group is an international community of states that combine their efforts primarily from an economic perspective. Since 2006, a total of 14 summits have already been held within the BRICS group, at which various joint statements, communiqués and declarations have been adopted.

Among the provisions of the declarations that directly or indirectly relate to the ethno-national policy of the BRICS countries, the following can be noted:

- condemnation of ethnic terrorism as well as any acts of terror based on racial or ethnic ideology (item 48 of the Fortaleza Declaration, Fortaleza, Brazil, 15 July 2014);¹³
- full support for cultural human rights without politicizing this issue (item 10), concern about flagrant violations of cultural and religious human rights in Iraq, including due to foreign intervention (item 38), encouraging the convergence of cultures of all BRICS countries and the integration of intercultural cooperation (item 64) (VII BRICS Summit: Ufa Declaration, Ufa, Russia, 9 July 2015);¹⁴
- encouragement of cultural exchanges between the BRICS countries (item 100);¹⁵
- promoting the creation of a number of alliances, encompassing libraries, museums, art museums and national galleries and theaters for children and youth (item 61) (BRICS Leaders Xiamen Declaration, Xiamen, China, 4 September 2017);¹⁶
- encouragement of the development of BRICS tourism (item 85), recognition of the importance of culture as one of the driving forces of the 4th industrial revolution (item 92) and joint development of the BRICS film industry (item 93) (BRICS in Africa: Collaboration for Inclusive Growth and Shared Prosperity in the 4th Industrial Revolution, X BRICS Summit: Johannesburg Declaration, Johannesburg, South Africa, 26 July 2018);¹⁷
- a ban on the association of terrorism with any ethnic group or religion (item 37);¹⁸

¹³ VI BRICS Summit: Fortaleza Declaration, Fortaleza, Brazil, 15 July 2014, BRICS Information Centre (Aug. 5, 2023), available at <http://www.brics.utoronto.ca/docs/140715-leaders.html>.

¹⁴ VII BRICS Summit: Ufa Declaration, Ufa, Russia, 9 July 2015, BRICS Information Centre (Aug. 5, 2023), available at http://www.brics.utoronto.ca/docs/150709-ufa-declaration_en.html.

¹⁵ VIII BRICS Summit: Goa Declaration, Goa, India, 16 October 2016, BRICS Information Centre (Aug. 5, 2023), available at <http://www.brics.utoronto.ca/docs/161016-go.html>.

¹⁶ BRICS Leaders Xiamen Declaration, Xiamen, China, 4 September 2017, BRICS Information Centre (Aug. 5, 2023), available at <http://www.brics.utoronto.ca/docs/170904-xiamen.html>.

¹⁷ BRICS in Africa: Collaboration for Inclusive Growth and Shared Prosperity in the 4th Industrial Revolution, X BRICS Summit: Johannesburg Declaration, Johannesburg, South Africa, 26 July 2018, BRICS Information Centre (Aug. 5, 2023), available at <http://www.brics.utoronto.ca/docs/180726-johannesburg.html>.

¹⁸ Московская декларация XII саммита БРИКС (Москва, Россия, 17 ноября 2020 г.) // Страны БРИКС [XII BRICS Summit Moscow Declaration (2020), BRICS Countries] (Aug. 5, 2023), available at <https://brics-russia2020.ru/images/11483/1148395.pdf>.

- eradication of poverty (BRICS Economic Partnership Strategy until 2025);¹⁹
- support for “traditional knowledge” and “traditional cultural expressions” (item 54) (XIII BRICS Summit: New Delhi Declaration),²⁰ etc.

Thus, there are no direct references to indigenous peoples in key documents; yet, all these items, either directly or indirectly, affect the rights and guarantees of indigenous peoples.

3. National Level: Legislation and Perspectives

3.1. Brazil's Ethno-Politics and its International Evaluation

The following minority groups live in Brazil:

1. predominantly ethnic and linguistic, such as the Kaingang, Terena, Xavante, Pataxó, Sateré-Mawé, Mundurukú, Múra, Xucuru and Bare;

2. small-numbered (threatened), such as the Kayapó, Arará, Guarani Kaiwa, Yanomami, Afro-Brazilians, Makuxi, Wapixana, Nambiquara, Tikuna, Tukano and Urueu-Wau-Wau.²¹

According to the International Work Groups for Indigenous Affairs (IWGIA)²² and the 2010 census conducted by the Brazilian Institute of Geography and Statistics, there are 896,917 indigenous people in Brazil. The uniqueness of Brazil lies in the fact that there are a large number of so-called “non-contact” tribes, namely 67 different “non-contact” tribes living in Brazil now, which is a notable increase compared to the 40 documented in 2005.²³

The country voted in favor of the UNDRIP Declaration and the American Declaration on the Rights of Indigenous Peoples (2016).²⁴ But more importantly, Brazil is a state party to ILO Convention No. 169. As part of monitoring the implementation of the treaty provisions, the Committee for the Implementation of the Convention (CEACR), in 2019 (last updated in 2022), determined the need for the Government of Brazil to provide the following information:²⁵

¹⁹ Стратегия экономического партнерства БРИКС до 2025 года // Страны БРИКС [BRICS Economic Partnership Strategy until 2025, BRICS Countries] (Aug. 5, 2023), available at <https://brics-russia2020.ru/images/114/81/1148133.pdf>.

²⁰ XIII BRICS Summit: New Delhi Declaration, 9 September 2021, BRICS Information Centre (Aug. 5, 2023), available at <http://www.brics.utoronto.ca/docs/210909-New-Delhi-Declaration.html>.

²¹ Brazil: Minority Rights, Minority Rights Group International (Aug. 5, 2023), available at <https://minorityrights.org/country/brazil/>.

²² According to an excerpt from the official website, “IWGIA was founded in 1968 by anthropologists alarmed about the ongoing genocide of Indigenous Peoples taking place in the Amazon.” International Work Group for Indigenous Affairs (IWGIA) (Aug. 5, 2023), available at <https://www.iwgia.org/en/about.html>.

²³ Indigenous People of Brazil, Atlas of Humanity: Exploring the Cultural Diversity (Aug. 5, 2023), available at <https://www.atlasofhumanity.org/indios>.

²⁴ The American Declaration on the Rights of Indigenous Peoples, Indian Law Resource Center (Aug. 5, 2023), available at <https://indianlaw.org/adrip/home>.

²⁵ Indigenous and Tribal Peoples Convention, 1989 (No. 169) – Brazil, International Labour Organization (ILO) (Aug. 5, 2023), available at https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4325862,102571.

- on the implementation of the Thematic Program for the Protection and Promotion of the Rights of Indigenous Peoples, indicating the measures taken to achieve the goals set, including on the evaluation of the implementation of the program and the results achieved, as well as the ways in which indigenous and tribal peoples were involved (Arts. 2 and 7);

- on the number of indigenous and tribal families that are part of the “Bolsa Familia” social welfare program and the extent to which their inclusion has affected their access to medical (including vaccination) and educational services (Art. 2(2)(b);

- on the access of indigenous and tribal peoples to the development of these programs in the fields of medicine and education (Arts. 7 and 15);

- on the cooperation with indigenous and tribal peoples in relation to measures taken to protect and conserve the environment in the territories they inhabit (Arts. 7 and 15);

- on the results achieved in the context of the conciliation procedure, the results of the hearings and the provision of compensation (restitution) for the indigenous peoples during the implementation of the “Belo Monti” hydroelectric project (in the Para state, where 11 villages were affected) (Arts. 7 and 15);

- on the methods by which indigenous peoples participate in the implementation of the PBA-CI (Basic Environmental Project for Indigenous Communities) and related programs (Arts. 7 and 15);

- on the means available to carry out activities to monitor the situation with the violation of the rights of the Sinta Larga people in connection with the illegal mining of minerals on their lands of residence (National Park – Parque do Aripuanã (Mato Grosso State), as well as on legal proceedings brought against persons illegally entering the lands and exploiting the resources of the Sinta Larga people and, where appropriate, sentenced (Arts. 7 and 15);

- on measures to ensure that indigenous peoples and the Quilombola (Afro-Brazilians of the Quilombu area) have access to quality education at all levels on an equal basis with the rest of the national community and to jointly develop educational programs with these peoples (Arts. 26 and 27);

- on school attendance rates of indigenous children at the primary, secondary and higher levels, as well as school dropout rates, if any, disaggregated by ethnic group, sex and age (Arts. 26 and 27).

In 2016, the Report of the Special Rapporteur on the rights of indigenous peoples on her mission to Brazil was presented, within the framework of which recommendations were made, including the following:

1. Strengthen the FUNAI Institute.
2. Solve the problem of structural discrimination.
3. Launch the process of inclusion for indigenous peoples.
4. Protect indigenous leaders from unjust persecution and murders.
5. Pay special attention to indigenous youth due to the high risks associated with health and mortality.
6. Complete all processes of demarcation of the lands of indigenous communities on an equitable basis.

7. Develop a national plan for the implementation of the provisions of the UNDRIP.
8. Take measures to protect the interests of indigenous peoples in the implementation of mining and agribusiness projects.
9. Adopt the experience of Colombia on issues of legal support for indigenous peoples and on the basis of established judicial practice.
10. Accumulate financial instruments from the Brazilian Development Bank (BNDES) to support various programs on the rights of indigenous peoples and so on.²⁶

In June 2023, the U.N. Special Rapporteur on the Rights of Indigenous Peoples issued a press release stating that the Brazilian legal system's concept of "time frame" ("Marco Temporal") limits the recognition of indigenous ancestral lands to only those lands that were occupied by indigenous people on the day the Constitution was promulgated on 5 October 1988. The Special Rapporteur notes that the doctrine of "time frame" has been used to invalidate the processes of administrative demarcation of indigenous land, as in the case of the indigenous "Guarani Kaiwa" community.

International organizations, indigenous peoples and human rights activists have repeatedly challenged this decision as a prime example of ignoring the rights of indigenous peoples to the lands from which they were forcibly expelled, particularly from 1945 to 1988, a period of great political upheaval and widespread violations of human rights in Brazil, including the period of dictatorship. The Special Rapporteur urges the Supreme Federal Court not to apply the above doctrine in this case and instead to decide in accordance with existing international standards on the rights of indigenous peoples, since the application of this doctrine in this instance may affect almost 300 cases on this issue under the bill 490/07.²⁷

3.2. Russia's Ethno-Political Regime

Russia, unlike many other countries, has not signed the UNDRIP 2007 and is not a state party to ILO Conventions No. 107 and 169 because the "national question" is extremely sensitive for the world's largest federation. An analysis of the most recent changes to Russian legislation strongly demonstrates a policy of "ethnic integration" pursued by the state, which is associated with the formation of a "single all-Russian civic identity," the promotion and protection of "traditional values,"²⁸ as well as "cultural sovereignty."²⁹

²⁶ U.N. Human Rights Council, *Report of the Special Rapporteur on the rights of indigenous peoples on her mission to Brazil*, A/HRC/33/42/Add.1, 8 August 2016 (Aug. 5, 2023), available at <https://www.ref-world.org/docid/57cd740e4.html>.

²⁷ Brazil: UN expert concerned about legal doctrine threatening Indigenous Peoples' rights, U.N. Human Rights Office of the High Commissioner, 13 June 2023 (Aug. 5, 2023), available at <https://www.ohchr.org/en/statements-and-speeches/2023/06/brazil-un-expert-concerned-about-legal-doctrine-threatening>.

²⁸ Указ Президента Российской Федерации от 9 декабря 2022 г. № 809 «Об утверждении Основ государственной политики по сохранению и укреплению традиционных российских духовно-нравственных ценностей» // Президент России [Decree of the President of the Russian Federation No. 809 of 9 November 2022. On Approval of the Fundamentals of State Policy for the Preservation and Strengthening of Traditional Russian Spiritual and Moral Values, President of Russia] (Aug. 5, 2023), available at <http://www.kremlin.ru/acts/bank/48502>.

²⁹ Указ Президента Российской Федерации от 25 января 2023 г. № 35 «О внесении изменений в Основы государственной культурной политики, утвержденные Указом Президента Россий-

All of these ideas are formalized in the by-laws of the president and the government. At the same time, Russia has introduced the most developed legislative systems in terms of constitutional guarantees of indigenous rights. These frameworks include specialized federal laws such as "On Guarantees,"³⁰ "On Indigenous Communities"³¹ and "On Traditional Nature Management"³² as well as relevant articles in Civil, Water and Forest Codes, such as the Law "On Hunting"³³ and "On Animal World".³⁴

Integration processes in the state ethnic policy are conditioned not only by the number of indigenous peoples, which currently stands at 47, of which 40 live in the regions of the North, Siberia and the Far East of the Russian Federation, but also by the current international foreign policy situation, in which individual and especially collective rights serve as "bargaining coins" in the "political bargaining" of states.

When regarded from a purely historical perspective, an issue such as "colonization" takes on a political context in the relationship between the state and indigenous communities, which can lead to the destabilization of interethnic peace and harmony. That is why in Russia, these issues remain predominantly within the framework of domestic regulation, where the term "indigenous" is used only as "indigenous small-numbered," and the focus of attention of higher courts is shifting

ской Федерации от 24 декабря 2014 г. № 808» // Президент России [Decree of the President of the Russian Federation No. 35 of 25 January 2023. On Amendments to the Fundamentals of State Cultural Policy, approved by Decree of the President of the Russian Federation No. 808 of 24 December 2014, President of Russia] (Aug. 5, 2023), available at <http://www.kremlin.ru/acts/bank/48855>.

³⁰ Федеральный закон от 30 апреля 1999 г. № 82-ФЗ «О гарантиях прав коренных малочисленных народов Российской Федерации» // Электронный фонд правовой и нормативно-технической документации [Federal Law No. 82-FZ of 30 April 1999. On Guarantees of the Rights of Indigenous Small-Numbered Peoples of the Russian Federation, Electronic Fund of Legal and Regulatory Technical Documentation] (Aug. 5, 2023), available at <https://docs.cntd.ru/document/901732262>.

³¹ Федеральный закон от 20 июля 2000 г. № 104-ФЗ «Об общих принципах организации общин коренных малочисленных народов Севера, Сибири и Дальнего Востока Российской Федерации» // Электронный фонд правовой и нормативно-технической документации [Federal Law No. 104-FZ of 20 July 2000. On General Principles of Organizing Communities of Indigenous Small-Numbered Peoples of the North, Siberia and the Far East of the Russian Federation, Electronic Fund of Legal and Regulatory Technical Documentation] (Aug. 5, 2023), available at <https://docs.cntd.ru/document/901765288>.

³² Федеральный закон от 7 мая 2001 г. № 49-ФЗ «О территориях традиционного природопользования коренных малочисленных народов Севера, Сибири и Дальнего Востока Российской Федерации» // Электронный фонд правовой и нормативно-технической документации [Federal Law No. 49-FZ of 7 May 2001. On the Territories of Traditional Nature Management of the Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation, Electronic Fund of Legal and Regulatory Technical Documentation] (Aug. 5, 2023), available at <https://docs.cntd.ru/document/901786770>.

³³ Федеральный закон от 24 июля 2009 г. № 209-ФЗ «Об охоте и о сохранении охотничьих ресурсов и о внесении изменений в отдельные законодательные акты Российской Федерации» // Электронный фонд правовой и нормативно-технической документации [Federal Law No. 209-FZ of 24 July 2009. On Hunting and Conservation of Hunting Resources and on Amendments to Certain Legislative Acts of the Russian Federation, Electronic Fund of Legal and Regulatory Technical Documentation] (Aug. 5, 2023), available at <https://docs.cntd.ru/document/902167488>.

³⁴ Федеральный закон от 24 апреля 1995 г. № 52-ФЗ «О животном мире» // Электронный фонд правовой и нормативно-технической документации [Federal Law No. 52-FZ of 24 April 1995. On Animal World, Electronic Fund of Legal and Regulatory Technical Documentation] (Aug. 5, 2023), available at <https://docs.cntd.ru/document/9011346>.

from protecting ethnic and cultural rights to protecting communities living in harsh climatic conditions.

