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THEORETICAL ASPECTS OF THE ARTIFICIAL INTELLIGENCE USE IN SHAPING DIGITAL PUBLIC MONEY LEGISLATION***

Summary

The subject of analysis in this paper is the identification of the role of potential artificial intelligence systems in the normative regulation of digital money issuance by central banks. In this context, the first part of the paper highlights the impact of digital technologies on the legal acquis of the public monetary order and examines the challenges associated with preserving the structure and throb of monetary sovereignty amid the ongoing technological revolution. The second part of the paper emphasizes the importance of timely identification of the potential benefits and costs associated with artificial intelligence. Particular attention is devoted to examining and understanding the impact of artificial intelligence on the rights of monetary users to a reliable, stable, and secure currency, as well as on the right to monetary stability, conceived as a global public good. In the authors' view, these issues require a form of "monetary legal holism" in order to establish a sustainable legal bridge between traditional central banking legislation and the challenges posed by artificial intelligence as a new technical tool in shaping monetary norms for the digital market.

Keywords: Artificial Intelligence (AI), Central Bank Digital Currency (CBDC), Monetary Law, Monetary Stability.

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TEORIJSKI ASPEKTI UPOTREBE VEŠTAČKE INTELIGENCIJE U OBLIKOVANJU LEGISLATIVE DIGITALNOG JAVNOG NOVCA

Sažetak

Predmet analize u radu je identifikovanje potencijalne uloge upotrebe sistema veštačke inteligencije u procesu normativnog regulisanja izdavanja digitalnog novca od strane centralnih banaka. U tom kontekstu, u prvom delu rada ukazuje se na uticaj koje digitalne tehnologije imaju na pravne tekovine savremenog monetarnog ambijenta i izazove očuvanja strukture, kao i samog "bila" monetarnog suvereniteta u okolnostima tehnološke revolucije, dok se u drugom delu akcenat stavlja na značaj blagovremenog identifikovanja matriksa koristi i troškova koje bi upotreba veštačke inteligencije imala na očuvanje monetarne i finansijske stabilnosti kao bazičnog mandata centralnih banaka. Predmet posebne pažnje autora je razmatranje i razumevanje uticaja upotrebe veštačke inteligencije na prava monetarnih korisnika na čvrstu, stabilnu i sigurnu valutu, kao i prava na monetarnu stabilnost sagledanu kao globalno javno dobro koje uslovljava njihov životni standard, što prema mišljenju autora, zahteva svojevrsni monetarnopravni holistički pristup u cilju uspostavljanja kredibilnog i održivog pravnog mosta između tradicionalne legislative centralnih banaka i izazova koje implicira veštačka inteligencija kao novi tehnički alat u kreiranju monetarnih normi za digitalno tržište.

Ključne reči: digitalna valuta centralnih banaka, monetarno pravo, monetarna stabilnost, veštačka inteligencija.

1. Introduction

In the context of the technological revolution, central bank legislation has reached a critical turning point due to the rapid development and increasingly widespread use of decentralized financial technologies. These technologies have introduced a revolutionary approach to the legal definition of the money issuer, challenging the traditional position of the central bank – while setting aside the question whether these "new issuers" generate merely fiduciary money or money in the legal sense. The influence of these developments has not yet been sufficiently examined. At the same time, however, central banks are confronted with an additional and arguably more complex challenge: the use of artificial intelligence

