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State Investment Policy and Development of Banking Structures: Experience of the USA, Canada and Great Britain

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ABSTRACT

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The article examines the mechanisms of public management of the development of banking structures in the USA, Canada and Great Britain as a strategic tool for the implementation of state investment policy in the context of global transformations. The relevance of the study is due to the need to find effective regulatory models for ensuring financial stability in the face of exogenous shocks, in particular, the COVID-19 pandemic, which caused critical market volatility and required immediate adaptation of public management strategies. It is proven that in the period 2021–2022, digitalization and prudential supervision were transformed from monitoring tools into basic institutional mechanisms for crisis management and stimulation of investment activity. The article is aimed at theoretical substantiation and development of conceptual foundations for adaptation of the world's leading experience in state regulation of the banking sector into the public administration system of Ukraine for the formation of a sustainable investment strategy. The study uses a set of special methods: a systematic approach – to analyze the architecture of interaction between financial market subjects; institutional analysis – to study the regulatory and legal support of sustainability; Wavelet coherence – to identify the degree of regulatory convergence and synchronicity of national systems' responses to pandemic challenges. The institutional capacity of government agencies in the United States, Canada and the United Kingdom to regulate the digital financial space is analyzed. It has been determined that the combination of risk-based supervision, Open Banking technologies and regulatory sandboxes forms a new paradigm of state investment policy, where the stability of bank indices is an indicator of the effectiveness of public administration. The scientific novelty of the research results lies in the development of the author's algorithm for the implementation of international experience in the public administration system of Ukraine, based on the principles of interoperability of services, legal certainty of working with data and controlled testing of innovations. In the context of practical significance, specific recommendations are formulated for the National Bank of Ukraine and public authorities to harmonize the domestic regulatory environment with European and global digital security standards (DORA, PSD2) and strengthen the cyber resilience of critical infrastructure in the context of macroeconomic instability.



KEYWORDS

public administration, public investment policy, banking system, banking structures, COVID-19 pandemic, digital transformation, digital financial space, Open Banking, wavelet coherence, prudential supervision, institutional sustainability.



Державна інвестиційна політика та розвиток банківських структур: досвід США, Канади і Великобританії

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СТАТТЯ

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У статті досліджено механізми публічного управління розвитком банківських структур США, Канади та Великобританії як стратегічного інструменту реалізації державної інвестиційної політики в умовах глобальних трансформацій. Актуальність дослідження зумовлена необхідністю пошуку дієвих регуляторних моделей забезпечення фінансової стійкості в умовах екзогенних шоків, зокрема пандемії COVID-19, що спричинила критичну волатильність ринків та вимагала миттєвої адаптації державних управлінських стратегій. Доведено, що в період 2021–2022 років цифровізація та пруденційний нагляд трансформувалися з інструментів моніторингу в базові інституційні механізми антикризового управління та стимулювання інвестиційної активності. Мета статті полягає у теоретичному обґрунтуванні та розробленні концептуальних засад адаптації провідного світового досвіду державного регулювання банківського сектору в систему публічного управління України для формування стійкої інвестиційної стратегії. У дослідженні використано сукупність спеціальних методів: системний підхід – для аналізу архітектури взаємодії суб'єктів фінансового ринку; інституційний аналіз – для вивчення нормативно-правового забезпечення стійкості; вейвлет-аналіз (wavelet coherence) – для ідентифікації ступеня регуляторної конвергенції та синхронності відповідей національних систем на виклики пандемії. Проаналізовано інституційну спроможність державних органів США, Канади та Великобританії щодо регулювання цифрового фінансового простору. Визначено, що поєднання ризик-орієнтованого нагляду, технологій Open Banking та регуляторних «пісочниць» формує нову парадигму державної інвестиційної політики, де стабільність банківських індексів виступає індикатором ефективності публічного адміністрування. Наукова новизна результатів дослідження полягає у розробленні авторського алгоритму імплементації міжнародного досвіду в систему публічного управління України, що базується на принципах інтероперабельності сервісів, правової визначеності роботи з даними та контрольованого тестування інновацій. У контексті практичного значення сформульовано конкретні рекомендації для Національного банку України та органів державної влади щодо гармонізації вітчизняного регуляторного середовища із європейськими та світовими стандартами цифрової безпеки (DORA, PSD2) та посилення кіберстійкості критичної інфраструктури в умовах макроекономічної нестабільності.



