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Transformations of public sector and its financial system in Ukraine

Volume 2

Public finances and financial markets: international trends and Ukrainian experience

Anatoli Bourmistrov
Veronika Vakulenko (eds.)

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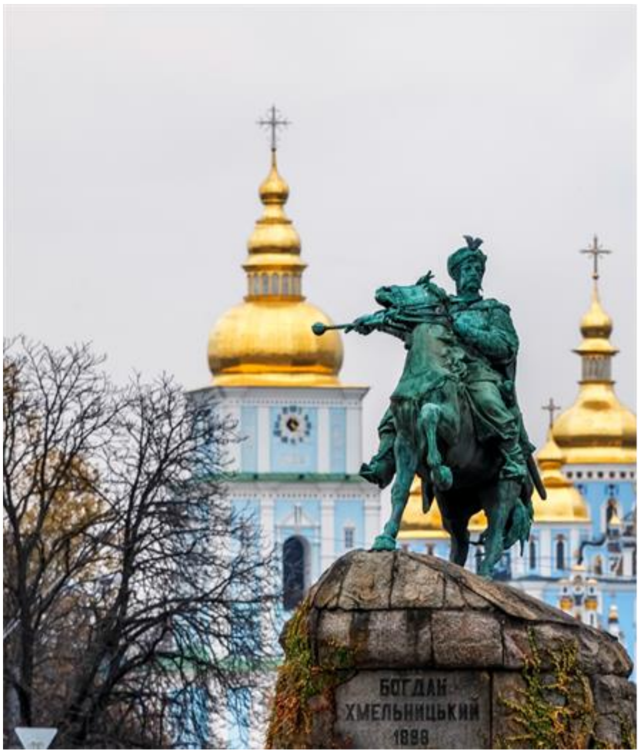

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Sammendrag: Utformet som en samling av vitenskapelige tekster representerer denne forskningspublikasjonen en felles innsats av norske, ukrainske og internasjonale forskere som deltar i NUPRE og NUPSEE prosjekter for å løse samtidsproblemene rundt transformasjonen av det offentlige finanssystemet i Ukraina.	Emneord: Offentlig sektor, økonomi, regnskap, reformer, offentlige utgifter, gjeldshåndtering, Ukraina, Aserbajdsjan	
Summary: Designed as a collection of scientific essays, this research publication represents a joint effort by Norwegian, Ukrainian and international researchers participating in NUPRE and NUPSEE projects to address the contemporary issues of transformations of public sector financial system in Ukraine.	Keywords: Public sector, finances, accounting, reforms, public spending, debt management, Ukraine, Azerbaijan	

Introduction to the volume

This research publication designed as a collection of scientific essays, gathering results from scientific cooperation of Norwegian, Ukrainian and international researchers participating in the following projects: “Norwegian-Ukrainian cooperation in a field of Public sector accounting, budgeting and finance Research Education (NUPRE)” (CPEA-LT-2017/10004) and “Norwegian-Ukrainian cooperation in Public Sector Economy Education: accounting, budgeting and finance (NUPSEE)” (CPEA-2015/10005).

The second volume of the collection of scientific essays “Public finances and financial markets: international trends and Ukrainian experience” gathers different studies, e.g., three general reviews, a research paper and a viewpoint. The essays touch upon several interesting topics, they focus on multiple aspects of Ukrainian system of public finances and financial markets, analyse their development, point to existing problems and provide international examples of similar reforms.

The first essay by Liubkina, Lyutyy and Onopko studies the transition of Ukrainian state-owned banks to IFRS 9 to understand how harmonization may influence the banks’ operations. The authors note that to ensure smooth transition to IFRS 9, new accounting and planning processes need to be created and appropriate evaluation methodology, databases and internal controls procedures are requested. The authors conclude with suggestions on how changes in an accounting framework may become a driver for introduction of performance management of state-owned organizations.

A viewpoint by Guliyev analyses condition of public debt in Azerbaijan and in Ukraine, compares them and explains what are potential threats of persistently high ratio of public debt to national macro indicators. The author uses statistical data to trace the dynamics of the volume of external public debt in Ukraine and Azerbaijan. As a recommendation, the author highlights the need for improvement of debt management to ensure economic security of the country.

The research paper by Knir, Plieshakova and Kryvoruchko mobilizes agency theory and accountability concepts to explore the interaction between institutions involved into the government debt management in Ukraine. The authors analyse shortcomings and government efforts to improve this process by highlighting chaotic interrelations between public institutions and unsystematic approach to improve public debt management in Ukraine. The findings suggest several points useful for practitioners: (1) the need for assessment of the entire debt process, namely, the attraction of state loans, their use, servicing of debt, repayment and control for the formation and use of debt resources; and (2) effective public debt management requires improvement of the legal and institutional base coupled with creation of short and medium-term external debt management.

Next essay on changing road infrastructure budgeting in Ukraine by Pohribna and Yuvzhenko reviews corresponding national legislature to point financing issues in this sphere. The authors stress the lack of financial resources to cover all planned budgetary programs. Among other important problems, the authors identify the need to review debt policy when using financial resources to fund road infrastructure, as well as optimization of expenditure structure.

Finally, the last essay by Kulyna and Kalashnikov reviews the latest international trends in development of the insurance market and relates it to the national reform of insurance. The authors discuss how digitalization affects development of insurance market and find that despite such benefits as increased flexibility and accessibility of insurance services, a possible drawback of implementation of IT-solutions is an increased price of services, which is undesirable for Ukrainian context. After analysing the condition of insurance market in Ukraine in light of international trends and innovations, the authors conclude with suggestions on relevant improvements.