systems in the process of money creation. Although at first glance this may suggest that the impact and possible applications of artificial intelligence are limited solely to digital sovereign money, in fact, artificial intelligence systems can also serve as instruments of monetary policy within conventional and already established monetary transmission channels. This includes the performance of all other tasks and functions encompassed by the central bank's primary and secondary mandates, aimed at ensuring monetary stability, prudential oversight, and financial supervision. Moreover, artificial intelligence may serve as a sophisticated tool for increasing the level of transparency in the public monetary management operations. Thus, the research and consideration of the potential impact of current – and especially of the further – development in artificial intelligence have become inseparable from contemporary monetary nomotechnics. Although this field has already adapted to the conditions of the electronic revolution in banking and finance, it has done so in a relatively quiet and organic manner, as the consequences of the electronic revolution were largely predictable – even in an era lacking sophisticated supervisory and control systems to ensure the protection of privacy and sensitive financial data. By contrast, the same degree of legal certainty appears far less evident in the context of the emerging influence and use of artificial intelligence, where the scope and implications of its application remain somewhat uncertain, at least for the time being. Although, we concur with the view that any analysis of the impact of digital financial innovations should be approached from a perspective that emphasizes their fundamental impact, rather than merely their disruptive effects (Blair, Gortsos & Zilioli, 2023, p. 510) – while, of course, acknowledging the latter – the impact of artificial intelligence may prove genuinely transformative. For this reason, it warrants particular attention from monetary law theorists.

When examining the relationship between central bank digital currencies (CBDCs) and artificial intelligence (AI), it is essential to recognize that the former constitutes a monetary legal innovation, whereas the latter represents a technological innovation belonging to the domain of technical sciences (Ozili, 2024, p. 118). The two, therefore, do not share a common object or *causa* within the framework of monetary-legal relations aimed at ensuring monetary stability at the global level. In assessing AI's potential contribution to this objective, it is important to emphasize that the concept of artificial intelligence encompasses two mutually interconnected processes: *machine learning* and *deep learning*. The former is based on the use of computer algorithms for data scanning and processing, while the latter relies on statistical methods for prediction or as a potential auxiliary tool in decision-making (Soori, Arezzo & Destres, 2023, pp. 54-55). A clear definition of these processes, both in terms of content and meaning, is a prerequisite for the effective application of AI in public monetary management. In the context of dynamic socio-economic

and political factors, such application must preclude arbitrariness in decision-making. The central bank, as the holder of monetary sovereignty, must ensure that every decision – particularly those involving the use of AI – is grounded in indisputable facts. Any deviation from this principle could introduce risks that might result in negative externalities that are difficult to control.

Although it is not currently possible to precisely identify all the cost and benefits of using AI in the CBDC issuing process, *we contend* that there is a genuine and logical need to at least initiate a theorethical review of its potential effects – both advantages and disadvantages. Such a systematization represents a valuable foundational hypothesis, one that will likely be confirmed or refined over time. This process is crucial, as it will generate factual material for the future determination of the legal treatment of AI within the monetary and central bank legislation. It is important to remember that, in addition to an adequate regulatory infrastructure and technological environment, an equally important factor in the issuance and acceptance of CBDCs is the mutual exchange of information, coupled with planned educational initiatives aimed at enhancing financial and digital literacy among citizens. In many countries, however, there are no satisfactory standards in place, as disinformation propagated through social media and limited economic rationality may undermine the legislative intent in this area (Gortsos, 2025, p. 67). By using dogmatic, axiological, and comparative legal methods, the authors aim to identify all the potential repercussions of integrating AI into the process of issuing sovereign digital currencies.

2. CBDCs and AI: Establishing a Legal Bridge

It appears that all technological achievements undergo a process of market valorization, serving ultimately to satisfy more effectively diverse market preferences. The application of information and digital technologies in the financial services market, together with the process of mass electronic data collection and storage, has influenced the emergence of the decentralized financial technologies (fintech). These innovations have changed the way financial market participants provide their services and have simultaneously led to the emergence of new types of services. Moreover, they have increased the number of market intermediaries – a trend most clearly observable in the rise of *crowdfunding*, wherein online platforms enable the secure financing of specific projects through collecting smaller contributions from a large number of participants, and in *crowdlending*, where specialized online platforms provide safe, legal, and reliable mechanisms for capital lending (Arner *et al*., 2020, pp. 73-76).