The “indigenous small-numbered” peoples of Russia include a diverse range of groups, such as the Abazin, Aleut, Alyutors, Besermens, Vepsians, Vod, Dolgans, Izhorian, Itelmens, Kamchadals, Kerek, Ket, Koryaks, Kumandins, Mansi, Nagaybaks, Nanais, Nganasans, Negidals, Nenets, Nivkhs, Oroks (Ulta), Orochs, Saami, Selkups, Setu (Setos), Soyots, Tazis, Telengits, Teleuts, Tofalars (Tofa), Tubalars, Tuvans-Todzhans, Udyges, Ulchis, Khanty, Chelkans, Chuvans, Chukchis, Chulyms, Shapsugs, Shors, Evenks, Evens (Lamuts), Enets, Eskimos and Yukagirs. Of all the above-named groups, it is noteworthy that only seven, namely the Abazins, Besermens, Vod, Izhorian, Nagaybak, Setos and Shapsugs, are among those not living in the regions of the North, Siberia and the Far East of Russia.

In general, all key issues related to the implementation of state ethnic policy and the guarantees of indigenous rights are supervised by the Federal Agency for Ethnic Affairs (FADN) and the “umbrella” organization for the protection of the rights of indigenous peoples, namely the Association of Indigenous Peoples of the North, Siberia and Far East of the Russian Federation (RAIPON).

The current “ethnic agenda” includes support for native languages, the training of specialists and the publication of textbooks in native languages, standards for ethnological assessment³⁵ at the federal level, regulation of reindeer herding,^{36/37} health protection of indigenous peoples,³⁸ adherence to customary law,³⁹ subsidies for traditional economic activities⁴⁰ and the preservation of territories of traditional nature management.⁴¹

³⁵ Antonina Gorbunova et al., *Legislative Process in the Field of Ethnological Expert Examination in Russia*, 258 E3S Web Conf. (2021).

³⁶ Konstantin Zaikov et al., *Legal and Political Framework of the Federal and Regional Legislation on National Ethnic Policy in the Russian Arctic*, 1(7) Polar J. 125 (2017).

³⁷ Antonina Gorbunova et al., *Arctic Reindeer Herding and Ecology: When Economy is Impossible without Safeguarding Ethnocultural Distinctiveness*, 941 IOP Conf. Ser.: Materials Sci. Engineering (2020).

³⁸ Maksim Zadorin et al., *Protecting the Health of Indigenous Peoples of the Arctic: The Experience of the Regions of the Russian Arctic*, 263 IOP Conf. Series: Earth & Env'tl. Sci. (2019).

³⁹ Задорин М.Ю., Савельев И.В. Правовой обычай в лесном праве // Устойчивое лесопользование. 2022. № 2(69). С. 4–9 [Maksim Yu. Zadorin & I.V. Saveliev, *Legal Custom in Timber Law*, 2(69) Sustainable Forest Mgmt. 4 (2022)].

⁴⁰ Сизоненко С.А., Задорин М.Ю. Краткий обзор актуального состояния «традиционной хозяйственной деятельности в Российской Арктике // АРКТИКА-2035: актуальные вопросы, проблемы, решения, 2021. № 3(7). С. 106–112 [Sergei A. Sizonenko & Maksim Yu. Zadorin, *Brief Overview on Current Status of Traditional Economic Activity in the Russian Arctic*, 3(7) Arctic-2035: Actual Issues, Problems, Decisions 106 (2021)].

⁴¹ Кряжков В.А. Федеральное законодательство о коренных малочисленных народах Севера, Сибири и Дальнего Востока России: новеллы последних лет // Государство и право. 2023. № 4. С. 72–83 [Vladimir A. Kryazhkov, *Federal Legislation on the Indigenous Peoples of the North, Siberia and the Far East of Russia: Novels of Recent Years*, 4 State & L. 72 (2023)].

The most important legislative breakthrough, which entered into force quite recently, was the so-called “Aboriginal Registry Act,” which was the product of a long-running discussion about the need to establish the exact number of indigenous small-numbered peoples for the purposes of providing state support measures and for taxation.⁴²

In 2010, the Report of the Special Rapporteur on the Situation of Human Rights and Fundamental Freedoms of Indigenous Peoples in Russia was published in 2010.⁴³ Despite the passage of thirteen years, certain provisions of the report remain relevant to this day. In particular, it contained the following recommendations:

- expansion of the list of indigenous, small-numbered peoples;
- support for the provisions of the UNDRIP;
- guaranteeing the land rights of indigenous small-numbered peoples, regardless of any future changes in the legislation;
- detailing the guarantee in consultation with representatives of indigenous communities in the implementation of any industrial project;
- effective state control over industrial facilities;
- establishing parliamentary assemblies comprised of indigenous small-numbered peoples and enabling them to exercise control over federal and regional legislative activities; etc.

3.3. India and its National Tribal Policy

In India, the indigenous peoples and national minorities are comprised of a wide variety of small groups, which can be divided into the following two subgroups:

- 1) predominant ethnic groups: untouchables or Dalits, Kashmiris, Nagas, Sikhs, Adivasis and Andaman Islanders;
- 2) religious groups: Jews, Muslims, Sikhs and Christians.

According to the United States Agency for International Development (USAID), more than 104 million Indians, or 8.6% of the country’s population, belong to constitutionally recognized and protected “Registered Tribes,” which are indigenous communities that are not part of the prevailing Indian social hierarchy.⁴⁴

⁴² Реестр коренных малочисленных народов Российской Федерации. Краткие рекомендации по порядку заполнения и оформления документов, необходимых для внесения сведений о гражданстве в список лиц, относящихся к коренным малочисленным народам Российской Федерации // Департамент внутренней политики Ненецкого автономного округа [Register of Indigenous Small-Numbered Peoples of the Russian Federation. Brief Recommendations on the Procedure for Filling Out and Processing the Documents Necessary to Enter Information about a Citizen in the List of Persons Related to the Indigenous Peoples of the Russian Federation, Department of Internal Policy of the Nenets Autonomous Okrug] (Aug. 5, 2023), available at <https://smi.adm-nao.ru/kmns/reestr-korennyh-malochislennyh-narodov-rossijskoj-federacii/>.

⁴³ U.N. General Assembly, *Report of the Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous people, James Anaya, A/HRC/15/37/Add.5*, 23 June 2010 (Aug. 5, 2023), available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G10/147/79/PDF/G1014779.pdf?OpenElement>.

⁴⁴ India, Partnership with Indigenous Peoples, USAID (Aug. 5, 2023), available at <https://www.usaid.gov/indigenous-peoples/regional-and-country-profiles/india>.

India has several laws and constitutional provisions such as the “Fifth Schedule for Central India” and the “Sixth List for Certain Areas of Northeastern India,” which recognize the rights of indigenous peoples to land and self-government,⁴⁵ but their implementation, according to the IWGIA, is far from satisfactory.

India voted in favor of the UNDRIP with the provision that, upon gaining independence from colonial British rule, all Indians would be recognized as “indigenous.” Thus, in India as well as in Russia, the concept of “indigenous people” in the sense used in the UNDRIP is not actually applicable. At the same time, the Government of the State of Jharkhand has formally declared the International Day of the World’s Indigenous Peoples, celebrated annually on 9 August throughout the world, as a state holiday.⁴⁶

Unlike Brazil, India is not a state party to ILO Convention No. 169; however, it has signed and ratified ILO Convention No. 107, which continues to be valid for seventeen countries in the world. The Committee for the Implementation of the Provisions of Convention No. 107, as part of monitoring the implementation of the provisions of the treaty in national law, in 2015 (last updated in 2020), identified certain points that need to be clarified by the Indian Government, including the following issues:⁴⁷

- on the participation of the indigenous population in the implementation of the strategic document – the “National Tribal Policy” (Arts. 2 and 5);
- on professional training programs aimed at meeting the needs of the tribal population with specific indicators of satisfaction from their implementation (Arts. 16 and 18);
- on the results of the implementation of the Mahatma Gandhi National Law on Guaranteed Employment in Rural Areas in respect of Scheduled Tribes and Castes (Arts. 16 and 18);
- on the implementation of educational programs taking into account cultural specifics (Arts. 21 and 26).

3.4. Chinese Economic and Social Policy Towards Indigenous Peoples

The main ethnic minorities and indigenous peoples of China include the following groups: Zhuang 16.9 million (1.3%), Manchu 10.4 million (0.77%), Hui 10.6 million (0.79%), Miao 9.4 million (0.71%), Uyghur 10 million (0.75%), Yi (Lolo) 8.7 million (0.65%), Tujia 8.4 million (0.63%), Mongol 6 million (0.45 percent), Tibetan 6.3 million (0.45%), etc.⁴⁸

⁴⁵ Land Rights in Scheduled Areas, Centre for Policy Research (Aug. 5, 2023), available at <https://cprindia.org/project/land-rights-in-scheduled-areas/>.

⁴⁶ India, IWGIA (Aug. 5, 2023), available at <https://www.iwgia.org/en/india.html>.

⁴⁷ Indigenous and Tribal Populations Convention, 1957 (No. 107) – India, International Labour Organization (ILO) (Aug. 5, 2023), available at https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4049337,102691:NO.

⁴⁸ 2010 Population Census, National Bureau of Statistics of China (Aug. 5, 2023), available at <http://www.stats.gov.cn/english/Statisticaldata/CensusData/>.

In addition to the Han majority, the Chinese government recognizes 55 ethnic minority groups. The definition of “ethnic minorities” (or “nationalities”) in the People’s Republic of China was developed by the state and does not truly reflect the self-identification of such ethnic minorities or the reality of ethnic diversity within China’s borders. In China, the term “Mínzú” is used to refer to non-Han “undistinguished ethnic groups.” With a combined population numbering more than 730,000 people, these ethnic minorities have not been recognized or classified as belonging to any of the 55 ethnic groups or the Han majority.

Although the Chinese government voted in favor of the UNDRIP, it is important to note that like Russia and India, China does not officially recognize the term indigenous people. Therefore, the provisions outlined in the UNDRIP have not been implemented in China.

According to the most recent government data from the 2010 National Census, ethnic minorities comprised 111,964,901 or 8.4% of the country’s total population. Furthermore, there are still unrecognized ethnic groups in China, numbering 640,101 people.

In China, the Law “On Regional National (or Ethnic) Autonomy”⁴⁹ is currently in force, which is an important basis for the implementation of the state ethno-national policy towards ethnic minorities. It includes the creation of “autonomous ethnic regions,” the establishment of their own “local government” (primarily for administrative matters) and the right to use their own language and culture. It includes, among other things, the establishment of “autonomous ethnic regions,” the creation of ethnic autonomous local governments (primarily for administrative purposes), the right to use commonly spoken native and local languages in governing bodies and the right to practice one’s own customs and culture. The autonomous ethnic regions account for approximately 60% of China’s total area.

The main economic and social policy in relation to persons belonging to ethnic minorities in China is provided for by the National Five-Year Plan, which is characteristic of socialist states. For example, the previous National Five-Year Plan (2016–2020) paid special attention to the economic development of various ethnic cultures in China. The current 14th five-year plan (2021–2025) continues this policy.⁵⁰

As noted by the IWGIA, much of the teaching of mother tongues in ethnic minority regions in China has been marginalized due to the prevalence of Chinese language teaching. Language and educational policies focus on improving the literacy rate of Putonghua (Standard Chinese) in rural communities and ethnic minority regions.

⁴⁹ Law of the People’s Republic of China on Regional National Autonomy (adopted at the Second Session of the Sixth National People’s Congress, promulgated by Order No. 13 of the President of the People’s Republic of China on 31 May 1984, and effective as of 1 October 1984) (Aug. 5, 2023), available at <http://www.asianlii.org/cn/legis/cen/laws/lotprocora584/>.

⁵⁰ Translation: 14th Five-Year Plan for National Informatization – Dec. 2021, DigiChina – Stanford University (December 2021) (Aug. 5, 2023), available at <https://digichina.stanford.edu/work/translation-14th-five-year-plan-for-national-informatization-dec-2021/>.

Since 2017, there has been a policy of phasing out the teaching of Uyghur and Kazakh in primary schools.⁵¹

3.5. South Africa's Policy of Inclusiveness

South Africa has a unique linguistic situation, as there are 11 official languages in the country: English, Afrikaans, Zulu, Xhosa, Northern Sotho, Southern Sotho, Tswana, Shangaan, Ndebele, Swazi and Venda.⁵²

According to the 2011 National Census, the percentage of racial and ethnic groups is as follows: "black Africans," 41 million (79.2%); "whites," 4.6 million (8.9%); "colored," 4.6 million (8.9%); Indian/Asian, 1.3 million (2.5%) and "other," 0.3 million (0.5%) for a total of 51.8 million (rounded up to the nearest hundred thousands).⁵³ It is important to note that in South Africa, the category of "colored" has traditionally referred to "indigenous peoples."⁵⁴

"Black Africans," defined as those whose mother tongue is African, make up over three-fourths of the country's population and share a common historical experience characterized by gross violations and abuses under the domination of "white colonists" domination and the enforcement of apartheid policies. This experience was associated with the indigenous peoples' massive, coerced inclusion in the "migrant work environment" in combination with the expulsion of the majority of them to overpopulated and economically unproductive territorial allotments. Linguistic and tribal divisions mattered less.

The first settlers, beginning in the mid-17th century, were mostly from Holland and France, followed later by the British, Eastern European Jews, Southern Europeans and whites from Angola, Mozambique and Zimbabwe. "Afrikaners," defined as people who identify themselves as white and speak Afrikaans, a language that is a derivative of the Dutch, continue to make up the majority of South Africa's white population.

The number of immigrants currently living illegally in South Africa is estimated to range anywhere from 5 million to 10 million, with estimates varying greatly from source to source. The vast majority of migrants come from other African countries, particularly the Democratic Republic of the Congo and Zimbabwe, but they are increasingly coming from all over the continent.

The indigenous peoples of South Africa, including the San and Khoekhoe, are collectively referred to as the Khoe-San and are further divided into several sub-ethnic groups. For example, the majority of "Khomani San" mainly reside in the Kalahari

⁵¹ China, IWGIA (Aug. 5, 2023), available at <https://www.iwgia.org/en/china.html>.

⁵² South Africa, Minority Rights (Aug. 5, 2023), available at: minorityrights.org/country/south-africa/.

⁵³ Census 2011, South Africa, The World Bank (Aug. 5, 2023), available at <https://microdata.worldbank.org/index.php/catalog/2067>.

⁵⁴ Indigenous Peoples in South Africa, IWGIA.org (Aug. 5, 2023), available at <https://www.iwgia.org/en/south-africa.html>.

region, as do the Khwe and Xun, who reside primarily in Platfontein, Kimberley. The Khoekhoe live in the Northern Cape Province, while the “Koranna” live in the provinces of Kimberley and Free State. Cape Khoekhoe populations are located in the Western Cape and Eastern Cape provinces.⁵⁵

South Africa introduced the “apartheid regime” to the international community during its period of colonial dependence. The 1973 Apartheid Convention expressly states this in Article 2, which defines apartheid as “the policies and practices of racial segregation and discrimination as practiced in southern Africa,” namely “inhuman acts committed for the purpose of establishing and maintaining domination by one racial group of persons over any other racial group of persons and systematically oppressing them.”⁵⁶

The apartheid regime is no longer being practiced. However, during its enforcement, the Convention encouraged a wide variety of acts of violence that ranged from the killing of members of a particular racial group and the infliction of serious mutilation that would affect the continued existence of the group to the creation of living conditions that entail its total or partial destruction, as well as to instituting legislation that supported and reinforced such segregation.