We believe that fruitful discussions on the status of Ukrainian public sector developments will encourage researchers to further investigate public sector reforms in Ukraine and internationally. We also hope that this collection of scientific essays in several volumes will become a useful tool for Master and PhD students to find relevant problem statements for their own research projects.

Best regards,
The Editors

Anatoli Bourmistrov, Professor, PhD, Department of Economic Analysis and Accounting, Nord University Business School
Veronika Vakulenko, PhD student, Department of Economic Analysis and Accounting, Nord University Business School

Contents

THE TRANSITION OF STATE-OWNED BANKS IN UKRAINE TO IFRS 9: USEFUL INNOVATION OR A POLICY WITH UNINTENDED CONSEQUENCES FOR FINANCIAL REGULATORS?

Olena Liubkina,[1]* Igor Lyutyy,[1] and Mariia Onopko[2]

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Abstract

This paper describes how the approaches used to classify financial assets and financial asset valuation models changed under the transition of state-owned banks in Ukraine to International Financial Reporting Standard 9 (IFRS 9). It also examines the consequences of this transition for performance management and governance. The new approaches to the classification and measurement of financial assets can significantly affect earnings, volatility indicators and losses during the reporting period, as well as affecting the performance indicators of an organization as a whole. Thus, the regulatory capital of the state-owned banks was affected. This shift could have negative consequences for state-owned banks, which are obliged to comply with the capital requirements according to the new standard while adhering to other requirements of national legislation on regulation. In order to ensure a smooth transition to the new reporting standard, it is necessary to create new accounting and planning processes; develop an appropriate evaluation methodology, new databases and internal controls procedures; and perform staff training. In addition, the state-owned banks need to conduct regular stress-testing, and must be able to correctly interpret the results and inform the stakeholders about changes in activity according to different scenarios. Moreover, an adjustment of the financial strategy of the state-owned banks may be necessary, based on the results of the evaluation of the possible impact of new requirements on their activity. It is necessary to agree on the plan and on all changes in the business model with analysts, shareholders, regulators and funders. This paper concludes with an analysis of whether and how these changes in the accounting framework represent a driver to innovation in the performance management of state-owned organizations.

Keywords: *state-owned banks, IFRS 9, reporting, Ukraine*

Paper type: General review

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Introduction

In the new millennium, globalization is the context that identifies key trends in the development of society. The past decade was marked by turbulence in the world economy, leading to the emergence of amendments to existing reporting standards and to new standards. As noted by Lachmann et al. (2015), credit-risk presentation according to IFRS 9 addresses the need to eliminate the impact of credit risk on the profits and losses of entities, in order to help investors interpret financial performance.

Chatham et al. (2010) have pointed out that the development of globally accepted international accounting standards concerning financial instruments was affected by fears of possible consequences for financial stability. A subsequent driver of the development and dissemination of international accounting standards was the financial crisis of 2008, which led to a deep debt crisis in public finance. The magnitude of this crisis intensified debates over the measurement of the value of financial instruments, as well as efforts to develop global standards in this field. This crisis identified a variety of weaknesses, both in financial management systems at all levels and in the provision of information management solutions. As a result, active discussions have taken place regarding the current models and approaches applied in financial accounting. The implementation of IFRS 9 is expected to increase the relevance of financial reporting in investors' decisions by extending the use of the fair value for financial instruments.

Thus, the process of implementing the new IFRS and edited versions of the previous IFRS (i.e. IFRS 5, 11, 12, 14, 19, 34, IAS 16, 38, and 41) was launched in 2016. During the period of 2017–2019, the transition of commercial structures to IFRS 2, 7, 9, 15, and 16 is planned. In the field of public-sector accounting, there is a certain lag in the revision of standards and subsequent dissemination of these revised standards. In particular, the European Commission plans to finalize the formation of the European Public-Sector Accounting Standards (EPSAS), which are framework regulation standards, and start their implementation in 2021. This chronology makes sense: the International Public-Sector Accounting Standards (IPSAS) and the EPSAS are based on the IFRS, while considering the specifics of the public sector. For this reason, the IFRS editing processes must be completed first. According to this perspective, the changes that are taking place in the system of the IFRS – and indirectly in the public sector – will be reflected in the IPSAS and EPSAS.

When discussing the pre-adoption market reaction, Onalli and Ginesti (2014) argued that investors reacted positively to the implementation of IFRS 9; however, there are some country-specific factors. A positive reaction indicates that IFRS 9 is expected to resolve problems that exist in IAS 39 implementation.

The desire to provide comparability and enable correlation between processes and objects in the global dimension – in order to make them clear and transparent for international investors, businesses and government agencies all around the world – has provoked the search for a broad consensus in the field of information processing.

A tendency to unify approaches to aggregating, organizing and presenting information can be observed both in the private and in public sectors of the economy. Projects in the sphere of the development and implementation of single accounting standards are implemented by the International Accounting Standards Board (IASB), the International Public Sector Accounting Standards Board (IPSASB) and the European Statistical Office (Eurostat). Projects implemented by the IASB involve the development and distribution of the IFRS, while IPSASB projects involve international and European standards of accounting in the public sector (IPSAS/EPSAS).