In addition, the development of digital innovations exhibits complex features that give rise to new regulatory challenges related to investor and consumer protection, financial stability preservation, and market integrity maintenance, while simultaneously encouraging the continued advanced innovation (Babović, 2023, p. 462; Jovanić, 2020, p. 16). The increasingly intensive adoption of these technologies has also generated two significant trends. The first concerns the accelerated pace of change in the financial market, driven by the commodification of technologies – understood as a process of creating new goods and services through the use of technologies. The second trend relates to the growing number and diversity of new entrants into the financial sector, including telecommunications and software companies. The ongoing and continuous digital transformation within fintech is in turn opening doors for the expansion of fintech solutions and the development of innovative models that promote financial inclusion by transcending the traditional objectives and aspirations of the financial sector (Bajakić & Branica, 2025, p. 15).

Interestingly, several studies suggest that central banks should adopt a synergistic approach linking the exploration of CBDC design with the pursuit of sustainable development goals, opting to develop only those CBDC models that promote the implementation of such objectives (Ozili, 2024a, p. 195). At present, central bank digital money is issued as sovereign currency in twelve jurisdictions, among which the Chinese digital yuan and the Indian digital rupee are recognized as particularly progressive solutions. In addition, the European Central Bank (ECB), after ten years of research, has entered the final phase of developing an appropriate technical platform for implementation. The crucial issue in the process of CBDC issuance, however, concerns the existence of a clear legal mandate – one that, despite logical and axiological justification, is not explicitly provided for in traditional central banking legislation. This issue refers to the legal organization of tender, which may be structured in repressive, privileged, optional, or indicative forms (Handayani & Yuliana, 2022, p. 519).

The differences between the above forms are reflected primarily in the freedom of choice afforded to users of CBDCs. In the case of a repressive model, financial users who refuse to use CBDCs may be subject to legal sanctions. In contrast, under the privileged model, no legal sanction are imposed, but moral sanctions may apply, owning to the strength of prevailing moral authority. Under the optional model, contract parties – particularly in the field of international economic contracts – retain the freedom to decide whether to use a specific digital currency. Finally, under the indicative model, financial users receive guidelines regarding particular CBDC types. The international implications of introducing public digital money must also be taken into account, as they will likely significantly influence both the dynamics and structure of existing international payment systems and the

creation of new ones. That underscores the need for a high degree of coordination within the international monetary system (Zatti & Baressi, 2024, p. 127).

In analyzing the relationship between CBDCs and AI, *we believe* it is important not to overlook the fact that private digital currencies were created in response to the needs of financial users, who sought to satisfy their preferences in the digital market while minimizing not only financial costs, but also time and psychological burdens. AI, by contrast, followed a distinctly different development path. It was not created to meet the demands of monetary users, nor is its primary domain the world of monetary finance; rather, its development has been driven by large technological companies whose principal objectives are to automate work, increase productivity, and maximize profits. Within this context, *we can identify* both similarities and differences between AI and the technique involved in designing private and public digital money. Thus, the connection between AI and cryptocurrencies lies in the aspiration of a business entity – weather natural or legal, acting as the issuer – to generate profit. By contrast, CBDCs are fundamentally concerned with protecting the rights of current users, maintaining monetary and overall stability, and upholding the principle of retention, whereby each user can anticipate the consequences of their decisions and confidently rely on legal protection, including recourse to competent courts if necessary. In this sense, this issue reflects a tension between the pursuit of economic profit and the fulfillment of citizens' general needs in a free and equitable manner. While this framing may appear somewhat simplified, it captures a universal truth regarding the flow of money that warrants no further questioning.

Artificial intelligence (AI), in its broadest sense, is a machine-based system that varies according to its degree of autonomy and adaptability. Such systems are designed, for both implicit and explicit objectives, to generate outputs from entered inputs in the form of recommendations, predictions, interpretations, or even decisions, which may have tangible impacts in the real or virtual world (OECD, 2024, pp. 1-7). In practice, the initial Al model taxonomy includes generative models, such as large language models, and generative pre-trained transformers. Generative Al is capable of producing outputs such as images, sounds, or code, whereas natural language models, as the term implies, are designed for language recognition and the interpretation of specific context. Such capabilities can be particularly valuable when analyzing the potential transposition of legal institutions from one legal system and tradition into another, as understanding the linguistic context enables a deeper comprehension of the historical and other factors that influenced the emergence or application of a given monetary institution. Hypothetically, AI can be highly useful in the comparative legal analysis of monetary legislation. In particular, generative transformer models – another variant of language models – perform morphological and syntactic analyses, which can subsequently be employed