The Report of the Special Rapporteur on the status of human rights and fundamental freedoms of indigenous peoples (dedicated to the Mission to South Africa) was released in 2006. The findings of this report regarding the state of human rights among indigenous communities were as follows:

1. The most important emphasis should be placed on the protection of the land rights of indigenous peoples, restitution and the right to quality education, medicine and representation.
2. A high degree of marginalization of the indigenous peoples deprives them of the right to equal access to the benefits provided to the rest of the population.
3. A special focus should be placed on protecting the rights of indigenous women.
4. Indigenous communities should be recognized as such, constitutionally, and on an equal footing with speakers of 11 officially recognized languages.
5. Health issues and the organization of polyclinics in indigenous areas should be a priority, and special attention should be paid to the provision of services to the most marginalized segments of the population.
6. Ensuring access to clean drinking water should be among the most important priorities for the government.
7. Support for the native languages of the indigenous peoples of South Africa should be carried out in cooperation with UNESCO, with special priority given to radio broadcasting in the “Nama” language, as well as teaching in schools.

⁵⁵ Indigenous Peoples in South Africa, *supra* note 54.

⁵⁶ International Convention on the Suppression and Punishment of Apartheid, *supra* note 6.

9. Organization of training programs for judges in the cultural specifics of indigenous peoples for a fair consideration of cases with their participation.

10. Special attention should be paid to the protection of the intellectual property of indigenous peoples.

South Africa has no official legislation on the rights of indigenous peoples and data on their demographics is not collected in the census. South Africa has also not yet ratified ILO Indigenous and Tribal Peoples Convention No. 169.

At the same time, South Africa has joined the UNDRIP, and in its statement at the 20th session of the U.N. Permanent Forum on Indigenous Issues on 23 April 2021, made it clear that it will continue to work to implement the provisions of the national Constitution and the Declaration regarding the rights of indigenous peoples, including taking into account the “2030 Agenda for Sustainable Development” and “pandemic realities.”

Furthermore, South Africa is implementing the so-called “District Development Model” (DDM), within the framework of which anti-COVID measures were implemented, including through the participation of indigenous community leaders in municipal councils.

South Africa has proclaimed its commitment to upholding the principles of social security, which should ensure that no one in need, from a particular family to a community, is neglected or excluded due to their socio-economic circumstances. In conclusion, South Africa considers it important to pursue a “policy of inclusiveness” and to encourage “agricultural zoning” in order to identify priority areas for development in specific districts, including “traditional knowledge” and “traditional food sources,” both of which will directly contribute to the preservation of biological diversity and the eradication of poverty.

The role of such an “umbrella organization” as the “South African National Chamber of Traditional Leaders,” which acts as a “pool of experts” advising the Government of South Africa, is highly appreciated.⁵⁷

However, in February 2022, an independent report titled “Observations on the State of Indigenous Human Rights in South Africa”⁵⁸ was submitted as part of the Universal Periodic Review, which was established back in 2006 by the General Assembly and the U.N. Human Rights Council.

The focus of the report is on the aforementioned Khoe-San people. At the same time, it is noted that the preparation of the report faced legal difficulties because

⁵⁷ South Africa’s National Statement, 20th Session of the Permanent Forum on Indigenous Issues, General Discussion, *Item 6: Follow up to the Outcome Document of the World Conference on Indigenous Peoples and the 2030 Agenda for Sustainable Development*, 23 April 2021 (Aug. 5, 2023), available at <https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2021/04/South-Africa-National-Statement-20th-Permanent-Forum-on-Indigenous-Issues-item-6.pdf>.

⁵⁸ *Observations on the State of Indigenous Human Rights in South Africa*, prepared for the United Nations Human Rights Council: February 2022, 3rd Cycle of Universal Periodic Review of South Africa, 41st Session of the Human Rights Council (Aug. 5, 2023), available at <https://www.culturalsurvival.org/sites/default/files/UPR%20South%20Africa-%202022%20FINAL.pdf>.

the term “indigenous peoples” in South Africa is not generally recognized or clearly defined, and therefore, it is frequently interpreted as referring to “black Africans.”

In addition, the Rapporteur’s report takes a critical stance against the Government of South Africa, stating that it is not fulfilling its international obligations in five areas of protecting the rights of indigenous peoples, namely land relations, political representation, ethno-cultural identity and identification and linguistic rights. It is also noted that the latest National Census in South Africa from 2022⁵⁹ still limits the identification of indigenous peoples by employing population categories that were defined in the previous Census of 2011, that is, in fact, by using the apartheid period classification systems, thus disaggregating data for the Khoe-San people.

Conclusion

A brief analysis of the situation in terms of ensuring the rights and legitimate interests of indigenous communities in the territories of the BRICS member states revealed the following key indicators:

1. The majority of the BRICS states are parties to the basic human rights agreements at the U.N. level.

2. There is no full agreement on the protection of indigenous peoples’ rights at the level of the participating states.

3. The participating states collectively have a record number of indigenous peoples and ethnic minorities.

4. Due to the motley ethno-cultural “palette” of the BRICS member states, they are reluctant to assume obligations under existing international agreements to protect the rights (primarily land rights) of indigenous peoples; the existing convention mechanisms have a one-sided approach to the historical conditions of the development of spaces in each individual country, marking them as a product of the policy of “colonialism,” which does not fit into the political and legal agenda of some BRICS countries, for example, Russia and China.

5. Certain states, for instance, India and Brazil, are state parties to the ILO Conventions and currently have obligations to implement the recommendations of the relevant committees under these agreements. In particular, these obligations include the provisions that are outlined below.

Brazil (under ILO Convention No. 169) has set the following goals and targets until 2024:

- implementation of state thematic and social programs with the maximum possible participation of indigenous peoples;
- encouragement of initiatives for indigenous peoples in the fields of education, medicine and environmental protection;

⁵⁹ Total population of South Africa in 2022, by ethnic groups (in 1,000s), Statista (Aug. 5, 2023), available at <https://www.statista.com/statistics/1116076/total-population-of-south-africa-by-population-group/>.

- restitution for indigenous peoples in connection with the implementation of economic projects related to hydropower and mining;
- statistics on indigenous children who attend schools and other educational institutions.

India (under ILO Convention No. 107) has set the following goals and targets until 2025:

- participation of indigenous peoples in the implementation of the state's ethno-national policy;
- vocational training for indigenous peoples and dealing with issues related to unemployment and employment;
- implementation of educational programs taking into account the culture of indigenous peoples.

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DIGITAL TRANSFORMATION CHALLENGES TO THE TAX SECURITY OF THE STATE IN RUSSIA AND OTHER BRICS COUNTRIES

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The digitization of the economy creates new challenges that affect the tax security of a state. These challenges have both positive and negative effects on the economy. This study is devoted to the challenges brought about by a digital economy that result in the necessity of responses from governments and international organizations. First and foremost, there is a lack of necessity for physical presence in the digital state. Second, there is a significant need to offer incentives for IT companies that are, on the one hand, the key leaders of the economy in the modern world and, on the other hand, have been most affected by the conditions of economic crises since 2020. This article is part of a project that is aimed at solving the problem of forming the concept of tax security in order to prevent or neutralize the influence of negative geopolitical and foreign economic factors on the development of the various economic sectors with the help of economic and legal instruments. Thus, this article sheds light on the experiences of the BRICS member states, especially those of the Russian Federation, in facing and addressing the challenges that result from the rise of a digital economy.

Keywords: tax law; tax security; BRICS; digital economy; digital services; tax administration; corporate.

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Introduction

The need to ensure compliance with the fiscal interests of the state requires the transformation of essential approaches to the regulation of tax relations in the current conditions of dynamically changing economic relations. Crisis phenomena in the economy, whether it is the global financial crisis, the fight against the consequences of a pandemic, or the imposition of sanctions, cause a widespread reduction in tax revenues for state budgets. The crisis actualizes the problem of values, the protection of which should be directed to the state's management of taxation and the functioning of public authorities in general. At the same time, such phenomena are viewed as threats to economic and, in particular, tax security.

The theoretical understanding of the emerging new challenges and the formulation of specific strategies for effective economic and legal responses to these new challenges is a problem that has both fundamental significance and practical repercussions. The solution to this problem, due to the decisive importance of taxes for the formation of the state budget and the performance of state functions, determines not only the protection of national interests in the tax sphere but also ensures national security in general.

Consequently, under such circumstances, the need to ensure compliance with the fiscal interests of the state requires the transformation of essential approaches governing the regulation of the system of taxes and fees, taxation principles, elements of taxation, tax administration, both in general and in terms of individual functions, as well as other tax relations. In the absence of a thorough study of this issue on the part of legal and economic experts, the advantages that any crisis represents for state taxation management will inevitably go unnoticed, and the economic and legal

challenges generated by the actions of actors both within the state and globally will remain without an adequate response. Both groups of consequences significantly threaten the fiscal interests of the Russian state, the essence of which also requires reassessment in the context of new challenges.

This study aims to shed light on the necessity of responding to the new challenges posed by the digital economy. These challenges are typically followed by a series of actions undertaken by international organizations, as well as by unilateral legislative measures taken by nations. We will explore how Russia and other BRICS countries have already responded to these challenges and examine ways in which they can respond further.

1. Tax Security of the State in the Era of the Digital Economy

In 2022, the Russian economy, having overcome the consequences of the spread of the pandemic, faced new challenges. These new challenges included the withdrawal of a number of foreign companies from the Russian market, problems with the export of Russian products and the import of certain goods to Russia, disruption of logistics chains and cooperative ties, the imposition of sanctions in relation to the banking sector, and volatility in the securities market. In the economic sphere, these new challenges have affected export-oriented industries, the implementation of investment projects, especially those involving the use of high technologies, and import logistics, among other areas.

At the same time, measures taken to support various sectors of the Russian economy in 2022 were unprecedented and included the following: zero rates for certain types of taxes, deferrals and installments for the payment of taxes and insurance premiums, restrictions on state and municipal control, as well as changes in currency, banking, insurance, and other related spheres. In addition, many different industries have been affected by sanctions restrictions, ranging from IT to logistics.

Tax relations are significantly influenced by two major categories of trends: trends based on international economic integration, such as the increasing influence of multinational enterprises (MNEs) on the national economy, the increasing number of cross-border transactions; and the mobility of taxpayers; and trends based on disintegration, which include the expansion of the practice of economic sanctions in relations between states along with the participation of economic agents under their jurisdiction, resulting in limitations on the activities described above.

The research conducted on the activities of international organizations as well as the works of foreign scholars not only reveals the content of the problems of taxation of the income of MNEs from e-commerce but also provides directions for improving the rules of profit distribution without the need for physical presence in the state in the digital era. The significant studies conducted on the problems surrounding the taxation of income generated by MNEs operating in a country where

users are located without a physical presence, as well as the evaluation of proposals received in connection with this issue, will contribute to the formulation of a common international approach to the adaptation of tax systems in the digital economy.

In order to prevent the impact of negative geopolitical and foreign economic factors on the development of economic sectors and the financial sector, the Government of the Russian Federation, together with the Federal Assembly of the Russian Federation, has adopted a wide range of measures, including speeding up and simplifying settlements carried out at the expense of budgetary funds and providing conditions for flexible management of funds of the National Welfare Fund.¹ Thanks to these measures, the current state of the budgets within the budgetary system of the Russian Federation remains stable.

Therefore, in modern conditions, the problems pertaining to risks and threats in the tax sphere, as well as the methods of countering their progression, are of paramount importance for the state in the system of national and supranational priorities and require adequate analysis.

Since this project seeks to identify and analyze scenarios and tools for the development of Russian tax legislation in the context of changing international regulation of the taxation of profits of global digital companies, it is also necessary to study the actions taken by international organizations, as well as the works of foreign scholars.

As is well known, the OECD has developed a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy.²

On 11 July 2023, the members of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting agreed upon an “Outcome Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy.”³ The Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy will ensure a fairer and more equitable distribution of profits and taxing rights among countries and jurisdictions with respect to the world’s largest MNEs. The Outcome Statement highlights the deliverables developed by the Inclusive Framework to address the remaining elements of the Two-Pillar

¹ Меры Правительства по повышению устойчивости экономики и поддержке граждан в условиях санкций // Правительство России [Government Measures to Increase the Stability of the Economy and Support Citizens in the Face of Sanctions, Russian Government] (Sep. 2, 2023), available at http://government.ru/sanctions_measures/.

² OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy*, 8 October 2021 (Sep. 2, 2023), available at <https://www.oecd.org/tax/beps/statement-on-a-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-october-2021.htm>.

³ OECD, *Outcome Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy*, 11 July 2023 (Sep. 2, 2023), available at <https://www.oecd.org/tax/beps/outcome-statement-on-the-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-july-2023.pdf>.

Solution, including a Multilateral Convention (MLC), a simplified framework for the arm's length principle, the Subject-to-Tax Rule (STTR), and a comprehensive action plan for coordinated implementation.

On 17 July 2023, the OECD published a consultation document on Amount B under Pillar 1,⁴ building upon the input received on the public consultation document published in December 2022. On the same day, the OECD also published new documents on the implementation of Pillar 2.⁵

There are two alternatives to the scope of Pillar 1 that are presented: "Amount A," which does not require a separate qualitative scoping criterion to identify and exclude non-baseline contributions; and "Amount B," which does require a separate qualitative scoping criterion to identify and exclude non-baseline contributions. According to the consultation document, jurisdictions that support Amount A take the position that a separate scoping criterion will not improve the reliability of Amount B and will instead undermine the objectives of tax certainty. On the other hand, jurisdictions supporting Amount B argue that without a separate qualitative scoping criterion being applied to support the definition of baseline distribution, Amount B will not result in outcomes that are aligned with the arm's-length principle.⁶

The OECD's Two-Pillar Solution focuses on new rules for digital and possibly all consumer-oriented businesses (Pillar 1), as well as on a global minimum tax agreement (Pillar 2). The aim of the OECD is to eliminate the spread of unilateral taxes on digital services, as these taxes create a risk of double taxation. On the other hand, one of the frequent criticisms of the OECD proposals is that they are difficult to implement and that global minimum tax rules put developing countries at a disadvantage.

It should be noted that scholars give different evaluations to the OECD project.⁷ As noted, while G7 countries have celebrated the International Framework agreement

⁴ Consultation Document on Amount B under Pillar 1 (Sep. 2, 2023), available at <https://www.oecd.org/tax/beps/public-consultation-document-pillar-one-amount-b-2023.pdf>.

⁵ OECD, *Tax Challenges Arising from the Digitalisation of the Economy – Administrative Guidance on the Global Anti-Base Erosion Model Rules (Pillar Two)*, OECD/G20 Inclusive Framework on BEPS (2023) (Sep. 2, 2023), available at www.oecd.org/tax/beps/administrative-guidance-global-anti-base-erosion-rules-pillar-two-july-2023.pdf; OECD, *Tax Challenges Arising from the Digitalisation of the Economy – Subject to Tax Rule (Pillar Two)*, Inclusive Framework on BEPS, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris (2023) (Sep. 2, 2023), available at <https://doi.org/10.1787/9afd6856-en>; OECD, *Tax Challenges Arising from the Digitalisation of the Economy – GloBE Information Return (Pillar Two)*, OECD/G20 Inclusive Framework on BEPS, OECD, Paris (2023) (Sep. 2, 2023), available at www.oecd.org/tax/beps/globe-information-return-pillar-two.pdf.

⁶ OECD Publishes Consultation Document on Amount B Under Pillar One for Simplifying Transfer Pricing Rules (Sep. 2, 2023), available at https://research.ibfd.org/#/doc?url=/data/tns/docs/html/tns_2023-07-17_o2_1.html.