The need to change corporate governance in state-owned banks was recognized in *Principles of State Banking Sector Strategic Reforming*:

> *Historically, it occurred that such state activities – in managing their share in the equity of banks – are, in fact, direct control over the activity of such banks, limiting the commercial independence of Supervisory and Management boards and creating the risk of possible political or administrative influence; this can negatively reflect on the value of assets for taxpayers, who are the final beneficiaries of state property.* (Ministry of Finance of Ukraine, 2016)

Dinç (2005) demonstrated that the ownership structure in the banking system is important for the development of the financial system, and must be taken into account during analysis. Yeyati et al. (2007) investigated the outcomes of a significant public presence in the banking sector, and came to conclusion that underperformance of public banks, in comparison with private banks, is more common in developing countries. Sherif et al. (2003) suggest that the domination of state-owned banks in the banking systems of transitional economies could pose risks for financial stability on the macroscale. Thus, increased transparency and accountability of state-owned banks is paramount for macroscale financial stability in Ukraine.

Changes in the accounting standards in Ukraine are connected with globalization and strengthened cooperation with the EU. As noted by Ramanna (2013), the process of global harmonization and the commitment to the IFRS involve countries that are in different stages of economic development, and this process is influenced by the peculiarities of each country. Ionas et al. (2007) investigated the connection between the decision to harmonize accounting standards in Romania and the requirements of international financial institutions – namely, the International Monetary Fund (IMF) and the World Bank – and discovered that it was a precondition to carry out financial agreements. Kuzina (2014) states that cooperation between Ukraine and the EU – as well as the conditions of the loan agreements with international financial organizations – place issues related to the harmonization of accounting standards high on the agenda. Maintaining financial stability is one of the preconditions for support from the IMF and for economic growth. The Ukrainian banking system is one of the riskiest in the world, according to S&P, due to the situation in Eastern Ukraine, Ukraine's political instability and the high debt burden (both sovereign and private) of the Ukrainian economy (Stockworld, 2017). International financial institutions support ongoing reforms in the financial sector, including strategic reforms in the public segment of the banking sector (NBU & IMF, 2017).

Method and Data Collection

This study is an exploratory case study with the aim of detecting the impacts of the new accounting standards on governance practices in the context of Ukrainian state-owned banks. We conducted six interviews with managers in state-owned banks, experts and auditors in Ukraine using a questionnaire based on secondary research and the literature. The secondary data included statistical and financial reports and statements that reflect the current practices of the state-owned banks and the Central Bank's supervisory policy, in order to detect the influence of IFRS 9 on the state-owned banks and identify the consequences (both intended and unintended) of the implementation of the new standard.

Institutional theory was used as the methodological foundation of this study. The transition to IFRS 9 brings change to the process of institutionalization in both state-owned banks and the financial regulator – namely, the National Bank of Ukraine (NBU). The management accounting change framework developed by Burns and Scapens (2000) was used as a tool to study this change as a process that is rooted in institutional theory. The regulator (i.e. the NBU) acts as a standard-setter in the banking industry; in the case of Ukraine, however, state-owned banks are major stakeholders. The interaction of stakeholders regarding accounting change directly affects the pace of the implementation of these changes.

The objective of this study is, first, to examine the major changes that have been brought by IFRS 9 to the accounting of the financial instruments in the state-owned banks in Ukraine, and to determine what possible effects the major stakeholders expect. Second, we examine the process of the implementation of IFRS 9 by the regulator – the NBU. The research question is as follows: What are the peculiarities and outcomes of the implementation of IFRS 9 for Ukrainian state-owned banks?

Context of the Study

The implementation of IFRS 9 in Ukraine: main actors

Failures in the mechanism of asset pricing have caused a rapid deterioration in balance sheets. This was an important lesson from the financial crisis of 2008 that increased the awareness of tight mutuality and interdependence between all sectors of the global economy. The majority of governments put forth efforts to support the solvency of the key players in the banking sector and to restore the financial stability of markets. This process has led to the accumulation of debt in the public sector.

Gebhardt and Novotny-Farkas (2011) point out that one of the most vulnerable parts of the banking system in every country is the formation of reserves to cover losses. Under IAS 39, the volume of reserves was determined according to information about previous losses, using the principle of adaptive expectations. This approach did not guarantee sufficient reserves to cover losses that could occur in the future. Such an approach to the formation of reserves in the case of "pessimistic scenario" deployment could lead to multiplied bank losses: in the case of a deterioration of market conditions, external financing opportunities are limited, and the bank is forced to replenish reserves through the sale of assets under unfavourable conditions.

Improvements towards the IFRS, particularly in terms of the classification and measurement of financial assets, were initiated by the IASB almost immediately after the financial crisis. Preliminary versions of IFRS 9 were developed in 2009, 2010, and 2013; in July 2014, the work on IFRS 9, titled "Financial Instruments", was finally completed. IFRS 9 "Financial Instruments" officially replaced IAS 39 "Financial Instruments: Recognition and Measurement" as of 1 January 2018.

IFRS 9 "Financial Instruments" identifies new approaches to the classification and measurement of financial instruments (assets and liabilities), models of impairment and hedge accounting. The new standard is significantly different from the previous one, especially in terms of the classification of financial assets, approaches to banks' estimation (based on business models) and impairment (Basel Committee of Banking Supervision, 2009).