КЛЮЧОВІ СЛОВА

публічне управління, державна інвестиційна політика, банківська система, банківські структури, пандемія COVID-19, цифрова трансформація, цифровий фінансовий простір, Open Banking, вейвлет-когерентність, пруденційний нагляд, інституційна стійкість.

1. Introduction

Banking structures occupy a fundamental place in the system of public management of the economic development of the state. As strategic institutions, banks provide not only the redistribution of financial resources, but also act as an instrument for the implementation of the state investment policy and ensuring socio-economic stability [4; 8; 11]. In the context of public administration, the activities of banks are considered through the prism of their ability to transform the population's savings into investment capital, which is critically important for the sustainable development of the national economy [9; 15; 17]. Therefore, the investment component of banking activity becomes the object of state stimulation and strategic planning.

The functioning of banking institutions is coordinated by the central bank, which, together with the network of commercial banks, forms an integral banking system as an object of state regulation [4; 12]. Such a system operates within a certain legal framework and must demonstrate adaptability to changing conditions of the internal and external environment. In the public finance system, the banking sector is inextricably linked with other segments of the financial market, in particular the stock market [8; 18]. That is why effective management of interaction between these components is the key to the stability of the entire financial architecture of the country.

From the standpoint of public administration, banks are institutions that ensure the dynamics of financial flows necessary for the life of business entities and the implementation of national programs. Specialized tools are used to assess the effectiveness of state regulation and monitor the state of the banking system, among which stock indices occupy a special place [3; 17]. In our study, these indices are considered not only as market indicators, but as indicators of the effectiveness of public administration and reflection of the strategic progress of banking institutions within national economies. The analysis of the values of such indices makes it possible to assess the effectiveness of state management decisions in dynamics. At the same time, a comparative analysis of stock indices of different countries (USA, Canada and Great Britain) allows us to identify the leading models of state regulation [3; 5] and determine the possibilities of their adaptation to the domestic practice of public administration.

Taking into account the need to modernize banking regulation in Ukraine and strengthen the investment potential of the state, the chosen research topic is relevant and has significant practical importance for the development of the science of public administration.

2. Literature Review

The activities of banking institutions and the functioning of the stock market are in the focus of attention of the modern science of public administration. This confirms the strategic importance of the chosen topic for the development of effective state policy aimed at ensuring economic security and sustainable development.

The study by O. Zharikova and K. Cherkesenko [18] presents a comprehensive analysis of the activities of domestic banks, where special attention is paid to the mechanisms of optimization of their financial condition in the context of the overall transformation of the banking system of Ukraine. The authors emphasize the importance of intersectoral interaction of the banking and insurance segments as objects of unified state regulation. Based on the analysis of regulatory and legal indicators, the paper reveals the managerial aspects of capital consolidation, which directly affects the institutional capacity of the financial market [18].

The issue of the effectiveness of state regulation of the banking sector and financial stability in conditions of uncertainty is considered in the work of R. Svartzman et al. [12]. Researchers identify the factors that determine the destructive impact on financial activity and propose managerial ways to overcome them. In particular, the role of the regulator in ensuring an appropriate level of policy coordination, which is a key condition for the stability of the banking sector as a public administration tool, is emphasized.

The fundamental aspects of state regulation and supervision in the banking sector are revealed in the study by B. A. Abugri and T. T. Osah [1]. The authors analyze the impact of regulatory requirements on the formation of capital buffers and minimization of insolvency risks, which is critical for ensuring the sustainability of the financial architecture. Particular attention is paid to the role of public

authorities in correcting the risky behavior of banking institutions [1]. An important conclusion of the study is that an exclusively restrictive policy is not always effective, so public administration should be based on a balance of interests of different market segments. In this context, monitoring the dynamics of stock indices is an effective tool for making informed management decisions.