⁷ Philip Baker, *Editorial: The Need for Plan B*, 51(8) Intertax 542 (2023); Vikram Chand & Camille Vilaseca, *Pillar I: The Marketing and Distribution Safe Harbour (MDSH) as Applicable to Licensed Manufacturers and Centralized Business Models: Does It Fulfil Its Policy Objective?*, 51(8) Intertax 572–94; Cees Peters,

(also known as the IF deal) as a breakthrough in “ending the race to the bottom in corporate taxation” worldwide, low- and middle-income countries have expressed frustration and concern about various inequities embedded in this deal, with Kenya, Nigeria, Pakistan, and Sri Lanka refusing to sign on. Despite low- and middle-income countries suffering disproportionately from multinational corporate tax avoidance, the net result of this largely G7-driven tax reform appears to be that it will overwhelmingly benefit only these handful of wealthy countries.⁸

Thus, the BRICS countries could be the headliners in constructing their own rules based on an analysis of the rules of the OECD and the United Nations. It should be mentioned that some of the BRICS countries have already voiced their own different points of view on the various initiatives in the field of international taxation. For instance, Brazil refused to sign the Multilateral Instrument (MLI) due to concerns that it may disproportionately target their countries’ firms and that renegotiating treaties bilaterally would result in terms that are more preferable to their country. As a result, it has decided to renegotiate each of its bilateral treaties with its treaty partners on an individual basis, considering that the country does not have a long list of treaties.⁹

The Russian Federation does not currently participate in OECD projects. Nevertheless, it is important to study and analyze both OECD and UN projects in order to understand which practices can be determined as being best practices and to be able to make informed decisions on whether international measures should be implemented in Russian bilateral tax treaties or in national legislation.

The possibility of using the OECD rules in the Russian Federation should be assessed, first and foremost, from two perspectives:

- 1) from the perspective of the correlation between Pillar 2 rules and the preferential tax regimes established by Russian tax legislation;
- 2) from the perspective of the recent Russian tax policy in terms of concluding and amending double tax treaties.

Due to the current international situation, it is necessary to monitor how international tax rules are being implemented by different countries. It is also necessary to understand which circle of partner countries Russia should focus on when formulating its foreign tax policy. These global matters also influence the formation of the Russian regulatory framework.

Critical Analysis of the General Court’s ‘EU Arm’s Length Tool’: Beware of the Reflexivity of Transfer Pricing Law!, 31(1) EC Tax Rev. 30 (2022).

⁸ Julie McCarthy, *A Bad Deal for Development: Assessing the Impacts of the New Inclusive Framework Tax Deal on Low- and Middle-Income Countries*, Brookings Global Working Paper No. 174 (May 2020) (Sep. 2, 2023), available at https://www.brookings.edu/wp-content/uploads/2022/05/Tax-and-Bad-Deal-for-Development_Final.pdf.

⁹ João Francisco Bianco, *Principal Purpose Test in Brazilian Tax Treaties*, 7 RDTI Atual 247 (2020).

2. A Brief Comparative Analysis of the Approaches of the BRICS Countries to the Taxation of Digital Goods and Services

The problems associated with the development of the digital economy are relatively new for the BRICS countries, and the members of this association have different indicators of the development of the components of the digital economy. National tax laws also differ, as do the specifics of the implementation of international tax rules.

However, we can divide these countries into two groups: countries that are actively creating new projects in respect of the rules of taxation (Brazil and India) and countries that are reticent about imposing new taxes on digital services for MNEs (Russia, China, and South Africa).

Nevertheless, the BRICS countries may continue to operate “inside the system” as a coordinated group. They may focus on their mutual interests, on the specific interests of the individual member countries, or even on the more general interests of the “developing world.” Since inviting more nations to join the BRICS association, this group of nations has gained even more relevance.

The BRICS countries possess the potential to have a significant influence in the sphere of international taxation. As for Russia, the key role of its domestic laws and the country's reluctance to submit to the power of international organizations shape much of its tax treaty policy and may affect its role in future developments, most likely within the BRICS framework.

According to Professor Vinnitskiy, the differences in the fiscal interests of developed and developing countries can predetermine different approaches taken by these countries to the understanding of the concept of permanent establishment, to setting the rates of withholding at source taxation on passive income (dividends, interest, and royalties), and to resolving other issues in the sphere of cross-border taxation. These aspects have been reflected, in particular, in the content of the OECD Model Convention (OECD Model) and in the text of the United Nations Model Convention (UN Model), which, in turn, explains the differences existing between those two models.¹⁰

The BRICS group of nations is continually working to deepen cooperation in the fields of taxation and tax administration. At the same time, states have different approaches to the taxation of the digital economy and the introduction of digital taxes. For example, India has introduced a number of specific tax measures, including the institution of the concept of “significant economic presence,” have been introduced in India, while China, on the contrary, is still approaching the taxation of digital services with caution and using general rules governing the collection of VAT. In Brazil, the taxation of digital services has been stalled at the draft law stage for several years.

¹⁰ Danil V. Vinnitskiy, *The Objectives of International Fiscal Policy of BRICS Countries as Net Exporters of Capital in the Russian Conventions of Double Taxation*, 39(2) Eur. & Asian L. Rev. 29–30 (2020).

Let us now look at the individual experiences of the BRICS states in more detail.

2.1. Brazil

In Brazil, the following two issues in the field of regulation of the digital economy are both crucial and complex: at what level taxes on digital transactions should be levied (at the federal or state level); and whether the tax will be paid in the country of origin or in the destination country.

There are two types of VAT in Brazil: ICMS (Imposto sobre Circulação de Mercadorias e Serviços) which is the tax on the turnover of goods and transport and communication services, a state sales tax; and IPI (imposto sobre produtos industrializados) which is an industrial goods tax, a federal excise tax.

There is also a municipal tax on the supply of goods or services, known as ISS (imposto sobre serviços). It is usually levied by the municipality or city in which the taxpayer provides the service.¹¹

A major problem that arises in the field of digital economy taxation is the lack of universality of the approach to the identification of the object of taxation; in other words, it is often complicated to determine whether the digital product is a good or a service. As noted by Lyutova:

in reality, digital goods can, for example, be downloaded from the manufacturer's website, without the need to transfer its material carrier. This means that it can be realized by sending by e-mail or by uploading to the Internet, organizing appropriate access. Usually, digital products are texts, sounds and video files. It is often difficult to determine which type of product is a digital product, whether it acts as an asset, work or service. For example, in case a digital product is in the form of a temporary link to a training text file or video (audio) record on the site, the nature of such a legal fact is controversial in terms of the classic triad of "products, work, service."¹²

There are various examples of judicial cases on this issue in the BRICS countries. For instance, the Federal Supreme Court of Brazil issued a ruling on 24 February 2021, according to which software transactions are considered services and therefore should be subject to a municipal services tax (ISS), the rates of which range from 2% to 5%.¹³

¹¹ Brazil – Indirect Tax Guide, KPMG Global (Sep. 2, 2023), available at <https://home.kpmg/xx/en/home/insights/2018/10/brazil-indirect-tax-guide.html>.

¹² Лютова О.И. Объект налогообложения в условиях цифровизации // Вестник Российского университета дружбы народов. Серия: Юридические науки. 2020. Т. 24. № 3. С. 695–671 [Olga I. Lyutova, *Object of Taxation Under Digitalization*, 24(3) RUDN J.L. 695 (2020)].

¹³ Brazilian Federal Supreme Court Unravels the Levy of Taxes on Software Licensing, Machado Assos (Sep. 2, 2023), available at <https://www.machadoassociados.com.br/en/2021/05/brazilian-federal-supreme-court-unravels-the-levy-of-taxes-on-software-licensing/>.

Ever since software began to be sold on physical media (and particularly after it became possible to purchase software by downloading), Brazilian states and municipalities have competed for tax revenues in this industry. The states of Brazil have historically imposed ICMS taxes on the sale of software, considering it to be a tangible good due to the existence of the disk or a physical storage media. Therefore, the states wanted to preserve this inherent nature of “goods” even when physical carriers were no longer needed.

In 2016, several other technology services were added to the list, allowing the municipality to levy a local tax. As a result, this tax is now applied to the storage of data, texts, images, videos, applications (including cloud services) and the provision of video, audio, text content, and images over the Internet via streaming.

However, significant changes have occurred since then. In 2023, the Brazilian tax authorities modified their understanding regarding the levy of the Program of Social Integration Tax Import (hereinafter, PIS-Import) and the Contribution for the Financing of Social Security Import (hereinafter, COFINS-Import) on international remittances for software licensing fees through the COSIT Tax Ruling No. 107, published on 13 June 2023. The ruling is based on the abovementioned decision of the Federal Supreme Court in Direct Actions of Unconstitutionality (ADI) No. 5,659/MG and No. 1,945/MT,¹⁴ which determined the levy of the Service Tax (ISS) on software licensing operations, whether standardized (off-the-shelf) or custom-developed, regardless of the means of acquisition (download or physical support).¹⁵ Based on legal precedents from the Federal Supreme Court and asserting the notion that software licensing involves an obligation to perform corresponding to the licensor’s intellectual effort, the Brazilian tax authorities have now classified remittances for software licensing fees as remuneration for imported services, thus making them subject to the PIS/COFINS-importation contributions. The same classification was applied to the many other services related to the licensed software, such as maintenance, updates, support, and training services.

One instance illustrating these problems is a case involving Microsoft.¹⁶ On 2 March 2021, the Supreme Court of India rendered a ruling stating that the payments made

¹⁴ STF Decides for the Levy of ISS, and Not ICMS, on Software Transactions and Defines the Temporal Effects of Such a Decision (Sep. 2, 2023), available at <https://btlaw.com.br/en/2021/02/26/stf-decide-pela-incidencia-de-iss-e-nao-de-icms-sobre-operacoes-com-sofwares-e-definem-os-efeitos-temporais-dessa-decisao/>.

¹⁵ Brazilian Tax Authorities (‘RFB’) Changed their Interpretation Regarding the Levy of PIS and COFINS-Import on International Remittances for Software Licensing Fees (Sep. 2, 2023), available at <https://news.fcrlaw.com.br/brazilian-tax-authorities-rfb-changed-their-interpretation-regarding-the-levy-of-pis-and-cofins-import-on-international-remittances-for-software-licensing-fees/>.

¹⁶ *Engineering Analysis Centre of Excellence Pvt. Ltd v. The Commissioner of Income Tax & Another*, Civil Appeal Nos. 8733–34 of 2018 (2021) (Sep. 2, 2023), available at https://www.khaitanco.com/sites/default/files/2021-03/Engineering%20Analysis%20Centre%20of%20Excellence%20v.%20CIT_Ergo_22032021_0.pdf.

by a distributor in India to a manufacturer or non-resident supplier, as a form of compensation, do not entail any obligations to withhold taxes. The court reasoned that these remittances represent the purchase price of a computer program as a tangible commodity (direct sale of software), and the end user is only permitted to utilize the program by installing it on a computer, without owning the ability to reproduce it for commercial purposes or transfer it to others and therefore, not liable for taxes.¹⁷

In 2020–2021, a number of bills were submitted to the Brazilian Parliament proposing regulation of taxation of digital services such as advertising, sponsorship, or merchandising; content targeting; collecting, distributing, or processing user data; stimulating the consumption of services; payment platforms; and the use or distribution of images, text, video, or sound related to an individual or legal entity.¹⁸ However, none of these drafts passed the legislative procedure.

In April 2023, Brazil's finance minister announced a “digital tax” on e-commerce shipments.¹⁹ The proposal would not impose a new tax but rather amend the tax collection system. It obliges e-commerce platforms to collect taxes before shipping goods and exempts consumers from having taxes collected on their behalf during purchases. Brazil recently refrained from ending a tax exemption on international individual-to-individual orders valued at less than USD 50.²⁰

2.2. China

China is reticent about imposing a tax on digital services provided by foreign tech giants, especially American companies. In China, electronic services are subject to VAT in accordance with the general VAT regulations. There are no specific VAT regulations in place for cross-border deliveries of electronic services by non-resident suppliers to customers located in China. This means that customers located in China are obliged to withhold VAT at the established rate from the amounts they are paying out.

¹⁷ Karina A. Ponomareva, *Legal Issues of Taxation of Digital Business Models*, 58 Perm U. Herald, Juridical Sciences 615 (2022)].

¹⁸ Projeto de Lei Complementar no. 131, de 2020 (Sep. 2, 2023), available at <https://www25.senado.leg.br/web/atividade/materias/-/materia/142074>.

PLP 218/2020, Projeto de Lei Complementar (Sep. 2, 2023), available at <https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2260638>.

PLP 241/2020, Projeto de Lei Complementar (Sep. 2, 2023), available at <https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2263396>.

PLP 640/2021, Projeto de Lei (Sep. 2, 2023), available at <https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2271097>.

¹⁹ Brazil Plans ‘Digital Tax’ on Shipments from E-commerce Giants, Reuters, 20 April 2023 (Sep. 2, 2023), available at <https://www.reuters.com/markets/brazil-mulls-digital-tax-shipments-e-commerce-giants-minister-2023-04-20/>.

²⁰ Tommaso Giardini & Maria Buza, *DPA Digital Digest: Brazil* (May 2023) (Sep. 2, 2023), available at <https://digitalpolicyalert.org/digest/dpa-digital-digest-brazil>.

2.3. India

India is an interesting example of a country that started implementing the OECD approaches to the taxation of the digital economy very early on. The approaches adopted by Indian projects have corresponded with the recommendations in the Base Erosion and Profit Shifting (BEPS) Action 1 Final Report.²¹ However, this implementation may not be recognized as successful in all areas.

In 2016, India introduced an equalization levy that applies exclusively to online advertising.²² This was represented as a tax on payments made to non-residents digital service providers for rendering specified services, distinct from the traditional tax on income, outside the scope of Indian double tax treaties, and levied on the gross amount paid for digital transactions.²³ The need for such a levy arose due to a significant number of decisions of the Income Tax Tribunal as well as other High Courts going in favor of the taxpayer and depriving the government of its necessary revenue.²⁴

Since 1 April 2020, international e-commerce operators are required to pay an equalization tax on sales of products and services.²⁵ The scope of application of the equalization levy rules has been expanded to include the sale of goods and services in the field of e-commerce provided by non-resident operators to Indian customers.

Scholars point out that there are perhaps two nuances where the 2020 equalization levy differs from the 2016 one, which has led the 2020 equalization levy to be dubbed controversial and invited the scrutiny of the United States. First, the scope of the 2020 equalization levy is not subject-specific and extends to all classes of supplies, unlike the 2016 equalization levy, which applies only to digital advertisements. Second, the 2020 EQL is a direct liability on the non-residents digital service providers, who themselves must discharge it and undertake compliance, unlike the 2016 equalization levy, for which compliance is the responsibility of the Indian resident service receiver.²⁶

In 2019, another specific concept, referred to as “significant economic presence,” was introduced into the tax legislation of India. However, the Government of India postponed its implementation, stating that there were no effective mechanisms in the country’s international tax agreements for doing so.

²¹ OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 – 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project (October 2015) (Sep. 2, 2023), available at: doi.org/10.1787/9789264241046-en.

²² The Finance Act, 2016, No. 28 of 2016.

²³ Mukesh Butani & Tarun Jain, *United States’ 301 Findings on India’s Equalisation Levy – What Next?*, Kluwer International Tax Blog, 21 January 2021 (Sep. 2, 2023), available at <https://kluwertaxblog.com/2021/01/20/united-states-301-findings-on-indias-equalisation-levy-what-next/>.

²⁴ Sayan Basak, *Equalization Levy: A New Perspective of E-Commerce Taxation*, 44(11) Intertax 845 (2016).

²⁵ Chapter VI, Finance Act of India, 2020.

²⁶ Butani & Jain, *supra* note 23.

2.4. South Africa

In 2020, the African Tax Administration Forum (ATAF) released a Suggested Approach to Drafting Legislation on Digital Sales Tax Services (hereinafter, Suggested Approach).²⁷ Many ATAF members have reported difficulties in taxing highly digitalized businesses operating in their countries. Their economies are rapidly getting more digitalized, and this digitalization often enables MNEs to carry out business in African countries even when they have very little to no physical presence in those countries. This trend has increased due to the use of digitalized services necessitated by the COVID-19 pandemic, which led to the vast majority of MNEs with a physical presence in a country closing their physical premises and moving to online trading. This makes it difficult for countries to establish taxing rights over the profits the MNEs are making from those business activities.