The implementation of IFRS 9 mostly affects institutions with significant portfolios of financial assets, including high credit-risk assets and assets that are regulated towards the amount of reserves to cover losses, capital and so forth. In other words, the actors – the key participants in the changes in the accounting system – whose behaviour in each case is identified by specific motives, are banking institutions.

Both the institutions of the second level of the banking system and the Central Bank in Ukraine are significantly affected by the changes in financial assets accounting. The Central Bank simultaneously acts both as the regulatory body – whose task is to create the necessary conditions and enable banks to transition to IFRS 9 – and as an institution that must implement new accounting models and technologies. The Central Bank is a state authority with 100% state ownership, but is still based on the IFRS like profit-aimed institutions.

While the most significant consequences for commercial banks are the evaluation of the loan portfolio and the formation of reserves to cover losses, central banks have more serious difficulties in the form of portfolio assessment procedures related to reserve assets, including currency.

Findings

The Ukrainian banking system and the role of the state-owned banks

The Ukrainian banking system is a two-tier banking system: the Central Bank supervises the banking industry and the commercial banks that form the lower level of the banking system. The NBU divides banks into groups: state-owned banks (with more than 75% of authorized capital owned by the state), banks owned by foreign banking groups and banks with private capital. The group of state-owned banks includes PrivatBank, Ukeximbank, Oschadbank, Ukrgazbank, the Ukrainian Bank of Reconstruction and Development, and the Settlement Centre (NBU, 2017a). Two of these financial institutions were nationalized during banking crises: Ukrgazbank (in 2009) and PrivatBank (in 2016).

The Ukrainian banking system suffered from losses starting in 2014, and returned to a profitable performance in 2017 (NBU, 2017b). The losses of the four largest state-owned banks in Ukraine in 2014–2017 reached UAH 178.2 billion, whereas deductions to reserves made up UAH 235.3 billion. More than 90 banks have been deemed to be insolvent in Ukraine since 2014. In 2017, the state-owned banks in Ukraine dominated the banking system (around 60% of deposits are placed in these banks), especially after the nationalization of the biggest bank, PrivatBank, in December 2016. The structure of the assets of state-owned banks is shown in Figure 1. The competitive advantage of these banks is that they provide full coverage of the deposited amount for private clients, whereas only UAH 200 000 is covered in private banks. Thus, more than half of all deposits in Ukraine are protected by state guarantees. According to the NBU, three of state-owned banks have the largest assets in the system: PrivatBank, Oschadbank and Ukreximbank.

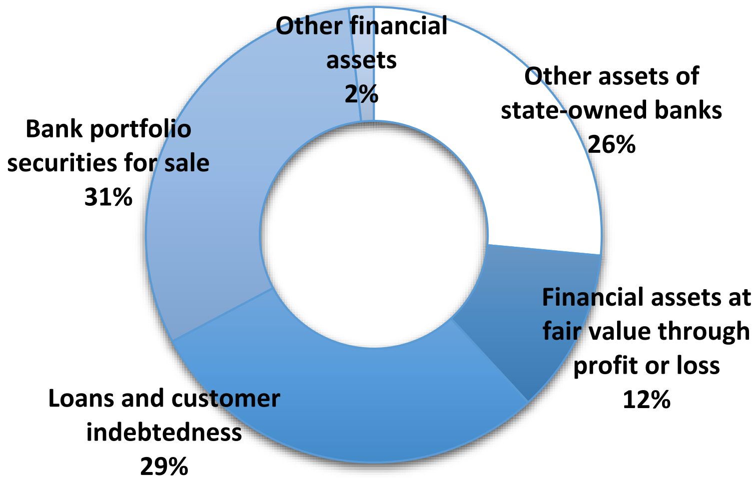

Figure 1. The structure of assets of the state-owned banks in Ukraine, as of January 1, 2017
Source: National Bank of Ukraine

The recent nationalization of PrivatBank has led to a great need for recapitalization, which has been financed by special issues of government bonds amounting to UAH 117 billion. The reporting standards in the public sector of the Ukrainian banking system directly influence the effectiveness of reforms in the financial sector. The strategic development goals of the state-owned banks include optimization of the networks of the state-owned banks, and consolidated efforts of the players in the public sector of the Ukrainian banking sector to restore access to credit in the economy. Eventually, the monopoly of the state-owned banks must be eliminated through privatization. The share of the state-owned banks of the total assets of the banking system in Ukraine in the beginning of 2017 reached UAH 644.4 billion (50.6% of the total). It is worth mentioning that the assets of the state-owned banks in Ukraine have increased by more than UAH 209 billion since 2014. The burden of supporting the operation of the state-owned banks lies on the state.

The influence of IFRS 9 on the Ukrainian banking system

The development of IFRS 9 “Financial Instruments” lasted for almost five years. The main objective of accounting standards for financial instruments is to provide the most relevant assessment of the value of financial instruments. This makes it possible to establish an adequate level of reserves for losses and to avoid the financial instability of an economic entity. As noted above, the global economic crisis revealed the inefficiency of existing risk-management systems and the weaknesses in corporate governance. The NBU emphasizes that the new approach to bank supervision was implemented as a response to international regulatory tendencies to increase the role of risk management and risk-management systems in the banks (NBU, 2017d).