Trends in the development of financial markets in the context of global transformations are studied in the work of I. Yarygina and T. Mamedov [15]. The key emphasis is placed on the transition to the digital economy as a priority area of state investment policy. The researchers consider the mechanisms for managing capital flows, the advantages of direct investment, and the specifics of the functioning of financial institutions in coordination with national regulators. Thus, the analysis of scientific sources confirms the need for a comprehensive assessment of the interdependent development of financial market segments as a basis for the modernization of the public administration system.

In the study of S. Salameh and A. Ahmad [11], the role of the stock market as a strategic sector of the economy is analyzed in detail on the example of India. The authors emphasize that the relationship between the stock market and other segments of the financial system is a determinant of economic growth. From the standpoint of public administration, this emphasizes the need to form a state policy that stimulates positive factors for the development of financial infrastructure to ensure macroeconomic dynamics [11].

The issue of direct interaction of the banking and stock sectors through the prism of innovation efficiency is considered in the paper [9]. The authors conclude that the development of the stock market is a key lever for the modernization of the country's economy. In the context of our study, this means that the analysis of such interaction plays an important role in determining the vectors of the state innovation policy and supporting the technological re-equipment of the banking sector.

E. Zarutskaya [16] in his study applies structural and functional analysis to study the banking system of Ukraine. The results allow us to identify problematic aspects of banks' activities that led to the deterioration of the financial stability of the system. Such a methodological approach is valuable for public administration, as it allows supervisory authorities to carry out early detection of systemic risks and take preventive measures to stabilize the market [16].

F. Kiesel et al. [6] consider the relationship of markets through the reaction to changes in bank assets. The authors raise an important issue for public administration – the influence of regulatory authorities on the processes of clearing bank balance sheets and their reflection on the investment attractiveness of the sector. This confirms that the regulator's management decisions have a direct impact on market expectations and financial stability [6].

The work of E. Isaeva and J. Leshchenko [5] analyzes various models for assessing the effectiveness of state regulation in financial markets. The researchers emphasize that the choice of the management and supervision model should be based on an in-depth analysis of the interaction of banks with other financial market institutions.

Analyzing the methodological tools for studying the interaction of the stock and banking segments, it should be noted its considerable diversity: from methods of descriptive statistics to approaches based on comparative analysis and assessment of institutional capacity [3; 8]. However, in the context of public administration, where it is important to track not only static connections, but also the dynamics of changes in time and space for making operational decisions, the ideology of wavelet transformation deserves special attention [2; 13; 14]. It is this method that allows you to identify hidden patterns in the behavior of banking structures, which are the result of the implementation of certain strategies of state regulation [7; 10].

3. Problem Statement

Taking into account the strategic role of the banking sector in ensuring the financial stability of the state, the purpose of this study is to identify and comparative analysis of models of public management of the development of banking structures in the United States, Canada and the United Kingdom to determine their adaptability to the conditions of global challenges (in particular, the COVID-19 pandemic) and digitalization. The main task of the work is to use the wavelet coherence apparatus as a strategic audit tool to assess the level of regulatory convergence and institutional integrity of the financial systems of these countries. Based on the results obtained, it is planned to develop a conceptual algorithm for the implementation of the world's leading experience in the system of public

administration and public investment policy of Ukraine, which will ensure the transition to a proactive mechanism for regulating banking activities in the context of digital and financial transformation.

4. Methods and Materials

The choice of wavelet ideology for the study is due to its high capacity in working with data that is presented in the form of time series. Within the framework of public administration, this allows not only to record the state of the banking system in statics, but also to track the dynamics of its changes under the influence of managerial decisions. Among the methods of wavelet ideology, the method of wavelet coherence is of particular importance, which makes it possible to conduct a comparative analysis of the relationship between different indicators (for example, national bank indices), to identify the peculiarities of their mutual dynamics and to identify the periods of greatest turbulence [2; 10; 14].