The reason behind this trend is that the current international tax rules only allocate taxing rights to a country where a non-resident enterprise creates a sufficient physical presence in that country, sometimes referred to as creating a “nexus” in that country. However, the business models of highly digitized businesses enable MNEs to carry out business in an African nation with very limited or no physical presence in that country, thus causing significant tax risk.

The Suggested Approach, which has been developed by the ATAF Secretariat and the ATAF’s Cross-border Taxation Technical Committee, will help African countries that are considering implementing a digital service tax (DST) to tax the transactions of highly digitalized businesses. It should be noted that some African countries, such as Kenya²⁸ and Nigeria,²⁹ have already enacted digital service tax laws and are in the process of putting those laws into effect. Additionally, several other African countries are considering this option. Hence, this Suggested Approach is intended to provide African countries with a suggested structure and content for their legislation and possibly the regulations. It also provides a framework that draws from the various DST legislation enacted in other jurisdictions, but which has been adapted to meet the specific challenges faced by African countries.

Acknowledging the necessity of ensuring that the DST does not negatively impact the growth of the digital sector in African countries, the Suggested Approach proposes that countries set *de minimis* thresholds to ensure that they only target large and profitable digital businesses. This approach, coupled with the setting up of modest rates of DST, will be crucial for the promotion of investment and growth in the digital economy in Africa.

²⁷ Republic of Kenya, The Finance Bill 2020, Kenya Gazette Supplement No. 66 (National Assembly Bills No. 10), Nairobi, 5 May 2020 (Sep. 2, 2023), available at http://www.parliament.go.ke/sites/default/files/2020-05/Finance%20Bill%2C%202020_compressed.pdf.

²⁸ *Id.*

²⁹ Nigeria to Prioritise Taxes from Digital Non-Resident Firms in 2022, Reuters, 21 January 2022 (Sep. 2, 2023), available at <https://www.reuters.com/world/africa/nigeria-prioritise-taxes-digital-non-resident-firms-2022-2022-01-20/>.

As previously mentioned, the ATAF welcomed the OECD's tax reform, but it also expressed reservations about the effectiveness of the proposed provisions for Africa.

Even though the South African Tax Service has indicated its intention to join the OECD initiatives, it has concerns that the OECD approach will not benefit South Africa as a developing country.

In South Africa, VAT is applied to electronic services. The amendments to the VAT Law in 2019 came into force with the objective of establishing regulatory measures for cross-border online trading of digital goods.³⁰ It should be noted that VAT legislation does not distinguish between B2B and B2C e-commerce operations.

3. Tax Incentives for IT Companies

Investment in research and development (R&D) is a key factor driving innovation and economic growth. Governments across the world adopt various financial support instruments to promote R&D by businesses and increasingly rely on tax incentives to incentivize commercial R&D investment for businesses.³¹ These incentives are used as mechanisms of economic induction to stimulate specific branches of industry, such as IT development. Approaches to R&D, IT, or other types of incentives eligible for tax relief differ across jurisdictions. For instance, tax incentives in China cover a wide range of innovative development, including high-tech companies and products, R&D expenses, accelerated depreciation of fixed assets, the import of high-tech equipment, technology transfer, expenses for the wages of expert and technical personnel, modernization of production, etc. However, the main method used by the Chinese government to implement its policy of tax benefits is to reduce the tax rate that is applied to the profits of enterprises.³²

3.1. Tax Incentives for IT Companies in Brazil

In Brazil, the Law 11.196/05, also known as the Lei do Bem,³³ establishes the granting of tax incentives to legal entities that carry out research, development, and technological innovation. The Brazilian approach to digital taxation is aimed at encouraging the development of information technology products, as well as investments in innovation by the private sector. As a result of this policy of stimulating IT production via tax incentives, companies should invest in RD&I activities. In this

³⁰ Value-Added Tax Act 89 of 1991 in Government Notice 429 of 18 March 2019.

³¹ OECD R&D tax incentives database, 2021 edition, Work Package 1: Information and Indicators of Tax Relief for Business R&D Expenditures, 9 December 2021 (Sep. 2, 2023), available at <https://www.oecd.org/sti/rd-tax-stats-database.pdf>.

³² Karina A. Ponomareva, *Investment Tax Benefits in China: Special Features of Legal Regulation and Comparative Analysis with Russian Practices*, 6(3) *Pravoprimenenie*, Law Enforcement R. 83 (2022).

³³ Lei. No. 11.196, de 21 de novembro de 2005, conhecida como Lei do Bem, em seu Capítulo III, regulamentada pelo Decreto no. 5.798, de 7 de Junho de 2006.

case, the reduction of the tax burden is made possible through IPI exemptions and financial credits.

Law 13,023/2014³⁴ made changes to the Information Technology Law 8,248/1991 (Lei de Informática),³⁵ which regulates the level of competitiveness in this business sector. The main tax changes enacted by this law are as follows:

- The reduction of 80% of the tax on industrialized products (Imposto sobre Produtos Industrializados, IPI) due, originally granted by Information Technology Law 8,248/1991 and effective until 31 December 2014, available for entities developing or providing information technology goods or services and investing in related research and development, is extended to 31 December 2029, as follows:

- from 1 January 2004 to 31 December 2024: a reduction of 80% of the IPI due;
- from 1 January 2025 to 31 December 2026: a reduction of 75% of the IPI due;

and

- from 1 January 2027 to 31 December 2029: a reduction of 70% of the IPI due.

- Certain goods (for e.g. portable computers and magnetic disk drives) are, however, subject to different reductions, as follows:

- from 1 January 2004 to 31 December 2024: a reduction of 95% of the IPI due;
- from 1 January 2025 to 31 December 2026: a reduction of 90% of the IPI due;

and

- from 1 January 2027 to 31 December 2029: a reduction of 70% of the IPI due.

- Creation of a new reduction of the IPI due in respect of information technology goods (with the exception of the listed goods, which are subject to a differentiated reduction) produced in the regions of Center-West (Centro-Oeste), SUDAM and SUDENE in Brazil, as follows:

- from 1 January 2004 to 31 December 2024: a reduction of 95% of the IPI due;
- from 1 January 2025 to 31 December 2026: a reduction of 90% of the IPI due;

and

- from 1 January 2027 to 31 December 2029: a reduction of 85% of the IPI due.

- Goods developed in Brazil and included in the category of information technology and automation goods according to Information Technology Law 8,248/1991 benefit from a reduction of the IPI as follows:

- from 15 December 2010 to 31 December 2024: a reduction of 100% of the IPI due;

- from 1 January 2025 to 31 December 2026: a reduction of 95% of the IPI due;

and

- from 1 January 2027 to 31 December 2029: a reduction of 90% of the IPI due.

- For entities to enjoy the tax benefits granted by Information Technology Law 8,248/1991, the condition of investing annually at least 5% of the entity's turnover in

³⁴ Lei No. 13.023, de 8 agosto de 2014.

³⁵ Lei No. 8.248, de 23 de outubro de 1991.

research and development related to information technology activities undertaken in Brazil is imposed.³⁶

This legal provision was partially revoked more recently by Law 13,969/2019, which provided for the Industrial Policy for the information technology and communication sectors and the semiconductor sectors. Nevertheless, in this last normative act, the Federal Government maintained the tax incentive policy by granting financial credits both in the CSLL (Social Contribution on Net Profit) and in the IRPJ (Corporate Income Tax), without prejudice to the fact that they may be offset against tax debts managed by the Special Federal Revenue Service of Brazil or that they may be reimbursed in kind, following an act of the Executive Branch. Parallel to all these incentives granted by the Union, the states and municipalities can also grant tax incentives aimed at innovation and technological development locally.³⁷

3.2. Tax Incentives for IT Companies in Russia

Since 2021, Russian IT companies have been stimulated by enhanced tax incentives, which allow them to pay corporate income tax only to the federal budget as well as pay social security contributions at a heavily reduced rate.³⁸

This initiative, or tax maneuver in the IT industry, assumed, in particular, a reduction in tax rates from 1 January 2021 for Russian organizations operating in the field of IT and meeting certain requirements, including the share of income from core activities and the number of employees; the income tax rate was reduced from 20% to 3%; and insurance premium rates were reduced from 14% to 7.6% (para. 1.15 of Art. 284, subpara. 1.1 of para. 2 of Art. 427 of the Tax Code of the Russian Federation as amended by Federal Law No. 265-FZ of 31 July 2020).³⁹

In 2022, the list of support measures provided to IT industry participants has been expanded on the basis of Decree of the President of the Russian Federation No. 83 of 2 March 2022 “On Measures to Ensure Accelerated Development of the Information Technology Industry in the Russian Federation.”⁴⁰

³⁶ IBFD Tax Research Platform, *Brazil-Changes to Tax Benefits related to R&D and Information Technology Implemented* (Sep. 2, 2023), available at https://research.ibfd.org/#/doc?url=/data/tns/docs/html/tns_2014-08-13_br_3.html.

³⁷ Gésio de Lima Veras et al., *Technological Innovation, Tax Incentives and Economic Efficiency in the Brazilian Scenario: Analysis of the Case of the State of Piauí*, 10(4) Int'l Innovation Edu. & Res. 170 (2022).

³⁸ Vladimir V. Gromov, *Features and Problems of Tax Incentives for Small Software Companies in Russia*, 14(1) Fin. J. 9 (2022).

³⁹ Налоговый кодекс Российской Федерации, часть вторая от 5 августа 2000 г. № 117-ФЗ // Собрание законодательства РФ. 2000. № 32. Ст. 3340 [Tax Code of the Russian Federation, Part Two, No. 117-FZ of 5 August 2000, Legislation Bulletin of the Russian Federation, 2000, No. 32, Art. 3340].

⁴⁰ Указ Президента Российской Федерации от 2 марта 2022 г. № 83 «О мерах по обеспечению ускоренного развития отрасли информационных технологий в Российской Федерации» // Официальный портал правовой информации [Decree of the President of the Russian Federation No. 83 of 2 March 2022. On Measures to Ensure the Accelerated Development of the Information Technology Industry in the Russian Federation, Official Portal of Legal Information] (Sep. 2, 2023), available at pravo.gov.ru.

The tax support measures introduced by the Decree include the introduction of a zero percent corporate tax rate for IT companies holding a state accreditation certificate that will apply until 31 December 2024.

The Decree also exempts qualifying IT companies from certain taxes, currency regulations, and other forms of state and municipal control for a period not exceeding three years.

According to the Decree, the list of IT companies enjoying the tax incentives is extended to those generating revenues from the following activities:

- advertising dissemination and placement activities;
- provision of additional services with the use of applications and online solutions;
- distribution, installation, testing, and maintenance of Russian IT solutions.

The qualifying IT companies must be accredited with the Ministry of Digital Development, Communications, and Mass Media. To be eligible for accreditation, a company must be incorporated in Russia with relevant codes of economic activities and carry out the following activities in the field of IT:

- developing and implementing software and databases on physical media or in electronic form, regardless of the type of contract; or
- providing services (i.e. performing work) for the adaptation, modification, installation, testing, and maintenance of software and databases.

Besides, qualifying IT companies are exempt from control and supervisory measures for 2022–2024, with the exception of preventive measures (Art. 26.4 of Federal Law No. 294-FZ of 26 December 2008,⁴¹ Decree of the Government of the Russian Federation No. 448 of 24 March 2022⁴²). In addition, field tax audits of such organizations have been suspended until 3 March 2025 inclusive (Letter of the Ministry of Finance of the Russian Federation of 18 March 2022 No. 03-02-06/21331⁴³ and Letter of the Federal Tax Service of Russia dated 24 March 2022 No. SD-4-2/3586@).⁴⁴

⁴¹ Федеральный закон от 26 декабря 2008 г. № 294-ФЗ «О защите прав юридических лиц и индивидуальных предпринимателей при осуществлении государственного контроля (надзора) и муниципального контроля» // Собрание законодательства РФ. 2008. № 52 (ч. I). Ст. 6249 [Federal Law No. 294-FZ of 26 December 2008. On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the Exercise of State Control (Supervision) and Municipal Control, Legislation Bulletin of the Russian Federation, 2008, No. 52 (Part 1), Art. 6249].

⁴² Постановление Правительства РФ от 24 марта 2022 г. № 448 «Об особенностях осуществления государственного контроля (надзора), муниципального контроля в отношении аккредитованных организаций, осуществляющих деятельность в области информационных технологий, и о внесении изменений в некоторые акты Правительства Российской Федерации» // Собрание законодательства РФ. 2022. № 13. Ст. 2108 [Decree of the Government of the Russian Federation No. 448 of 24 March 2022. On the Specifics of the Implementation of State Control (Supervision), Municipal Control in Relation to Accredited Organizations Operating in the Field of Information Technology and On Amendments to Certain Acts of the Government of the Russian Federation, Legislation Bulletin of the Russian Federation, 2022, No. 13, Art. 2108].

⁴³ Письмо Минфина России от 18 марта 2022 г. № 03-02-06/21331 «О принятии мер, направленных на освобождение аккредитованных организаций от налогового контроля на срок до трех лет» [Letter of the Ministry of Finance of the Russian Federation No. 03-02-06/21331 of 18 March 2022. On Taking Measures Aimed at Exempting Accredited Organizations from Tax Control for up to Three Years].

⁴⁴ Письмо ФНС России от 24 марта 2022 г. № СД-4-2/3586@ «О назначении ВНП в отношении аккредитованных IT-организаций» [Letter of the Federal Tax Service of Russia No. SD-4-2/3586@ of 24 March 2022. On the Appointment of Field Tax Audits in Relation to Accredited IT Organizations].

However, there are problems that may arise for IT companies when applying for state accreditation. In 2022, Federal Law No. 67-FZ of 26 March 2022⁴⁵ established that the income tax rate for Russian IT companies that meet certain criteria for the tax periods of 2022–2024 will be levied at 0% (instead of 3%).

Since 14 July 2022, the requirements for accredited organizations operating in the field of information technology that are exempt from paying income tax for three years have also changed, as stipulated in paragraph 1.15 of Article 284 of the Tax Code of the Russian Federation.

In addition, the condition on the minimum number of employees was eliminated; before the specified date, it was established that companies with an average number of employees in the corresponding tax period of at least seven people have the right to apply for a preferential income tax rate.

It has been established that the income derived from activities in the IT sector, which is taken into account when determining the tax base, should constitute a minimum of 70% of the organization's total income for the reporting period, rather than the previously established threshold of 90%.

The list of income recognized as income from core activities for the purposes of applying the zero-income tax rate has been adjusted (para. 1.15 of Art. 284 of the Tax Code of the Russian Federation). At the same time, it is worth paying special attention to several points.

The Tax Code now contains definitions of such concepts as proprietary and custom computer programs and databases. According to paragraph 1.15 of Article 284 of the Tax Code of the Russian Federation, the term "own computer programs and databases" refer to programs and databases developed, adapted, and (or) modified by an organization or a person belonging to the same group of persons as the organization. In turn, a person who is directly involved in a taxpayer organization or in which this organization is directly involved is recognized as being in the same group as a taxpayer organization. Also included in the same group are organizations in which a third party is directly involved, that is, sister companies. The share of participation in all these cases should be more than 50%.

Income from the sale of copies of "own programs and databases," from the transfer of exclusive rights to those programs and databases to the granting of usage rights, including remote access, is recognized as core income.

Income from the performance of work or the provision of services for the development, adaptation, and modification of computer programs, and databases,

⁴⁵ Федеральный закон от 26 марта 2022 г. № 67-ФЗ «О внесении изменений в части первую и вторую Налогового кодекса Российской Федерации и статью 2 Федерального закона «О внесении изменений в часть вторую Налогового кодекса Российской Федерации» // Собрание законодательства РФ. 2022. № 13. Ст. 1956 [Federal Law No. 67-FZ of 26 March 2022. On Amendments to Parts One and Two of the Tax Code of the Russian Federation and Article 2 of the Federal Law, On Amendments to Part Two of the Tax Code of the Russian Federation, Legislation Bulletin of the Russian Federation, 2022, No. 13, Art. 1956].

as well as the resulting programs and databases, is considered customized income in accordance with Article 284 of the Tax Code of the Russian Federation.