The area of application of IFRS 9 includes issues that were mostly covered previously by IAS 39 “Financial Instruments: Recognition and Measurement”. After the adoption of IFRS 9, the following key areas will undergo changes (NBU, 2017c):

1) Classification of financial assets

With IFRS 9, the classification of financial assets will be implemented. The classification of a financial asset depends on the financial asset's contractual cash-flow characteristics and the entity's business model for managing the financial asset. Financial assets are measured at amortized cost, at fair value though other comprehensive income (FVOCI) or at fair value through profit or loss (FVPL). A business model characterizes how banks manage their financial assets in order to generate cash flows. Financial instruments may qualify for amortized cost or FVOCI (depending on the business model) only if they have passed the contractual cash-flow characteristics test. Simple debt financial assets, including money market instruments that consist of cash flows of the solely payments of principle and interest (SPPI) type are classified and measured at the amortized cost. However, liquid financial assets may prevent banks from balancing liquidity. In this case, banks must sell the liquid financial assets if they do not meet the requirements for liquidity. In this case, even if the assets pass the test, they should be viewed as FVOCI. If a bank holds a financial asset to receive cash flows envisaged by the contract and the sale is anticipated, then the asset is classified in a different way. For example, liquid financial assets may be held by the bank in order to balance liquidity. This means that the assets should be sold when the liquidity requirements are not met. In this case, despite satisfying the test requirements, these assets are to be measured at FVOCI. The assets that do not pass the test and do not comply with a business model are to be measured at FVPL. The changes in the values of these assets are directly attributable to the bank's gain or losses. This situation will likely lead to the need to increase the capital of the banks; in fact, some of our interviewees estimated that there would be an increase of up to 30%.

2) Model of the general principles of hedging

The new model implies better coordination between hedge accounting and risk-management practices. In particular, there is an increase in the number of hedging strategies that comply with hedge accounting standards.

3) Financial information disclosure

The financial reports have been changed or new items have been added that are aimed at the disclosure of a wider range of information.

4) Principles of credit-risk assessment

The new standard imposes a single model for the impairment of all financial assets and liabilities: the expected credit losses (ECL) model. This approach is applied for assets that are classified at amortized cost or viewed as FVOCI. The reserve for losses is measured as the amount of losses in the last 12 months or in the whole life period of the asset. Consequently, IFRS 9 expands the scope of information that must be considered when companies identify their expectations regarding credit losses.

Banks adopt justified methodologies for ECL that correspond with the complexity of the risks, the volume of the credit portfolio and the economic importance of a financial institution. The bigger and more complex the credit portfolio or institution is, the more complicated the bank's approach for the assessment of ECLs should be. Currently, there are six state-owned banks in Ukraine. Three of these are the largest banks within the country (in terms of the amount of assets), and are recognized as systemically important financial institutions (SIFIs); another of the six banks ranks as the fifth largest. As of January 5, 2017, the state-owned banks' assets held a 55% share of the total amount of solvent banks' assets in Ukraine. The state-owned banks have significantly redesigned their models of financial assets accounting, which will greatly influence the Ukrainian banking system. A particularly important problem for the state-owned banks in Ukraine is the large share of non-performing loans (NPL). Therefore, this paper is primarily addressed to systemically important banks, although it is also relevant for other banks and financial institutions in a proportionate way.

The implementation of IFRS 9 is a complex process. It is risky to underestimate its complexity – particularly regarding the state-owned banks of Ukraine, which hold more than 50% of all the assets within the national bank system. The adoption of IFRS 9 requires cooperation between different departments within the bank institution. This project must involve a wide range of professionals, including credit-risk specialists, business units, information technologists, representatives of auditing committees, and supervisory boards. This cooperation can be arranged only with the assistance of the top management of the bank and with a sufficient allocation of funds for an efficient realization. The implementation of IFRS 9 will have a huge impact on the capital of the state-owned banks of Ukraine. Unfortunately, this influence is difficult to estimate, due to the fact that while Ukrainian banks have finished their preliminary calculations, the final results are not yet evident.

Internal factors and barriers to the implementation of IFRS 9 in Ukraine

Business becomes integrated in the global environment due to numerous commercial, financial and industrial relations. Therefore, the implementation of the IFRS in Ukraine began in 2005 among non-financial corporations. The main motive was to attract foreign investment through an initial public offering (IPO) alternative investment market (AIM) of the London Stock Exchange. For enterprises with foreign capital (including banks), it was a necessity that was dictated by a strategic investor.

The uniqueness of the current situation regarding the implementation of the IFRS can be defined in two aspects: (i) the IFRS has become an overall legislative requirement, and this includes the banking sector; (ii) the transition to the new IFRS standards, and particularly to IFRS 9, is occurring simultaneously for most of the international community. The transition to IFRS 9 in Ukraine is being done without foreign experience (whether positive or negative), because the standard was implemented at the international level starting on January 1, 2018.

Ukrainian banks must implement IFRS 9, and this transition is quite difficult due to numerous internal factors. As mentioned earlier, the NBU is the key regulator of the banking sector with interest in the implementation of IFRS 9; the NBU strongly insists that banks should have started preparation for this transition in advance. In one of his interviews, NBU Deputy Chairman Roman Borysenko said: "*This is an important standard for the banking sector, so the NBU has identified it as a separate project; there are resources, the plan has already been approved.*"

Based on the official materials and analysis of the current legal, personnel and information support of the Ukrainian banking institutions, we have summarized the main steps in the implementation of IFRS 9 on both the first and second levels of banking (Table 1). This preparation involved changes in processes, operations and interaction between the departments of the central and commercial banks. Formation of the necessary legal basis is a required precondition of the implementation of IFRS 9. The information in Table 1 identifies the necessary changes at the banking legal framework.