From the point of view of public administration, wavelet coherence is a tool for assessing regulatory convergence – i.e. how synchronously banking systems of different countries respond to global challenges (such as pandemic or digitalization) under the influence of national supervisory strategies [7; 13]. Mathematically, if we have two data series X and Y, each of which reflects the dynamics of a certain indicator (for example, the index of development of banking structures in the United States and Canada) in time t, then the value of wavelet coherence between them is determined by the formula [2; 13]:

$$Q^2(a,b) = \frac{|\Lambda(a^{-1}W_{fg}(a,b))|^2}{\Lambda(a^{-1}|W_f(a,b)|^2)\Lambda(a^{-1}|W_g(a,b)|^2)}$$

where: $W(a,b)$ – the value of cross-wavelet spectra;

a,b – the scale and center of time localization that define wavelet transformation parameters;

$f(t), g(t)$ – studied data series (indicators of the state of banking systems);

Λ – anti-aliasing operator;

$Q^2(a,b)$ – the square of the wavelet coefficient of coherence. The range of values of the coefficient is $0 \leq Q^2(a,b) \leq 1$.

If the values are close to zero, this indicates a weak regulatory or market relationship (autonomy of the systems). Approaching the unit indicates a strong interconnection and synchronization of development processes under the influence of such management strategies [2; 10; 15].

The analysis of the above information allows us to assert that the wavelet coherence method provides not only a deep analysis of the mutual dynamics of data, but also creates the basis for visual diagnosis of management risks. This helps public administration entities (central banks, regulators) to better understand the hidden processes in the banking sector, predict the market's response to government interventions, and make informed strategic decisions in conditions of high uncertainty [14; 16].

For an objective assessment of the effectiveness of public management of banking structures and the formation of the basis for the state investment policy, the study uses a system of strategic stock indices [3; 8; 17]. The choice of the time horizon (04.01.2021 – 31.12.2021) allows us to analyze the adaptability of state regulatory strategies in the critical period of gradual overcoming of the consequences of the COVID-19 pandemic [12; 15]. All data is verified using the international investing.com platform.

The analytical panel includes indicators that represent three key models of public administration in the financial sector, namely: 1) Dow Jones Banks (*DJUSBK*) – reflects the effectiveness of the US Federal Reserve's anti-crisis measures and programs of state liquidity support; 2) *S&P/TSXEqIWgt* Diversified Banks (*GSPTXDE*) and *S&P/TSX* Canadian Financials (*SPTTFS*) – allow us to assess the sustainability of the conservative model of Canadian prudential supervision; 3) FTSE 350 Banks (*FTNMX301010*) and FTSE All Share Banks (*FTASX301010*) – act as indicators of the impact of the British model of "regulatory sandboxes" and the stimulation of fintech innovations on the dynamics of bank capital.

The analysis of the presented data allows us to assert that the positive dynamics of the indices in 2021 is a direct consequence of the successful implementation of national strategies for overcoming the pandemic crisis. In particular, the stability of Canadian indices confirms the effectiveness of the risk

minimization policy, while the dynamics of US indices demonstrates the effectiveness of stimulating investment activity. On the other hand, the UK's indicators indicate a complex but consistent process of transforming the regulatory environment in the context of digitalization.

A generalized comparative characteristic of the selected indicators through the prism of public administration models is given in Table. 1.

Table 1. Comparative Characteristics of Models of State Regulation of Banking Systems and Their Stability

Country (object of analysis)	The dominant model of public administration	Characteristics of the dynamics of indices (effectiveness of state policy)	Regulatory convergence level (by wavelet coherence)	Managerial emphasis for adaptation in Ukraine
USA (DJUSBK)	Liberal-stimulating: orientation to stock market activity and risk management.	High volatility with overall growth; rapid adaptation to post-pandemic changes.	High autonomy; weak synchronization with European trends.	Implementation of dynamic risk-based supervision.
Canada (GSPTXDE, SPTTFS)	Prudential and conservative: strict supervision and high interoperability of services.	Stable, predictable dynamics; complete identity of the internal sectors.	The highest level of intra-system integrity.	Ensuring legal certainty and uniformity of financial standards.
United Kingdom (FTNMX, FTASX)	Innovative and experimental: leadership in Open Banking and regulatory sandboxes.	Moderate but steady growth; Focus on technological transformation.	High transparency; specific trajectory of the fintech sector.	Creation of experimental modes for testing digital products.

Source: author's development.

Thus, the presented indicators are equivalents of the reaction of national banking systems to public administration. However, for a deep understanding of the synchronicity of these reactions, it is necessary to move from descriptive analysis to the use of the wavelet coherence method. This will allow to identify the degree of identity of the management cycles of the studied countries and formulate recommendations for Ukraine to strengthen investment security.