for axiological analysis. We contend that all these three language model variants constitute a new and valuable tool for linguistic interpretation of monetary norms. While they do not replace the human interpreter, they have the potential to "expand and illuminate" new dimensions of analysis in a more time-efficient manner. In this framework, the outputs generated by AI should be regarded not as the final outputs, but as the "quasi outputs," which the interpreter – central bank – transforms into formal outputs, including final legal solutions. Potential implementation challenges could be overcome through cooperation between central banks and technology companies, particularly with the aim of improving the efficiency of payment systems (Heidari & Barzegari Khanagha, 2024, p. 52).

Undoubtedly, the central bank must maintain its role as the guardian of monetary sovereignty; however, it should do so in a manner that does not undermine technological progress but rather supports, encourages, rewards, and empowers it. In the context of AI application – perhaps even more so than during the emergence of electronic and digital money – the central bank must safeguard its prerogatives in defining the legal nature of money in its monetary jurisdiction. This jurisdiction remains its exclusive right, though not necessarily a sole one, exercised in partnership with the private sector.

This does not imply that monetary sovereignty has been "eroded"; rather, the present moment represents another distinct test through which the central bank can not only reaffirm its relevance within the legal order, but also potentially restore its reputation amid increasingly pronounced negative populism and re-establish all the dimensions of its credibility. This credibility is multifaceted and multidimensional, encompassing effective communication with citizens whose lives are, to varying degrees, affected by the central bank's decisions. To facilitate such communication between central banks and other stakeholders, it is also necessary to reform the central bank's internal organizational structure.

This paradox – whereby the central bank now assumes the role of "defender of humanity against machines," after decades of its activities having been commonly perceived as vague, abstract and detached from the everyday problems and aspirations of ordinary people – is neither unusual nor, *in our view*, a surprising circumstance. Rather, it constitutes persistent and unshakable evidence of the continuous evolution of the "consciousness" of the supreme monetary legislator and of its responsibility for both individual and collective well-being.

3. Potential Benefits and Costs of Using AI in CBDC – Normative Framework

In the context of the symbiosis between legal norms and software solutions – towards a unique process of algorithmization of law, understood as the sophisticated translation of legal norms into a new legal language format (Cvetković, 2023, p. 315) – the use of different AI models can produce different legal repercussion. A potential welfare gains from using AI in the CBDC issuance process are grounded in the achievement of a higher degree of interoperability, as diverse systems, techniques, or organizations are currently focused on the monetary, government, and IT sectors. Interoperability, understood as the ability of heterogeneous systems to operate together effectively, requires that these systems function as seamlessly as possible. That can be achieved through prior information exchange with users, without requiring additional operations (or requests) to understand the link between the two systems – a level of integration that has not yet been fully realized in the digitalization of central bank legal norms (Heckel & Waldenberger, 2022, pp. 107-115). Similarly, given the significance of media sentiment towards CBDCs – since the information disseminated through media can influence public acceptance or rejection of a CBDC (Ozili & Nanez, 2023, p. 134) – the central bank's media approach to AI is equally crucial in shaping the citizens' perceptions.

In the final stage of CBDC creation, artificial intelligence systems can contribute to the automation of decision-making processes related to the distribution of digital public money to banks as financial intermediaries and to end users, who may thereby gain faster access, depending on the legislator's intention to issue either a wholesale or retail form of CBDC (Dimitrijević, 2024, p. 136). Conversely, within this digital monetary transmission chain, numerous actions could hypothetically be performed by AI to reduce costs and prevent repeating the same mistakes. A significant advantage of AI implementation could be realized in the exercise of the central bank's supervisory function, as such processes would enable the detection of potentially illegal or illegitimate activities and associated risks (Ozili, 2024, pp. 121-122). That assessment could be conducted in real time, thereby allowing legislators to address the time-lag problem in monetary policy, i.e., the delay between the identification of a concrete issue and its recognition and subsequent legal intervention by the central bank.