Gromov sums up all of the reasons that explain the need for a tax maneuver as follows: stimulating the export of Russian software, increasing domestic demand for such software, increasing the number of domestic IT companies with the expansion of the industry itself, increasing the competitiveness of the tax system and the investment attractiveness of the country, addressing the problem of “brain drain” by returning qualified specialists to Russia, facilitating structural transformations of the economy, implementing anti-crisis policy started during the pandemic against the background of restrictive economic measures, compensating for the lack of tax benefits, and preventing the decline of the industry.⁴⁶

The development of the IT industry necessitates the strengthening of several state-supported measures for IT companies. Investments in the IT industry will help increase the competitiveness of Russian IT products and services in both domestic and foreign markets. It is very important that the proposed tax incentive measures contribute to the development of the industry and ensure its continued growth and expansion, which will create the prerequisites for the development of digitalization in other sectors of the Russian economy.

Conclusion

Thus, the development of a digital economy leads to various issues, such as an increased dependence of the digital economy on data, network effects, the spread of multilateral business models, the tendency towards monopoly or oligopoly, and volatility. There are also problems with logistics in the era of the digital economy because of an increase in the number of cross-border movements of goods, services, and labor, as well as a rise in the number of economic agents working in the system. Such growth creates a significant burden on the tax authorities and may reduce the effectiveness of the application of tax legislation.

The key risk associated with the introduction of a Russian unilateral tax in the conditions of its coexistence with Pillar 1 is that such a tax could lead to significant barriers for business. At the same time, the problem of eliminating double taxation will not be solved, since the Russian tax will not be accepted for offset by the countries participating in the mechanism of the first component of the OECD due to the incompatibility of the two systems.

We propose the idea of developing a mutually beneficial system of international cooperation with Russia in the field of taxation with the maximum number of countries, including other developing countries as well as the BRICS countries. The analysis of experiences of the BRICS countries shows that they use different

⁴⁶ Vladimir V. Gromov, *Favorable Tax Treatment of Russian Software Companies and its Evolution from the Choice of Preferences to the Tax Maneuver in the IT Industry*, 14(3) Financial J. 11 (2022).

approaches to regulating the taxation of their economies; however, each of these countries follows its own interests in protecting its national fiscal base, or, in other words, ensuring the tax security of the state.

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COMMENTS

A STUDY OF THE AVAILABILITY AND DEMAND OF DIGITAL SERVICES FOR THE MANIFESTATION OF SOCIAL AND POLITICAL ACTIVITY BY CITIZENS

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In recent decades, scientists have been discussing ways of involving the population in social and political processes. Terms such as “civic participation,” “civic control,” “participation in the government of the power-poor,” etc. are widely used in scholarly discourse on this subject. The research related to social and political activities is conducted within various thematic areas based on “political participation theory” and “participatory democracy theory,” as well as on “theories of economic and digital inequalities.” According to the vast majority of scientists, increasing digitalization is known to expand the forms of participation and transform the public administration at all levels concerning joint governance and a citizen-centric approach, taking into consideration the opinion and active participation of citizens in the production and execution of policy decisions. This article presents the results of a study that investigated whether modern digital services allow citizens to participate in and influence the social and political processes taking place at various levels of government. In addition, the study demonstrates how modern digital technologies promote the maximum participation of the most socially vulnerable categories of the population, as well as how such factors as the level of digital competence, the level of income of the population, and the level of digitalization of territories limit this participation. In order to assess the modern digital forms and the use of these forms in a citizen's interaction with the authorities, a survey of 1,200 residents of villages and towns located in the south Tyumen Region was conducted. The ways in which the residents living in the towns and villages of the Tyumen Region were able to express their civic positions were determined and the proportion of citizens using digital technologies was noted. The study also assessed the availability and demand for digital technologies by citizens to express their social and political activities, as well as the primary

factors that limit their social and political participation. Moreover, this research showed that age, education, and digital competence and awareness were the main factors influencing a citizen's propensity to use modern digital technologies for social and political activity. The hypothesis that the demand for digital services by citizens living in remote districts should be higher than that of urban residents was not confirmed. On the contrary, for a wide range of services, the assessments of demand and accessibility are higher among the residents of cities than among the residents of rural municipal districts, with the highest assessments coming from the residents of the regional capital. This fact is associated with a higher level of digital competence among citizens, a higher level of digitalization of the regional capital, as well as a higher level of income, which allows them to more actively master and use all these services. Additionally, this article is addressed to researchers interested in various aspects of social and political participation, as well as to politicians who make decisions regarding the development and implementation of new forms of digital interaction between citizens and the authorities that enable citizens to demonstrate their civic position.

Keywords: smart technologies; smart services; interaction between the state and citizens; civil initiatives; active citizenship; social activity of citizens; civic position; involvement of citizens in socio-political processes.

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Introduction

For several decades, there has been a debate in the scientific community about the ways in which people can be involved in social and political processes at different levels. The scientists actively discuss the issues of “civic participation,” civil control, and “the maximum possible participation of the power-poor, the most socially vulnerable segments of the population.”¹ At the same time, modern democracy, under the influence of scientific and technological progress and digitalization, is characterized by a constant expansion of available forms of citizen participation in social and political processes. In turn, the expansion of the different forms of participation requires updating the

¹ Sherry R. Arnstein, *A Ladder of Citizen Participation*, 35(4) J. Am. Plan. Ass'n 216 (1969).

existing theories of citizen participation. Digital technologies enable citizens to express their wants, desires, and needs to modify the current management system. On the other hand, new forms of participation related to “smart” technologies are so diverse that researchers do not always have the opportunity to recognize them at a glance. The social and political processes taking place in society require the conceptualization of these new forms of social and political participation.

Today, research on various aspects of social and political participation of the population is conducted within the framework of various thematic areas, such as, “theories of political participation” and “theories of social and political activity of citizens,” “digitalization of the economy and public administration,” “problems of poverty and the fight against social and economic and digital inequality of the population,” etc. According to a report by the World Bank,² the world is experiencing the greatest revolution in the field of information and communication technology (ICT), and historical data show that the poorest households are in fact more likely to have access to mobile phones and the Internet than to toilets or clean water. The use of ICTs have the potential make the process of information transfer faster, easier, and cheaper, making them an important tool for economic, social, and political activity.³ “Smart” technologies combined with the theory of participatory democracy have been continued within the framework of the “smart city” concept. According to a large majority of researchers, increasing digitalization transforms the system of public administration at all levels in the direction of joint management, forming a citizen-centric approach involving citizens in the production and execution of political decisions in smart cities.

Nevertheless, the most important questions that need to be answered today are the following:

1. Will modern technologies provide citizens with the opportunity for “real” participation in social, economic, and political processes, or will the use of technology remains an “empty ritual” that does not give any real opportunity to influence the social and political processes taking place at the level of cities and villages?

2. Will smart technologies contribute to the maximum possible participation of the most socially vulnerable categories of the population or, on the contrary, will these technologies lead to an increase in the digital inequality of the population?

We suppose that the use of smart technologies as a tool for involving citizens in social and political processes has a number of significant limitations that prevent the expected effects from materializing. These limitations are associated with a low level of digitalization in certain regions, territories, and settlements, as well as an insufficient level of digital competence among certain groups of the population along with the predetermined results of using those technologies. All of these factors together lead to insufficient involvement of the population in the management and resolution of social and political issues in both cities and villages. This difference

² World Bank, *World Development Report 2016: Digital Divides* (2016) (Jul. 15, 2023), available at <https://www.worldbank.org/en/publication/wdr2016>.

³ Yong Hwan Noh & Kyeongwon Yoo, *Internet, Inequality and Growth*, 30(6) J. Pol’y Modeling 1005 (2008).

becomes even more apparent when comparing the availability of smart technologies and the opportunities for their use by residents of cities, towns, and villages.

This article aims to conduct a comparative analysis concerning the demand and accessibility of modern digital services for the population of villages and cities located in the south Tyumen Region as a tool for participation in social and political activity.

The theoretical basis of this study is closely related to the theories of political participation,^{4,5,6,7,8} the analysis of which allows us to identify the criteria for assessing the social and political participation and activity of citizens.

The methodology of this study is also based on research into the factors and roles of e-participation and e-government in the development of democracy^{9,10,11,12,13} (conducted by Russian authors L.A. Vidyasova and Ya.D. Tensina), as well as the study related to the differences in political participation and the level of trust of citizens towards the authorities of cities and villages.^{14,15,16,17,18,19,20}

⁴ Joakim Ekman & Erik Amnå, *Political Participation and Civic Engagement: Towards a New Typology*, 22(3) Hum. Aff. 283 (2012).

⁵ Stuart Fox, *Is It Time to Update the Definition of Political Participation?*, 67(2) Parliamentary Aff. 495 (2014).

⁶ Geraint Parry et al., *Political Participation and Democracy in Britain* (1992).

⁷ Sidney Verba & Norman H. Nie, *Participation in America Political Democracy and Social Equality* (1972).

⁸ Charles Pattie et al., *Citizenship in Britain: Values, Participation and Democracy* (2004).

⁹ Filipe Campante et al., *Politics 2.0: The Multifaceted Effect of Broadband Internet on Political Participation*, 16(4) J. Eur. Econ. Ass'n 1094 (2018).

¹⁰ Lucia Vesnic-Alujevic, *Political Participation and Web 2.0 in Europe: A Case Study of Facebook*, 38(3) Pub. Rel. Rev. 466 (2012).

¹¹ Jennifer Oser et al., *Is Online Participation Distinct from Offline Participation? A Latent Class Analysis of Participation Types and Their Stratification*, 66(1) Pol. Res. Q. 91 (2013); Verba & Nie 1972.

¹² Doina Stratu-Strelet et al., *Critical Factors in the Institutionalization of E-Participation in e-Government in Europe: Technology or Leadership?*, 164 Technological Forecasting & Soc. Change (Article 120489) (2021).

¹³ Evgenii Vidiyasov et al., *Institutional Factors for Building Trust in Information Technologies: Case-Study of Saint Petersburg*, in Daniel A. Alexandrov et al. (eds.), *Digital Transformation and Global Society*, DTGS 2021, Communications in Computer and Information Science 152 (2022).

¹⁴ Alex Afouxenidis, *Social Media and Political Participation: An Investigation of Small-Scale Activism in Greece*, 4(1) Advances in Applied Soc. 1 (2014).

¹⁵ Saman Arshad & Sobia Khurram, *Survey Dataset on Citizens' Perspective Regarding Government's Use of Social Media for Provision of Quality Information and Citizens Online Political Participation in Pakistan*, 32 Data in Brief (Article 106311) (2020).

¹⁶ Maria Chayinska et al., *A Longitudinal Study of the Bidirectional Causal Relationships Between Online Political Participation and Offline Collective Action*, 121 Computers in Hum. Behavior (Article 106810) (2021).

¹⁷ Frieder Mitsch et al., *Faith No More? The Divergence of Political Trust Between Urban and Rural Europe*, 89 Pol. Geography (Article 102426) (2021).

¹⁸ Oser et al. 2013.

¹⁹ Stratu-Strelet et al. 2021.

²⁰ Vesnic-Alujevic 2012.

Thus, this article will present the results of a study concerning the demand and availability of digital services as a tool for the participation in social and political activity of the residents living in the south Tyumen Region.

1. The Concept and Main Features of Social and Political Participation

Legal scientists around the world are particularly interested in the theory of political participation, which has been a popular object of study for many decades. One of the significant theories in this field is "Participation in America: Political Democracy and Social Equality" by S. Verba and N.H. Nie,²¹ in which the authors interpret the concept of "political participation." According to S. Verba and N.H. Nie, political participation includes "acts that aim at influencing the government, either by affecting the choice of government personnel or by affecting the choices made by government personnel."²² The authors believe that citizens can participate in politics not only by voting, joining a political party, or participating in an election campaign but also through contacts with government officials and joint or public activities. Furthermore, S. Verba and N.H. Nie take a narrow view of participation and make it clear that they are not interested in or supportive of ceremonials or forms of participation that include marching in parades, developing different projects, or taking part in youth groups sponsored by the government.²³ A similar approach to the definition of political participation has been followed by many other authors.^{24,25}

More recent definitions of political participation have thus tended to be wider in scope. Parry et al.²⁶ or Patti et al.²⁷ for example, in contrast to Verba and Nie,²⁸ emphasize that participation in political life does not necessarily have to be directed to governments; it can also be aimed at various institutions and organizations. Thus, political participation can influence both the policymaking process as well as the services provided by the state, including social services.^{29,30} The author,

²¹ Verba & Nie 1972, at 2.

²² *Id.*

²³ Verba & Nie 1972.

²⁴ Lester W. Milbrath & Madan L. Goel, *Political Participation: How and Why People Get Involved in Politics* (1977).

²⁵ Max Kaase & Alan Marsh, *Political Action: A Theoretical Perspective*, in Samuel H. Barnes et al., *Political Action: Mass Participation in Five Western Democracies* 27 (1979).

²⁶ Parry et al. 1992.

²⁷ Patti et al. 2004.

²⁸ Verba & Nie 1972.

²⁹ Fox 2014.

³⁰ Yannis Theocharis & Jan W. van Deth, *The Continuous Expansion of Citizen Participation: A New Taxonomy*, 10(1) European Pol. Sci. Rev. 139 (2016).

Van Deth,³¹ points out that the forms of political participation have changed and expanded significantly over the past few decades. Participation in political life gradually became relevant in areas that were previously considered to be private, social, or economic.³² The boundaries between political and civic participation began to be blurred.³³ At present, it is quite difficult to draw a clear line between the political and non-political participation of citizens since citizens often express their political views through non-political behavior. Besides, political participation has now become possible, both in institutionalized and non-institutionalized forms.

As a result of the development of digital technologies, various authors have proposed numerous definitions concerning political participation. In general, these definitions describe political participation as

any aspects of social activity that are either intended to directly influence on state bodies and the political process, or indirectly influence on civil society, or try to change systematic patterns of behavior in social life.³⁴

However, Van Deth also considers political participation to have a broader context, which the author defines as any activity of citizens that influences politics,³⁵ including the following:

- traditional forms of participation (such as, voting, party membership, and election campaigning);
- non-traditional forms of participation aimed at influencing political actors (such as, protests and political activism, including the Internet, etc.);
- activities aimed at solving specific community problems (for e.g. civic activism and volunteering);
- forms of participation that are based on individual motives (for e.g. political expression of one's views).

The majority of scientists agree that political participation is a key element of democratic systems because it establishes a link between the public and the political elite in the above-mentioned author's study, investigates the interactions between citizens and political elites, clarifies the concept of political participation to be observable, obvious, and voluntary, as well as directed towards governments, institutions, organizations, or other non-governmental political organizations.³⁶

³¹ Jan W. van Deth, *A Conceptual Map of Political Participation*, 49(3) *Acta Politica* 349 (2014).

³² *Id.* at 350.

³³ *Id.* at 351.

³⁴ Pippa Norris, *Democratic Phoenix: Reinventing Political Activism* 16 (2002).

³⁵ Van Deth 2014.

³⁶ Maria T. Grasso, *Generations, Political Participation and Social Change in Western Europe* 272 (2021) (Jul. 15, 2023), available at https://books.google.com/books/about/Generations_Political_Participation_and.html?id=Z80etAEACAAJ.