5. Results and Discussion

Here is a well-crafted results section with integrated links to sources from your list. The references are selected in such a way as to reinforce the theses on institutional resilience, regulatory models and the use of wavelet methodology for analysis of systemic risks.

The application of the wavelet coherence method made it possible to assess the level of institutional integration and interdependence of the banking systems of the USA, Canada and Great Britain [3; 7]. The results obtained are an empirical basis for the formation of priorities of the state investment policy of Ukraine and strategies for digital transformation in the face of global challenges [9; 15].

At the first stage of the study, the level of internal consistency of banking indicators within national jurisdictions was analyzed, which allows assessing the solidity and effectiveness of state supervision [5; 10].

Canadian model. Calculations of wavelet coherence between national bank indices demonstrate high and statistically reliable consistency throughout the study period [3; 14]. From the point of view of public administration, this confirms the exceptional institutional integrity of the Canadian system: different segments of the financial sector respond synchronously to the regulator's management signals, which minimizes internal systemic risks and indicates the stability of the regulatory field.

British model. The revealed full identity of the dynamics of profile bank indices indicates the high efficiency of the national monitoring system [3; 12]. Government regulation in the UK ensures transparency and predictability in the development of banking institutions regardless of their scale, which is critical for maintaining investor confidence.

The study of the mutual dynamics of banking sectors of different countries made it possible to determine the level of coordination of public policies at the international level during the post-pandemic recovery period (2021) [12; 15].

Interaction between the United States and Canada. A moderate wavelet coherence has been established, which has a short-term and episodic character [3; 7]. This proves that despite close economic integration, public management of the banking sector in these countries retains significant autonomy. State investment strategies are adapted primarily to domestic national interests [1; 5].

Interaction between the United States and Great Britain. An even lower level of regulatory synchronization was found [3; 13]. This reflects fundamental differences in management paradigms: the American model, focused on risk management and market stimulation [1], and the British model, the priority of which is digitalization and the development of regulatory innovations ("sandboxes") [9; 15].

Interaction between Canada and Great Britain. The minimal consistency of the results indicates the use of fundamentally different mechanisms for ensuring stability [3; 12]. This highlights the importance of taking into account the national context and the impossibility of blindly copying universal institutional forms.

The results of the wavelet analysis (summarized in Table 1) prove that the strategic stability of banking systems is achieved through conscious regulatory autonomy. For Ukraine, in the process of adapting the world experience, the priority vectors are: 1) the formation of its own model of resilience, in particular, the experience of Canada confirms that the effectiveness of public administration is achieved not by copying volatile external models, but by strengthening the national institutional integrity and interoperability of services; 2) regulatory sovereignty and digitalization – state investment policy should be based on its own digital priorities (Open Banking, legal certainty of working with data), which meet internal challenges and the European vector of integration; 3) systematization of the analysis results allows you to move from theoretical understanding of international experience to practical modeling.

Based on the identified patterns, the authors have developed a conceptual model for the implementation of best practices (see Figure 1), which illustrates a step-by-step algorithm for adapting this experience to the public administration system of Ukraine.