A more immediate application of AI can be anticipated in enhancing the quality of services provided to end users, which may be achieved practically through the development and deployment of dedicated AI chatbots, robo-advisors, and virtual advisors. Such advisory tools can be particularly valuable in facilitating the conversion between different types of CBDCs, which should, to the greatest extent possible, be standardized, even though complete uniformity cannot be achieved

due to existing differences among monetary jurisdictions. Consequently, these chatbots would likely have a primarily local or national character; however, in the future, their application could extend to more complex international payment systems currently being developed by the Bank for International Settlements (BIS) in connection with the mBridge project, which is based on the use of multiple CBDCs.

In addition, AI can be used in monitoring illicit cross-border financial activities, which may constitute a significant component in the fight against financial crime. Certain studies emphasize the advantages of using AI to promote diversity, equality, and inclusion, where it can serve as an anti-discrimination measure by enabling access for all consumers, regardless of their age, race, migration status, credit history, income, or employment status. Here again, a paradox emerges – a robot assisting the monetary management in becoming more human (Ozili, 2024, pp. 121-122). As a precondition for realizing all these benefits, it is essential to examine public reactions to CBDCs, where AI could relatively quickly collect and analyze data related to attitudes expressed on social media. Although this may appear somewhat questionable – given that such data is often processed without the user's full awareness or consent – AI could, in this context, assess the respondents' "sentiments" toward CBDCs. Such analysis could contribute to the development of strategies aimed at fostering more positive and affirmative public perceptions of CBDCs.

The *risks* potentially associated with the use of digital technologies in central banking remain in the early stages of investigation. Broadly speaking, these risks can be categorized as strategic, operational and other risks, including reputational, environmental, ethical, and social risks, as well as risks posed to third parties and those generated by specific AI models in practice (BIS, 2025, pp. 8-11). Strategic risks arise from the lack of a clear strategy designed to protect a specific entity – in this case, the central bank – from potentially negative public perceptions regarding its adoption of such technologies. This illustrates the direct interrelation between strategic and reputational risks, the latter encompassing negative media coverage or propaganda related to the use of AI. Operational risks are multifaceted and concern primarily legal uncertainty and the absence of a clear definition of artificial intelligence within intellectual property and copyright law, or rather, ownership of products derived from its use. In this regard, another significant issue that arises is the (in)sufficiently trained personnel for the use of AI, which may exacerbate the existing dilemmas and ambiguities surrounding its application – issues that call for prior regulatory clarification, though such regulation may not be yet feasible.

The issue of data storage and processing becomes even more sensitive and complex when AI models are developed by third parties acting as providers. Hypothetically, this role may involve several interconnected entities that must first regulate their legal status – specifically, their duties and rights – through a written and strictly

binding contract with the central bank. The legal basis for such contractual arrangements must, however, be established in primary or secondary monetary legislation.

It is also important to note that AI models may sometime detects non-existent patterns – here referred to as a "monetary mirage." In the context of monitoring monetary trends and regularities, particularly with respect to inflationary flows, such false patterns must be avoided as they directly influence the content and legitimacy of the monetary strategy and a range of subordinate legal instruments within the domain of soft monetary legislation. Soft law has repeatedly proven essential in addressing gaps in primary monetary legislation in recent economic history, including during the debt and global financial crises, the pandemic, and ongoing complex social conflicts worldwide. Its application must remain flexible, while primarily being credible and legitimate. For this reason, *we contend* that the term "secondary" is epistemologically inappropriate, and it may be more accurate to refer to such instruments as fundamental or organic. In this framework, primary laws would fall into the first group, while all other instruments issued by the central bank would fall into the group of organic instruments. This distinction reflects the blurring and eventual merging of the formal and the material boundaries, resulting in a synergistic legal source that underscores the hybrid character of monetary legal norms.