Nowadays, individualized models of participation in social and political processes are the result of the development of ICT technologies, which include online forms of participation that require special attention and research. At the same time, there are plenty of problems regarding the political identification of these online forms of social and political participation of citizens. In this regard, the methodology and results of the study by Theocharis and Van Det are of great interest as they present a new approach to the study of the identification as well as the classification of new forms of digital political participation.³⁷

Nevertheless, the scientific community continues to debate the role and significance of online forms of political participation. Some researchers claim that online forms create only the illusion of participation.³⁸ For example, P. Cardullo and R. Kitchin,³⁹ in their research on smart cities argue that although citizens' participation through smart technologies is potentially diverse, it is frequently framed in a post-political way, providing feedback, negotiations, participation, and creation but in an instrumental, not regulatory, or political framework.^{40,41} The government has absolute power and its activities are protected by law, while citizens are simply invited to "participate," or, to put it another way, citizens are encouraged and even invited to help the authorities find solutions to practical issues related to certain aspects of the development of the city, but not to challenge or replace the fundamental political foundations that form the problem or development plan.^{42,43,44,45} In contrast, the majority of citizens in a smart city are "empowered" by technology and are seen as consumers or testers of these technologies, as well as a source of data that can be turned into a product for decision-makers. Citizens are regarded as people who can and should be guided, controlled, and pushed into taking certain actions, i.e. citizens should act within the framework of expected and acceptable behavior yet not violate social and political norms or resist them.

³⁷ Theocharis & Van Deth 2016.

³⁸ Evgeny Morozov, *From Slacktivism to Activism*, Foreign Policy, 5 September 2009 (Jul. 15, 2023), available at <http://foreignpolicy.com/2009/09/05/from-slacktivism-to-activism/>.

³⁹ Paolo Cardullo & Rob Kitchin, *Being a 'Citizen' in the Smart City: Up and Down the Scaffold of Smart Citizen Participation in Dublin, Ireland*, 84(1) GeoJournal 1 (2019).

⁴⁰ Paolo Cardullo, *Citizens in the 'Smart City': Participation, Co-production, Governance* 174 (2020).

⁴¹ Cardullo & Kitchin 2019.

⁴² Andrea Cornwall, *Unpacking 'Participation' Models, Meanings and Practices*, 43(3) Community Dev. J. 269 (2008).

⁴³ Judy B. Rosener, *Citizen Participation: Can We Measure its Effectiveness?*, 38(5) Pub. Admin. Rev. 457 (1978).

⁴⁴ Judy B. Rosener, *User-Oriented Evaluation: A New Way to View Citizen Participation*, 17(4) J. Applied Behav. Sci. 583 (1981).

⁴⁵ Eran Vigoda, *From Responsiveness to Collaboration: Governance, Citizens, and the Next Generation of Public Administration*, 62(5) Pub. Admin. Rev. 527 (2002).

Another group of researchers proves that online participation is a significant and effective form of expressing one's civic position as well as influencing government actions.^{46/47/48/49} In general, a great number of works exploring the role of various modern information and communication technologies are presented in the scientific literature today.⁵⁰ These works are used by the city government to formulate and implement policies. Various platform solutions, official pages of authorities in social networks, websites of the administration of districts, regions, districts, and municipalities, which are used for complaints and appeals, voting, putting forward initiatives, polls, voting, etc., are considered to be the main tools of participation. Most of the presented technologies can be used by the population to participate in urban social and political processes. According to Pereira's research, modern technologies and social networks have the potential to be factors that can both increase the involvement of citizens and stimulate the development of new management models for the government.⁵¹

Additionally, the authors, Hu⁵² and Boyd⁵³ argue that participation in social and political processes through the use of modern technologies promotes public engagement, boosts the abilities and activity of citizens, and raises the level of democracy, the quality, and the acceptability of decisions taken by the government. ICT-based tools can mediate, expand, and transform participation in democratic and consultative public processes.⁵⁴

Thus, from the viewpoint of several authors, participation through digital technologies can be considered a full-fledged form of political participation since it fully meets all of the criteria of political participation.⁵⁵ Participation may be deemed political if it corresponds to the five main characteristics that are included in the broad interpretation of political participation. These characteristics include the following:

⁴⁶ José R. Gil-García et al., *What Makes a City Smart? Identifying Core Components and Proposing an Integrative and Comprehensive Conceptualization*, 20(1) *Info. Polity* 61 (2015).

⁴⁷ *Id.*

⁴⁸ Anthony Simonofski et al., *Citizen Participation in Smart Cities: Evaluation Framework Proposal*, Paper presented at 19th IEEE Conference on Business Informatics, Thessaloniki, Greece (2017), at 227–36 (Jul. 15, 2023), available at <https://ieeexplore.ieee.org/document/8010726>.

⁴⁹ Gabriela V. Pereira et al., *Smart Governance in the Context of Smart Cities: A Literature Review*, 23(2) *Info. Polity* 143 (2018).

⁵⁰ José R. Gil-García et al., *Conceptualizing Smartness in Government: An Integrative and Multidimensional View*, 33(3) *Gov't Info. Q.* 524 (2016).

⁵¹ Pereira et al. 2018.

⁵² Guangwei Hu et al., *A Hierarchical Model of e-Government Service Capability: An Empirical Analysis*, 29(4) *Gov't Info. Q.* 564 (2012).

⁵³ Ovid P. Boyd, *Differences in eDemocracy Parties' eParticipation Systems*, 13(3,4) *Info. Polity* 167 (2008).

⁵⁴ Øystein Sæbø et al., *The Shape of eParticipation: Characterizing an Emerging Research Area*, 25(3) *Gov't Info. Q.* 400 (2008).

⁵⁵ Theocharis & Van Deth 2016.

1. It is carried out voluntarily and not by coercion, by order of the ruling class, or by law.
2. It is carried out by non-professional politicians.
3. It is concerned with the actions or activities of the government, politics, and states.
4. It is aimed at solving specific problems in the community.
5. Its participants indicate the political nature of their actions as a motive.⁵⁶

Our research analyzed the recognized forms of political participation based on these five characteristics, assuming the use of modern digital technologies to express a citizen's civic position and solve various social and political problems.

Furthermore, we assessed the demand and awareness of digital technologies and services for involving citizens in social and political processes in the context of two aspects characterizing the social and political activity of residents of the Tyumen Region: their demand and accessibility (assessed in terms of using various activities to interact with government representatives through electronic portals, electronic appeals, electronic voting, receiving electronic services, etc.).

Using a questionnaire, the conducted research aimed to identify differences in the perception of "smart" socio-political services held by the population of villages, towns, and cities located in the southern portion of the Tyumen Region.

This questionnaire-based survey was administered to the residents of Tyumen Region online during June–August 2021, using the SurveyMonkey service. The object of the study was residents aged 18 and over living in towns and municipalities located in the south Tyumen Region. A total of 1,200 residents were interviewed. The sample (based on randomization) is representative of the population across the southern portion of the region in terms of gender, age, and place of residence (Tyumen City, other urban settlements in the south of the region, and rural municipal districts). Additionally, the sampling error does not exceed 3% for any one attribute.

The analysis of respondents' answers showed that 87% of respondents were politicians, 5% of them were active members of different political parties, and 8% of respondents were members of various parties, but this participation was not an active part of their daily lives. 86% of respondents also indicated that they were not members of any public organization, 7% of them noted that they were active members of public organizations, and 7% of respondents indicated that they were members of a public organization but did not actively participate in the activities of that organization.

In addition, 73% of respondents were considered to be digitally competent on average. At the same time, 39% of respondents indicated that they had an average level of digital competence, 29% of them had a basic level, 26% of them had an advanced level, and 6% of respondents stated that they had an even higher level of digital competence.

During the course of this study, the forms of interaction between citizens and authorities in a variety of settings were also investigated.

⁵⁶ Theocharis & Van Deth 2016, at 81.

2. Results

The results of the study related to the population's perception of smart technologies to express their civic positions and solve social problems, as well as the assessments of the accessibility of these smart technologies by the population, have been received and established.

The study revealed how residents throughout the southern parts of the Tyumen Region expressed their civic positions. At the same time, it was found that 40% of residents used digital technologies to express social and political activity. The share of residents who did not express their civic position was approximately 38%. It was determined that the use of digital services for political and social participation varied greatly depending on respondents' age, their digital competence, and place of residence (see Table 1).

**Table 1: Distribution of respondents to the question
“Which services do you most often use to express your civic position?,”
by place of residence and age, in %**

Place of residence	Age	Type of Service			
		Digital services	Personal meeting	I don't use either service	Use other ways
Tyumen City	18–29	51	10	38	1
	30–44	49	13	37	1
	45–59	38	16	46	0
	60 >	24	32	43	1
	The average of the sample	42	17	40	1
Other cities	18–29	45	18	37	0
	30–44	46	19	35	0
	45–59	40	23	36	1
	60 >	24	41	35	0
	The average of the sample	38	26	35	1
Rural areas	18–29 years old	52	23	25	0
	30–44 years old	49	18	35	1
	45–59 years old	39	28	33	1
	60 years and older	25	28	47	0
	The average of the sample	40	24	35	1
Total		40	21	38	1

Source: Author's elaboration

The data shown in the table above indicate that the proportion of residents in Tyumen City who do not want to express their civic position in any way is slightly higher than in other settlements of the region (40% as opposed to 35%, on average, respectively). It should also be noted that the residents of small towns and rural settlements are more likely to express their civic position through a personal reception or meeting with authorities (26% and 24%, respectively). This can partly be explained by the fact that in small settlements, more people know their elected officials personally as a result of the frequent interaction that takes place between the two parties when trying to solve problems in cases where there are no possibilities to use digital services.

The most significant feature was the differences in the expression of their civic position by the respondents of different ages. In all types of settlements, the proportion of respondents who use electronic resources to express their civic position decreases from younger age groups to older ones. In contrast, the proportion of respondents who prefer to use personal meetings to express their civic position increases from younger age groups to older ones. As for other ways of expressing a civic position, the respondents indicated personal calls and participation in rallies.

The analysis demonstrated a connection between citizens' information competence and the use of digital services for the manifestation of their social and political activities. The respondents who were evaluated as being more "information competent" indicated that they used electronic services more often to interact with the authorities (46%). Only 13% of the respondents who lacked information competency used digital services for political participation. Yet, 33% of respondents who could be considered "information competent" did not express their civic position in any way. In addition, 20% of information incompetent citizens used digital services, 24% of them preferred personal reception, and 61% of information incompetent citizens did not express their civic position at all.

The data obtained are confirmed by other studies.⁵⁷ It is considered that the level of information competence has significant effects on the extent of the use of digital services and platforms for the manifestation of social and political activity by citizens. In general, the existing form of electronic interaction between citizens and the authorities assumes an applicant-friendly procedure for citizens' appeals as well as its simplicity. According to Federal Law No. 59-FZ of 5 February 2006 "On the Procedure for Considering Appeals from Citizens of the Russian Federation," authorities and officials, depending on the essence of the appeal, are required to give either a positively or negatively motivated (justified) response or a motivated (justified) consultation. Furthermore, if the issue is not within the competence of this body, officials are obliged to forward the appeal to the appropriate body. As a result, citizens who have a high level of information competence have the capability to verify the information provided by the authorities and take certain actions to hold

⁵⁷ Ekaterina Rodionova et al., *Using Information Technology to Design Comfortable Furniture Based on Research of Seniors' Needs*, 9(11) *Int'l J. Open Info. Tech.* 75 (2021).

officials accountable in cases where they provide false information. If the applicant is not satisfied with the officials’ responses, a person with a high level of information competence can also use additional available forms for continuing interaction with the authorities. These forms of action can range from submitting a second appeal to discussing the content and form of the appeal or even the individual personality characteristics of the responding officials in the public information space. Thus, the accessibility of the appeal process and a high level of information competence allow a citizen to influence the decisions of the authorities or at least settle the problem. Moreover, citizens with a high level of information competence frequently express satisfaction and a desire to contact the authorities in the future.

According to the findings of this study, it has been determined that residents of the south Tyumen Region are more likely to address their local governments (45%) and regional authorities (18%) to express their civic position or solve existing problems (Fig. 1). The results demonstrate that the percentage of citizens from the Tyumen Region who applied to local authorities is approximately 2.5 times greater than the percentage of citizens who applied to regional ones. Similarly, the percentage of citizens who applied to federal authorities is 2.5 times greater than the percentage of citizens who applied to regional ones. This can be explained by the specifics of the issues that are resolved at various levels of government (For example, at the local level, issues of vital activity of the territory are defined by Articles 14–16 of Federal Law No. 131-FZ of 10 June 2003 “On General Principles of the Organization of Local Self-Government in the Russian Federation,” the majority of issues of social security of citizens are solved at the regional level; at the federal level, global political issues are defined by Articles 71 and 72 of the Constitution of the Russian Federation; and issues of both political and non-political nature are solved at the regional level).

A similar order of addresses is typical for European countries, as evidenced by part 3 of Article 4 of the European Charter of Local Self-Government which states that the exercise of state powers, as a rule, should primarily be entrusted to the authorities closest to citizens.

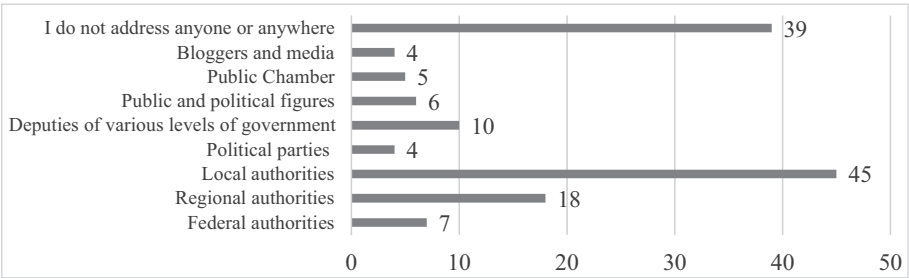


Fig. 1: The results of respondents’ answers to the questionnaire concerning their interactions with officials and governments to solve existing problems or manifest their civic position, in %

In addition, the data in Figure 1 shows that nearly 40% of respondents answered this question using the first option of “addressing no one or nowhere.” Only one in ten respondents indicate that they have appealed to deputies of different levels, while the proportion of respondents who have appealed to other instances is less than 10%.

Furthermore, the study into the perception of the digital services used by the citizens to manifest social and political activity revealed that the residents of the south Tyumen Region are familiar with these services and technologies, such as “Gosuslugi,”⁵⁸ a popular federal state information system (only 3% of respondents have never heard of it). The residents of the region in this study are also relatively familiar with the state authorities and official websites of municipalities (only 16% and 14% of respondents, respectively, have not heard about these websites). However, the citizens of Tyumen Region are less informed about petition sites and blogs of government representatives (40% and 32% of respondents, respectively have not heard about these services).

It should also be noted that there are differences in the responses regarding awareness of services among the residents of different types of settlements. In general, the inhabitants of the regional capital are more aware of the availability of numerous services than those of small towns and villages (Table 2).

**Table 2: Distribution of respondents’ answers to the question
“How well are you familiar with the presented technologies or services
for involving citizens in socio-political processes?,”
by place of residence, in %**

Services	Tyumen City				Other cities				Rural areas			
	I have not heard anything about this service,	I have heard about this service, but I have not used it	I used the service, but I did not like it (it is not convenient for me)	I used the service, and I am satisfied (convenient / useful)	I have not heard anything about this service	I have heard about this service, but I have not used it	I used the service, but I did not like it (it is not convenient for me)	I used the service, and I am satisfied (convenient / useful)	I have not heard anything about this service	I have heard about this service, but I did not use it	I used the service, but I did not like it (it is not convenient for me)	I used the service, and I am satisfied (convenient / useful)
Portal “Gosuslugi” (filing complaints, applications, proposals)	2	11	14	73	3	13	19	65	5	16	12	67

⁵⁸ Gosuslugi – Public Services Portal is a part of the infrastructure that provides data exchange and technological interaction between information systems used for rendering state and municipal services in electronic form.