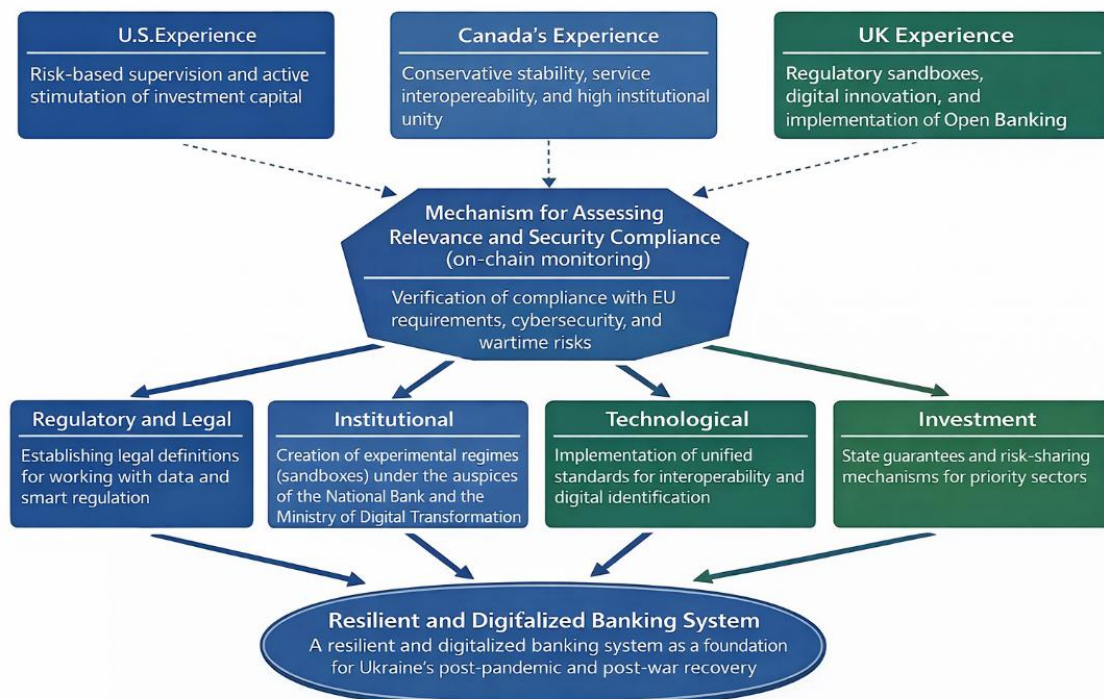


Figure 1. Algorithm for adaptation of the world's leading experience into the system of public management of the banking sector of Ukraine

Source: author's development.

6. Conclusions

The article conducts a comprehensive analysis of the dynamics of the development of banking structures in the USA, Canada and Great Britain through the prism of public administration and administration. The study of the trajectories of stock indices, which reflect the performance of banking institutions, made it possible to assess the effectiveness of national regulatory models in the context of overcoming the consequences of the COVID-19 pandemic.

The ideology of wavelet transformation, in particular the method of wavelet coherence, is chosen as the main tool of the study. The application of this approach within the science of public administration made it possible to go beyond descriptive statistics and carry out in-depth monitoring of regulatory convergence. It has been found that the high level of internal consistency of banking systems (especially in Canada and the United Kingdom) is a direct consequence of holistic public policies and a stable regulatory environment. At the same time, moderate interstate coherence confirms the priority of national management strategies over global financial trends in times of crisis.

The analysis of related studies and the obtained empirical results allow us to formulate a number of recommendations for the modernization of public management of the banking sector of Ukraine.

For Ukraine, it is not the blind borrowing of institutional structures that is relevant, but the implementation of fundamental principles – interoperability of digital services (Canadian experience), legal certainty of working with data and support for innovation through controlled "regulatory sandboxes" (UK experience).

Public investment policy should be based on risk-based supervision (the experience of the United States), which ensures a rapid recovery of bank capital after exogenous shocks.

It is necessary to approximate national regulation with the European digital space, which provides for the introduction of open banking and strengthening the cyber resilience of financial institutions.

The scientific novelty of the study lies in the use of wavelet analysis as a method of strategic audit of public management decisions. The results of the work are of practical importance for public authorities, central banks and regulators in developing strategies for the development of the financial sector, ensuring investment attractiveness and strengthening the economic security of the state in conditions of uncertainty.

The conducted study is included in the scientific discussion on the optimal models of state regulation of the banking sector in the context of global instability. The results of wavelet coherence are partially correlated with the conclusions of researchers who emphasize the growing role of central banks in coordinating financial stability policies [4; 12]. At the same time, in contrast to the works that focus on the unification of banking supervision within the framework of globalization [15; 17], our analysis proves the preservation of a high level of regulatory autonomy in the United States, Canada and the United Kingdom. The low interstate synchronization in 2021 indicates that national investment policy strategies remain a priority over global market trends. This confirms the thesis that Ukraine needs to form its own institutional framework, which would be based not on blind copying, but on the adaptation of the principles of prudential supervision [1; 5] and digital sustainability [9]. Thus, the issue of the pace of convergence of Ukrainian legislation to EU standards, which requires further study in the context of ensuring national economic security, remains debatable [16; 18].

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