Table 1. The main steps in the implementation of IFRS 9 on the level of the National Bank of Ukraine

	07/2016	09/2016	12/2016	03/2017	06/2017	09/2017	12/2017	03/2018
Studying, communications								
Creation/adjustment of the methodology for the accounting of financial instruments: Four instructions for NBU accounting; the Chart of Accounts of the NBU; two regulations regarding the formation and use of reserves; a procedure for the interaction of subdivisions								
Development/revision of processes for transactions with financial instruments: Changes in the NBU regulations on subdivisions; job descriptions								
Formation of database								
Requirements for the classification of financial instruments of the NBU								
Specification/development of the requirements for reporting: Changes (revisions) in the regulation regarding the preparation and disclosure of the financial statements of the NBU								
Setting up of applications and PC interfaces								
Formation of financial statements of the NBU according to IFRS 9 requirements								

Table 2. Main steps in the implementation of IFRS 9 on the level of state-owned banks in Ukraine

	07/2016	09/2016	12/2016	03/2017	06/2017	09/2017	12/2017	03/2018
Studying, communications								
Creation of the methodology for the accounting of financial instruments: Five instructions for bank accounting; Chart of Accounts of banks								
Revision of the requirements for banks regarding the compiling of financial statements and statistical reporting submitted by banks according to IFRS 9: Instructions regarding compilation and disclosure of reporting; guidelines for compiling notes to financial statements; regulation on providing information to the NBU; designing new forms (requirements) for statistical reporting								
Development of reporting indicators in XBRL format for financial instruments according to IFRS 9								
Revision of procedures for inspection in banks and banking supervision								

Source: Developed by these authors based on data from the NBU

Challenges facing state-owned banks during the implementation of IFRS 9

First, it is worth mentioning that international and national practices for dealing with the legitimation of accounting standards differ significantly. International practice does not set absolute forms for financial reports. The obligatory disclosure items are determined, but the exact form of a report is chosen by the company itself. In Ukraine, the content and form of financial reports are rigidly fixed.

Given the number of innovations in the models and approaches comprised in IFRS 9, Ukrainian state-owned banks must employ a large number of new processes. The most important of these include the following:

1) Categorizing financial assets requires judgement based on a business model and on SPPI criteria. It is necessary to interpret all the contract provisions correctly. Thus, it is necessary for the approval of classifications, risk assessments and cash flows, the level-of-credit-risk criteria, and the efficiency of hedging to be based on convincing evidence.

2) A new model of financial asset impairment is predicated on complicated judgements about the probability of credit repayment, interpretations of the notions of "default" and "a significant risk increase", and a sufficient amount of information. This model requires redevelopment of the following information data-processing systems: the organization of gap analysis processes and the estimation of the influence of IFRS 9 on bank indicators; the approval of business models and risk-management policies; the involvement of external auditors in formulating assessment policies in the early stages; the approval of the list of forecast data and policies that take them into account, thereby ensuring the quality of the historical data used in estimations; and the creation of a database and financing for the improvement of information technology (IT).

3) The introduction of new internal control systems is necessary, especially regarding the distribution of new functions and the establishment of new processes; the development of a policy for the approval of the required values of key performance indicators (KPIs) is also necessary.

4) It is necessary to approve additional types of financial reports disclosure, particularly regarding credit losses.

Based on previous panel discussions and seminars dedicated to the issue of the adoption of IFRS 9, the key points regarding the transition to IFRS 9 that are the most frequent objects of debate within bank circles were identified. Representatives of state-owned banks were given the opportunity to rate the separate elements of the preparatory process of the introduction of IFRS 9, the implementation phase, and expected outcomes for state-owned banks using a three-point scale. Thus, on the basis of several preliminary discussions and signals from the business environment, we predicted before IFRS 9 was implemented that the costs for harmonization, in most cases, were related to the charges for consultant services and to expenditures regarding the modifications of information systems.

Table 3. The results of the survey of Ukrainian state-owned banks on the implementation of IFRS 9

Preparatory process of the implementation of IFRS 9	
Staff qualification, willingness to accept IFRS 9	
Availability of statistics of loan repayments or data to compile such statistics	
Methodological support of the transition process to IFRS 9	
Implementation stage of IFRS 9	
Costs for staff training	
Payments to consultants and for the services of specialized agencies	
Costs for updating/developing information databases, software and IT support	
Application stage of IFRS 9	
Variability of profits/losses of banks	
Variability in provisions for losses	
Variability of regulatory capital	
Transparency for external and internal investors	
Impact on financial stability	

Notes: Green indicates an acceptable condition, a favourable impact on banking system, or limited threat to the banking system; yellow indicates a satisfactory condition, albeit with some problems that need to be resolved; red indicates an area of high threat and/or high risk for banks.
Source: developed by authors

Financial corporations with state property that had started to use IFRS 9 in the test mode had to channel additional funds to cover the costs related to compliance with the changes presented in the last edition of the IFRS 9. The variability of gains/losses and regulatory capital are the main challenges during the implementation stage.

Discussion

The need to transition to IFRS 9 is agreed upon by the whole community of Ukrainian banks. However, there are different views regarding the periods and phases of the process of implementation of IFRS 9. The discourse concerning this issue has continued among bankers for a number of years, and notably increased in 2016. At that time, the banks of Ukraine were indirectly given the opportunity to experience the effects of the transition to IFRS 9. On May 30, 2016, the Board of the NBU passed the "Resolution about Ukrainian banks' determination of the amount of credit risk regarding active bank operations (Resolution No. 351)". This document established new approaches for the assessment of losses from credit risk, which were compliant with IFRS 9. The introduction of this new resolution evoked a wide-ranging response among bankers and prompted a heated discussion on whether the document is well-balanced in terms of the bankers' and NBU's interests.