Websites, portals of state (federal, regional) authorities / Website of the President of the Russian Federation	12	56	13	19	21	61	5	13	19	55	9	17
Official websites of municipalities	10	39	18	33	19	50	8	23	19	45	9	27
Blogs of government representatives	28	51	12	9	37	51	4	7	35	47	8	10
Official pages of authorities in social networks	21	56	12	11	29	55	5	11	30	48	6	16
Local communities on social networks	17	40	13	30	33	38	8	21	22	41	9	28
Pages of parties, deputies, public figures in social networks	24	59	9	8	30	59	5	6	34	50	8	8
Petition Sites change.org / Russian Public Initiative	28	44	11	17	47	36	6	11	37	45	7	11
Mobile applications for submitting citizens' appeals ("I decide"/"Active citizen"/"Tyumen is my city," etc.)	32	49	7	12	55	33	4	8	43	39	7	11

Source: compiled by the author based on data from a survey of residents of the south Tyumen Region

The data presented in Table 2 above show that the proportion of Tyumen residents who have never heard of these services listed is lower than among residents of other cities and rural settlements. This difference is especially significant with regard to the official websites of municipalities, petition sites, and mobile applications for submitting citizens' appeals; most of these resources are designed with city residents in mind. In part, the relative difference in the use of official urban websites by the residents of villages and small towns in the Tyumen Region can be explained in part by the fact that the official websites of rural settlements and small towns in this region are poorly designed and have insufficient content as well as inconvenient navigation, unlike the websites of the regional capital. In most cases, the rural sites provide only the latest news, the structure of government bodies, official documents, and contact details for citizens. Moreover, in order to submit appeals, citizens are forced to use both the "Gosuslugi" website and the websites of any other state bodies. Thus, the differences in the use of websites for petitions by residents of cities and villages are more related to the lower digital competence of rural areas.

Nevertheless, the differences in responses to the use of the federal portal “Gosuslugi” are not so significant. 87% of Tyumen respondents have experience using it, 84% of residents of other cities in the region, and 79% of residents of rural municipal districts, and all of these respondents evaluate this service positively and consider it to be convenient and useful.

The official websites of municipalities are also quite popular. 51% of Tyumen respondents, 31% of residents in other cities, and 36% of residents in villages have experience using them. 43% of respondents in Tyumen City, 29% of respondents in other cities, and 37% of respondents in villages have experience engaging with local communities on social networks. At the same time, in all of the cases, the share of those respondents who positively assessed the experience of using both services turned out to be higher by 2–3 times than the share of those who negatively assessed this experience. Residents favorably noted the usefulness of these services in terms of involving citizens in socio-political processes.

The assessment of demand for using existing services for the manifestation of social and political activity was made by respondents according to a five-point scale. The extreme points were interpreted as the following: a rating of 1 represents a service that is absolutely useless and not in demand by the population, whereas a rating of 5 represents a very useful and in-demand service. The obtained average values of the demand for services depending on the settlements of residents are shown in Table 3 below.

Table 3: Average values by residents of the south of the Tyumen Region of the demand for services to involve citizens in social and political processes, in points

Services	Tyumen	Other cities	Rural areas	The average values
Portal “Gosuslugi” (for complaints, applications, proposals)	4.21	4,18	4,11	4,18
Websites, portals of state (federal, regional) authorities / Website of the President of the Russian Federation	3.35	3.24	3.20	3.29
Official websites of municipalities	3.52	3.39	3.21	3.41
Blogs of government representatives	2,71	2,79	2.68	2.71
Website of the Public Chamber	2,81	3,02	2.83	2.75
Official pages of authorities on social networks	2,78	2,93	2.81	2.81
Local communities on social networks	3.24	3.24	3.22	3.23
Pages of parties, deputies, public figures on social networks	2.63	2.84	2.66	2.68

Petition Sites change.org / Russian Public Initiative	3.20	3.16	2.98	3.13
Mobile applications for submitting citizens' appeals ("I decide"/"Active citizen"/"Tyumen is my city," etc.)	3.11	3.00	3.02	3.07

Table 3 shows that the most popular service used for filing complaints, applications, and proposals is the portal "Gosuslugi." The average value of its demand was greater than 4 points for all groups of respondents. Such services as official websites of municipalities, websites of state authorities (including the website of the President of the Russian Federation), local communities in social networks, as well as websites for submitting petitions and mobile applications for submitting citizens' appeals, had average indices of demand (between 3–4 points). As for the official pages of authorities on social networks, the website of the Public Chamber, and the blogs of government representatives, all three of these had the lowest value of demand (less than 3 points).

In addition, the assessment of the availability of services was also made by respondents using a five-point scale, in which the extreme points were interpreted as follows: 1 indicates that the service is not available at all and 5 indicates that the service is as accessible as possible. The obtained average estimates of the availability of services in the context of municipalities are shown in Table 4.

Table 4: Average values of the availability of services for the involvement of citizens in social and political processes, in points

Services	Tyumen City	Other cities	Rural areas	The average values
Portal "Gosuslugi" (complaints, applications, proposals)	4.23	4.12	4.04	4.16
Websites and portals of state (federal, regional) authorities / Website of the President of the Russian Federation	3.52	3.34	3.28	3.42
Official websites of municipalities	3.60	3.39	3.30	3.47
Blogs of government representatives	3.22	3.13	3.00	3.20
Website of the Public Chamber	3.29	3.15	3.01	3.18
Official pages of authorities on social networks	3.32	3.19	3.09	3.23
Local communities on social networks	3.50	3.36	3.34	3.42
Official pages of parties, deputies, public figures on social networks	3.26	3.18	3.03	3.18
Petition Sites change.org / Russian Public Initiative	3.45	3.29	3.16	3.34

Mobile applications for submitting citizens appeals ("I decide"/"Active citizen"/"Tyumen is my city," etc.)	3.41	3.21	3.16	3.30
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Table 4 shows that the residents of the south Tyumen Region positively estimate the high availability of services for the manifestation of social and political activity. The averages for all services in this sample are 3.18 points or higher. The value of the accessibility of the portal "Gosuslugi" was rated at an average of 4.16 points. In terms of accessibility, it can be noted that the average accessibility indices for all services are the lowest among rural residents, but they are slightly higher among the residents of small towns in the Tyumen Region, and the highest ratings are found among the residents of Tyumen, which is obviously due to the higher level of digital competence of the urban population and the quality of communication services. The quality of Internet access in remote areas of the Tyumen Region is lower, and this fact is also confirmed by the data obtained during the survey.

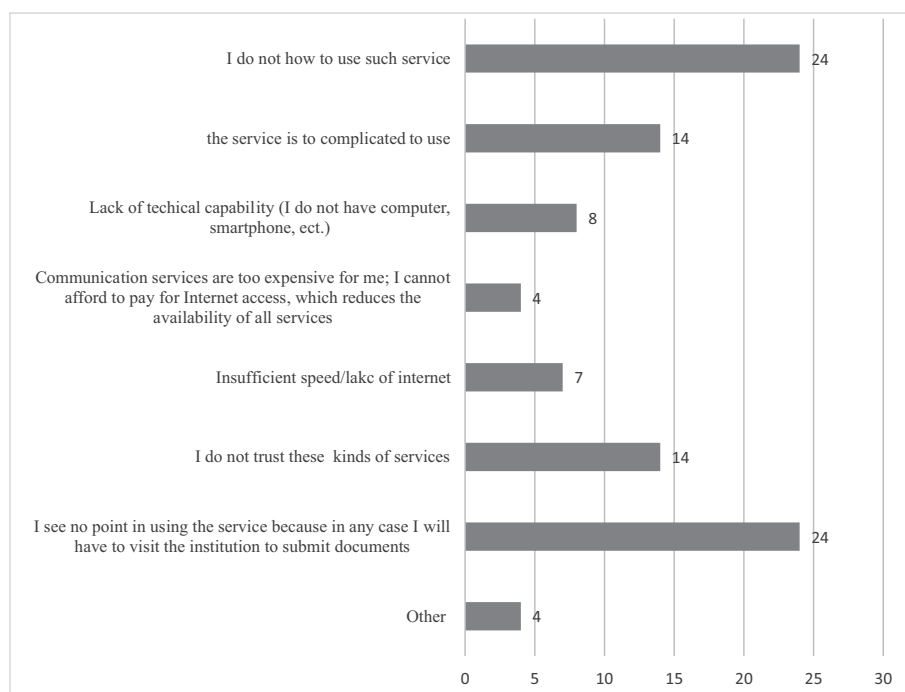


Fig. 2: Distribution of respondents' answers to the question "Please explain what exactly makes the service unavailable to you personally?," in %

Source: compiled by the author based on a survey of residents of the Tyumen Region

Figure 2 above demonstrates the reasons that make digital services for involving the population in social and political processes potentially inaccessible. This question was answered only by those respondents who rated the availability of at least one of the services with 1 or 2 points. Figure 2 shows that the respondents mark the following reasons for not using digital services: inability, unreadiness, and unwillingness to use digital services (24%); necessity to visit a state institution even after using digital services to complete the appeal procedure filling application (24%); distrust of services and the complexity of their use (14% each). Some residents indicated that the speed of the internet connection and the lack of internet were the main problems with using digital services for political participation.

Conclusion

This study determined how urban and rural residents express their civic position as well as the proportion of citizens who prefer modern technologies to manifest their civic position. It also assessed the availability and demand for “smart” technologies by residents of villages and towns to express their civic position and demonstrate their participation in social and political activities.

Furthermore, citizens’ perceptions of their information competence were investigated. 39% of respondents indicated that they have an average level of information competence, 29% of respondents indicated having a basic level, 26% had advanced level, and only 6% of respondents claimed to have a higher level of competence.

The analysis of respondents showed that 87% were nonpartisan, 5% were active members of parties, and 8% were members of various parties but were not actively involved in the parties’ activities. 86% of respondents also indicated that they were not members of any public organization, 7% of respondents indicated that they were active members of public organizations, and another 7% indicated that they were members of a public organization but were not actively involved in its work. The results of the study further revealed that 40% of respondents indicated that they use electronic services to demonstrate their active citizenship, 21% of respondents prefer a personal reception or meeting with representatives of the authorities, 38% of respondents do not use anything, and 1% of them prefer other forms of interaction. However, it is important to note that depending on the types of settlement and the age of the respondents, the data vary quite significantly, indicating that a higher level of information competence and awareness remains one of the key factors influencing the propensity to use modern digital means of manifesting social and political activity. As a result, the information competency of citizens turned out to be largely dependent on such factors as the level of income and education of residents, which in general also corresponds to the data obtained by other studies.

Respondents from the regional capital demonstrated a higher level of demand and accessibility across all digital services and platforms. In general, people who

live in the regional capital are typically characterized by a higher level of digital competence, as well as a higher level of use of digital services to manifest their socio-political activity. In our opinion, this is partly because the scale of large cities, in an effort to save time and resources, forces people to use digital services to a greater extent, including those online platforms that allow people not only to receive services and buy products but also to express their social and political activity. Tyumen city residents have begun to realize that when contacting the authorities through websites or mobile applications, the speed at which most problems are solved and the responses of the authorities to them both increase.

As for residents of small towns and villages, they still use the Internet and electronic services, but to a lesser extent in everyday life. The reason for this is a low level of digital literacy, which has developed as a result of the cumulative effect of all factors limiting their use in aggregate (for e.g. a high proportion of elderly residents in small towns and villages, lower income, and a lower level of education among the population). According to the International Telecommunication Union and the ROCIT (a non-profit organization in Russia that offers IT services), the population of small towns and villages simply cannot be required to regularly use digital services and the Internet since the list of digital services offered and available platforms in all areas is significantly smaller for them.

A survey conducted among rural residents and small towns showed that when asked about the factors limiting the availability of digital services, the respondents indicated technical problems related to the lack of Internet and poor connectivity quality in several municipalities. Moreover, the cost of communication services and Internet connections was not considered a limiting factor for almost all residents of the Tyumen Region. The limited market of small towns and villages and the low level of digitalization were also not considered contributing factors to the active introduction of various kinds of digital services, both for everyday life and for the manifestation of socio-political activity. Today, in settlements of this type, those services that were created by the state remain available to residents, without the use of which it would be impossible to obtain public services.

Residents of small towns and villages further point out that the most popular service for them is the portal "Public Services," which, by expanding the range of services provided, allows not only for users to receive public services but also to file complaints and send appeals to the relevant authorities. The study also demonstrated that residents of small towns and villages, in general, are characterized by a low level of assessment of the demand and availability of supplementary services, as well as of urban and village online platforms and portals for filing and signing petitions. The proportion of residents who have never heard of the official websites of municipalities is lower among Tyumen City residents than among residents of other cities and rural settlements. After analyzing these online sources, it was revealed that the websites of rural settlements and small towns in the Tyumen Region, unlike

the websites of the regional capital, have a less engaging design, poorer content, and inconvenient navigation from the perspective of users. In the majority of cases, these online platforms and portals offer limited resources, such as a news feed, the organizational structure of various government bodies, official documents, and some brief information for citizens.

The preference of residents of villages and small towns for personal meetings over electronic services is partly due to the fact that small towns and villages are characterized by the proximity of local authorities and people in the community. Firstly, small distances in rural settlements and cities allow people to easily travel to and apply to the municipality directly. Federal Law No. 131-FZ of 6 October 2003, the “General Principles of the Organization of Local Self-Government in the Russian Federation” establishes that the boundaries of a rural settlement, which includes two or more settlements, are usually established considering pedestrian accessibility to its administrative center and back during the working day. This norm determines the maximum size of a rural settlement.

Secondly, the Federal Law defines the various forms of direct participation of citizens in resolving issues facing the local population. Some of these forms of participation are mandatory, while others are optional, but all are actively developed by the authorities of the region. For example, public hearings on the local budget are required to be held twice a year (when discussing the draft budget and the report on its execution). Additionally, they relate to all of the issues that need to be resolved by the authorities and on which money will be spent or has already been spent. Thus, active citizens can ask any question of the authorities and expect a response. However, even though federal legislation in Russia provides for public and private hearings, in practice, especially in areas related to improving the urban environment, ready-made projects are submitted and residents are invited to vote for them, including in electronic form. As a result of such actions, conflicts and disagreements often arise between the population and the authorities. In order to prevent potential conflicts, active engagement of the population is encouraged at the initial stages of designing facilities through the process of public hearings, when discussions regarding relevant issues take place. In villages where local self-government bodies are not located, a village headman is elected within the framework of legislation to organize the interactions between local self-government bodies and residents of a rural locality, a practice that commonly occurs across all localities. In general, a reasonable combination of face-to-face meetings and electronic forms of participation can be much more effective than using any one of the forms.

Thirdly, in small settlements, people are united by kinship relationships and various kinds of networks (such as educational and professional). With such dense and layered networks, reputation becomes important to people. This imposes additional moral obligations on municipal employees who are trying to address and solve the problem.

Fourth, there is a high level of population dependency on their elected officials in small municipalities. This is determined by the nature of the election campaign, which is largely based on personal meetings between candidates and the population. Citizens have personal familiarity with the officials they elect and can directly contact them during their term of office. In cities, the election campaign does not focus on face-to-face meetings; instead, much attention is paid to campaigning in the media and campaigning through a network of intermediaries, which at times may consist of several levels.

In conclusion, it should be noted that the majority of services do not involve a dialogue between the authorities and citizens. Despite the fact that most of these services are based on the principle of a two-way communication channel, in practice, citizens receive responses to their appeals that are often of a formal nature and do not always provide a solution to the problems indicated in the appeals, requiring citizens to send out additional letters, appeals, calls, and receptions with government representatives.

According to the findings of the study that was carried out, the active use of “smart” technologies affects the level of satisfaction with the services offered and the policy pursued, as well as the desire to show their civic position and participate in solving public problems at different levels of government. The level of satisfaction or even dissatisfaction with existing services provides an opportunity to change and improve the existing system of electronic interaction between the population and the authorities through requests and appeals from citizens regarding the shortcomings of its functioning. This is particularly important because the portal “Public Services” demonstrates the highest level of demand and accessibility among existing electronic resources across the population of all types of settlements.

Considering the different orientations of the socio-political activity of citizens, further research is required to determine the goals and motives for the use of existing services and platforms in the country by various categories of citizens, as well as changes in the level of activity and intensity of their use in the conditions of the prolonged COVID-19 pandemic. The authors believe that an important step in the continuation of this line of research could be a comparison of the data obtained on the demand and availability of smart technologies for the manifestation of socio-political activity with the data on the global level and the data on individual groups of countries, as well as the data on other regions and municipalities of Russia.

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