At this point, *we consider* it appropriate to view AI as a potential instrument of monetary legislation, one that could facilitate the coexistence of digital public money with traditional forms of money, supporting innovation and efficiency without necessarily undermining the foundations of established financial and monetary stability. AI, *in our view*, could serve a valuable tool for monitoring and eliminating legal and regulatory risks, which can be categorized as high, medium, and low (Belikoff, 2025, pp. 15-16). High risks pertain to threats to the attained level of financial stability and issues related to the collection of sensitive financial data (i.e., financial privacy), whereas medium risks concern the very taxonomy of CBDCs, as each form of sovereign public money has own set of advantages and disadvantages. CBDCs inherently alter the sociocultural dimensions of privacy and surveillance; however, the impact of these changes depends on how such values are perceived by the sacred bearers of executive power in different states, as well as by the citizens themselves. A significant factor influencing the (non-)acceptance of innovations is the structure of state political organization and the dominant political ideology at a given historical moment. Low risks pertain to the challenge of financial inclusion, i.e., providing access to new financial products at low or acceptable costs, delivered in a responsible and socially acceptable manner (World Bank, 2022).

Artificial intelligence (AI) systems can also play an important role in researching how the monetary users feel about the decision-making process behind (non-) acceptance of CBDCs. For example, some recent studies suggests that AI could

be used to create a simulated environment to identify factors that influence such decisions. In one study, the authors collected 663 synthetic responses generated by ChatGPT 4.0. to analyze patterns in public expectations regarding CBDCs. Thise data was subsequently analyzed using classical statistical methods and multinomial logistic regression techniques to estimate the probabilities of acceptance, rejection, or delay (i.e., observing the field and monitoring events) before making a decision to adopt CBDCs (Náñez Alonso *et al*., 2025, pp. 264-265). The model showed that the acceptance of CBDCs depends on factors such as the level of financial literacy – which is not easily attained due to the complexity of monetary legal processes and the practical impossibility of achieving full transparency in accordance with *lex certa* – the sources of information, and the degree of trust in financial technologies. It should be noted, however, that the results of AI-based analyses of citizens' reactions and expectations assume these factors to be exogenous, i.e., constant over time. In reality, periods of monetary uncertainty and doubt are often followed by periods of monetary progress and stability, as observed historically with the introduction of the first payment cards, and prior to that, banknotes.

From a normative and technical perspective, the risks associated with the use of AI in central banking can be mitigated by developing a concise strategy that clearly defines the specific AI model to be used and enables the identification, evaluation, adjustment, and leverage of monetary management in a manner acceptable to both the monetary authority and the financial services users. In this context, certain statutory and organizational changes within the central bank will be necessary to enable the creation of specialized interdisciplinary departments or committees tasked with coordinating this process. Such a committee could initially focus on the early identification and subsequent formulation of legal principles governing the use of AI in central banking. These principles would provide a foundation for mapping all relevant elements of the process, including stakeholders, potential users, providers, third parties, and other participants. This body would initially serve also as a supervisory authority for the implementation process, tasked with evaluating the compliance of AI-driven monetary operations in a consistent manner. The need for such oversight is a logical consequence of the broader trend toward work digitization, as both a normative and practical response to the development of global information technologies. This transformation has introduced new methods of organizing and performing work tasks across a range of occupations, as well as the emergence of previously unknown professions (Reljanović & Misailović, 2021, p. 408).

In future amendments to central bank legislation and in the final formulation of CBDC issuance, this new "AI committee" could play a pivotal role in shaping changes to the central bank's operations. It would facilitate the timely alignment of

monetary norms with the advantages of the digital society and economy, in a more secure, predictable manner, minimizing uncertainties for financial users. Accordingly, if applied wisely and credibly, AI in central banking law has the potential to introduce new dimensions in the context of improving monetary policy measures, providing support for their implementation, and bringing a qualitative shift at the integrative level, i.e., strengthening central banking as a cohesive system, rather than merely improving isolated components. Therefore, the use of AI can truly enable a guided convergence of the principles of efficiency, inclusiveness, and resilience in a unique manner (Krause, 2025, p. 1). In promoting any financial innovation, *we argue* that its optimal legal framework should be founded on sustained and deepened cooperation between monetary institutions, academic researchers, universities, and technology experts, in order to create a framework that is conducive to the achievement of sustainable development objectives.