Based on publicly available results obtained from discussions in seminars, panel discussions and press interviews, the most frequent arguments for and against the simultaneous full implementation of IFRS 9 in all Ukrainian banks were identified and then discussed with the interviewees.

There is a distinction between the long-term and short-term expectations that were collected before IFRS 9 was implemented.

First, we can make a judgement about the validity of the short-term expectations. Our interviewees stressed that the main quantitative outcome for the banks was the probability of financial complications for financial institutions with significant portfolios of unsecured loans and credits located within or near the Anti-Terrorist Operation Zone and in the Autonomous Republic of Crimea due to the low cost of collaterals. The implementation of IFRS 9 led to a decrease in the capital of state-owned banks that amounted to approximately UAH 24 billion in 2018. The implementation of IFRS 9 influenced the level of profit of state-owned banks in comparison with the previous periods; the profit was decreased by more than UAH 6 billion.

The banks may need to spend a significant sum of money for additional capitalization after the NBU implements the new approach for prudential regulation. The experts claimed that this amount would be greater than UAH 110 billion; thus, the regulatory capital will be equal to UAH 136 billion. The insiders judged that there is a huge threat that private investors will not be interested in additional investments in the banks' authorized capitals. For state-owned banks, the costs for additional capitalization would be covered by the state budget or through refinancing granted by the NBU. However, according to the NBU, the state-owned banks did not have to increase their capital, contrary to the expectations before the introduction of the standard.

Asset restructuring or any other changes in a credit agreement are usually qualified as a default. The list of pledges that the bank can take into an estimation of credit risk is reduced and the provision rates are increased according to IFRS 9. Taking into account the high burden of NPL in state-owned banks, this situation may lead to a need for additional capitalization in the future.

The long-term expectations about the influence of IFRS 9 are mostly positive: it is expected that the level of the financial stability of the banking system will increase, and that clients' trust in the banks will strengthen. According to the Deputy Head of the NBU:

> *Diagnostic examinations of the top 20 banks showed that, very often, the financial institutions were overestimating the creditors' financial capabilities and were delaying with recognition assets as problem ones. The credit risks of banks should be determined wholly and on time. Only in this case will we have the true picture of the level of capitalization in the bank sector*.

The top bank managers claim that they made additional capitalization in accordance with their own diagnoses of the changes that occurred after the introduction of IFRS 9 and the stress-testing results of the NBU. Based on their projections, further capitalization will not be needed, or the amount of additional capitalization will be insignificant.

Apart from the assessment of the creditor's financial status, 27 additional factors that downgrade creditors' ratings to "default" and seven factors – up to "pre-default" were introduced. The possibility of using the banks' judgements and provision rates that are estimated on the basis of the banks' statistical data will give banks more discretion. According to IFRS 9, the estimation of a credit risk is based on a more weighted assessment of the counterparty's financial status and on positive financial results.

The following words by a top credit-risk manager of one bank can be cited as a summary of the peculiarities of the IFRS 9 introduction: "*The main drawback is an untimely introduction. When* *facing the tight economic crisis and the three-fold devaluation of the hryvnia, the sequence of banks hardly met the regulator's previous requirements regarding the level of capitalization*".

Therefore, the results of the introduction of this standard are mainly positive thus far, and support the chosen pathway of the regulator to increase the stability of the banking system. The deadlines for a significant number of important and essential processes were set too close to the introduction date of IFRS 9; therefore, banks did not have enough time to adjust to the new regulations. On the other hand, the qualification of specialists and experience with successful reforms in the banking sector enabled the NBU to employ IFRS 9 itself, and then provide the whole banking system with the corresponding regulatory and methodological materials. The NBU prolonged the period of the implementation of IFRS 9 for Ukrainian banks until June 30, 2018.

The implementation of a new standard will have a significant impact on the series of indicators for the sector of banks with state property. Lower profitability will likely lead to the need for further recapitalization financed by the state, and new approaches for the classification of financial assets – namely, the reclassification of FVTPL – will boost the variability of banks' gain/losses. The new approaches will also influence the normative indicators of risk coverage ratios and capital adequacy ratios. Banks' KPIs will also undergo their effect, and the new standard will fundamentally impact the banks' approaches for the assessment of credit portfolio losses. Losses will be recognized for all assets, not only those assets that incur them, and risk assessment will be based on volatile data, such as ratings and forecasts. Assets can be reclassified in regard to the horizon of risk assessment.

Consequently, the reserves for credit losses will become more volatile and there is a high likelihood that they will increase in volume. Furthermore, the introduction of new accounting rules is a time- and cost-demanding process. In particular, this process relates to necessary changes in the design and usage of risk-assessment models. All the systemically important banks in Ukraine are state-owned. This fact should be taken into account when estimating a public response resulting from the possible worsening of the results after stress-testing these banks or after the lowering of normative indicators.

It is necessary to hold public debates and consultations with all the stakeholders in this process – namely, with the regulator, shareholders and depositors. The primary goal of these events is to provide a clear understanding of the changes in governance of the state-owned banks in Ukraine.