The challenges confronting the central bank operations in the circumstances of digital transformation require the adoption of new instruments to protect its mandate in an environment that remains only partially defined. Consequently, this early phase of construction does not yet permit the establishment of stable and comprehensive legal regulations. Nonetheless, this does not imply that the legal principles governing the future treatment of AI in monetary and central banking legislation are not already discernible.

At this point, it is important to note that, in a comparative context, the ECB, the FED, and the Bank of England either use or are considering using AI in specific segments of their operations. The launch of a CBDC appears particularly significant in the EU, as the money digitalization and CBDC creation process provides a new opportunity for economic growth, if possible negative effect are carefully and deliberately managed (Zafiroski & Kjoseva, 2025, pp. 90-91). The ECB uses AI in areas related to the collection and processing of large datasets – tasks that would otherwise require considerably more time from statisticians – for understanding price fluctuations, forecasting inflationary flows, and supporting financial supervision. Meanwhile, the FED has shown extensive practice of issuing various recommendations and regulations from 2011 and is considering and developing the use of AI to automate decision-making (Martin, 2024, pp. 55-56). A similar practice is also followed by the Bank of England, which has been exploring from 2022 how AI can enhance personalized financial services for end users while simultaneously strengthening business supervision. A key challenge associated with AI in central banking is that the rapid development of technologies within the financial services sector may create new opportunities for cyberattacks that were previously nonexistent or infeasible. Consequently, any decision regarding the further use of AI must be approached with heightened vigilance (Vučinić & Luburić, 2024, p. 35).

Considering that the digital yen represents the first fully defined sovereign public monetary unit, the use and experimentation with AI in this segment is not surprising. It is emphasized that AI can positively influence the monetary users' willingness to accept CBDCs, while simultaneously providing significant insights into interest rate fluctuations, asset allocation, and liquidity. Thus, in turn, enhances the agility of monetary policy, enabling it to respond more effectively in times of crisis (Liu *et al*., 2025, p.14).

4. Conclusion

We argue that it is crucial for central banks to inform the public in advance about any negligence in and specific purposes of AI application in the issuance of sovereign money. Such transparency could foster public support and mitigate negative reactions stemming from "fear of shadow AI" or concerns about unauthorized data collection. Furthermore, AI can enable the dissemination of information and coordination among research centers regarding results achieved in the field of CBDCs. Another aspect related to monetary users' privacy, which is often overlooked, is that the loss of privacy in the digital world is pervasive and nearly ubiquitous. Nevertheless, in the context of public digital money, users' concerns about privacy may be disproportionately directed toward central banks.

At present, it appears that users' frustrations regarding privacy issues associated with cryptocurrencies – as private digital money issued without central bank involvement – are being undeservedly directed toward CBDCs, as sovereign digital money. In this context, central banks are effectively attempting to compensate for the shortcomings of private digital currencies. Consequently, the work of central banks in times of technological revolutions often functions as a "punching wall," absorbing the public's dissatisfaction and concerns regarding the use of technology in general, and not solely in the process of money creation. Citizens' distrust of AI frequently arises from the fear of job displacement, a concern that is understandable and requires central banks to make additional efforts to communicate the purposes of using AI within monetary finance.

In *our view*, AI can serve as a valuable tool for finalizing the CBDC project, provided that its application does not undermine the results achieved thus far, which remain relatively fragile and are increasingly burdened by negative populism. Within contemporary monetary legislation, AI is definitely not a new subject (monetary agent) capable of creating, implementing, or altering legal monetary relations; rather, it functions as a technical tool for implementing new digital monetary solutions that aim to enhance both individual and social well-being.

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