Conclusions

Implementation of the IFRS 9 is a crucial milestone in the modernization of the Ukrainian banking system. In order to comply with this newly introduced standard, it was necessary for the banks to change their business model and introduce more advanced methods of credit-risk assessment. The role of professional auditors has grown significantly in Ukraine as a result of the IFRS 9 implementation; auditors help banks to predict possible risks based on their financial reports, and provide technical help in the development of models of credit-risk assessment. Unlike the EU authorities, the NBU did not provide detailed guidelines on modelling credit-risk assessment before the implementation of IFRS 9; instead, banks had to utilize their own expertise and invest in risk management and the development of own models. This leads us to the conclusion that the regulator gave the banks discretion to decide how much to invest in the development of models to be deployed after the implementation of the new standard; on the other hand, their decision concerning the risks of defaulting can be deemed to be inadequate and insufficiently calculated by the NBU.

The Ministry of Finance clearly articulated that the state was not inclined to provide additional capital to state-owned banks in 2018. Thus, the state-owned banks had to face severe changes in their balance sheets that affected their performance in terms of the main KPI – profitability – since a clear set of other KPIs have not yet been formulated for each state-owned bank. Investments in risk management will be beneficial for the performance of state-owned banks in the middle term. To date, the main outcome for state-owned banks is increased transparency for prospective investors. According to the data available at present, state-owned banks suffered substantially from the changes brought by the introduction of IFRS 9.

The new reporting standard has turned out to be a useful innovation for the financial sector of Ukraine and has provided a much-needed mechanism for risk-oriented prudential supervision. Thus, this was not just a technical task, but had more far-reaching effects. The consequences for the performance management and governance of the state-owned banks that became evident during the short period after the new standards were introduced are as follows: an urgency to diminish administrative costs, the creation of independent governing bodies and an increased need for state-owned banks to decrease their NPL and distressed assets. Nevertheless, the bank capital ratios of the state-owned banks remain within the threshold defined by the regulator.

Furthermore, the NBU currently implements the approach to the Supervisory Review and Evaluation Process in a way that is similar to the EU regulations. In this regard, there are qualitative outcomes of the IFRS 9 implementation: the models and accounting infrastructure of the banks will have to be enhanced in order to comply with the regulations of the NBU.

Issues that remain to be investigated in further research include the long-term viability of the new models that were introduced during the process of transition to IFRS 9, and the influence of the changes resulting from implementing the new accounting standard on the privatization of the state-owned banks in Ukraine.

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THE DEBT POLICY OF AZERBAIJAN AND SOME ASPECTS OF CREDITING THE WORLD ECONOMY

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Abstract

At the present stage of economic development, the problem of effective management of foreign debt plays a key role in the balanced development of a country. One important socioeconomic task is the timely servicing of public debt with minimal costs, identification, hedging and prevention of financial risks based on the analysis and forecast of internal and external economic factors. Under the conditions of a substantial increase in foreign debt and a reduction in the ability of countries to refinance debt obligations, public debt management policies that are aimed at minimizing the costs of servicing them through the optimal selection of debt methods and tools are of paramount importance. At the same time, a country's debt policy should be aimed at preventing the peaks of debt payments in order to prevent liquidity crises of the state.

Keywords: *debt policy, external debt, Azerbaijan, Ukraine*

Paper type: Viewpoint

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All humanity, in fact, is divided into two categories:
some borrow, others lend
(Charles Lamb, English poet)

In recent decades, the term "public debt" has often been heard in international economic relations, the ratings of rating agencies, and the speeches of politicians and experts. A country's public debt is an aggregate of the direct obligations of its government to the rest of the economy and to the outside world. The security of public debt is all the property constituting the state treasury.

Today, the whole world lives in debt. Even as-yet-unborn future generations are already potential debtors. This is explained by the fact that most states are no longer able to rely on their own financial resources for the development of national economies. States lack their own resources to cover the state budget deficit, carry out socioeconomic transformations, make investments and stimulate the economy in case of tax cuts, cyclical economic downturns and increases in government spending (i.e. in wartime or in periods of other social conflicts). The presence of public debt leads to the formation of debt policy by the governments of countries: some countries are more lenders than borrowers, while others are the opposite.

According to the report of the Institute of International Finance (IIF), the total value of world debt as of April 1, 2018 was 247 trillion USD, and the level of world debt in relation to world GDP was 317%. The relative level of debt among the countries of the "golden billion" is noticeably higher than the world average. In the United States, the relative level of debt is equal to 329.7%; in the countries of the Eurozone, it is 386.8%; in the UK, it is 456.2%; and in Japan, which has turned out to be the greatest debtor, it is 526.5%. Data on the dynamics of world debt at the end of the first quarter for some years are as follows: 2003 – 99 trillion USD; 2008 – 178 trillion USD; and 2013 – 210 trillion USD. That is, in 2018, the amount of global debt was 2.5 times greater than 15 years ago. It is higher by 69 trillion USD, compared with the level that existed at the beginning of the 2008 global financial crisis. In the first quarter of 2018 alone, world debt grew by the impressive amount of 8 trillion USD. Prerequisites for the next global financial crisis have matured and even over-matured. This has been warned by leading international institutions including the Bank for International Payments (BIS), the International Monetary Fund (IMF), the World Bank (WB), the Organization for Economic Cooperation and Development (OECD), and the largest private banks.

Countries facing economic difficulties seek to gain financial resources as debt. When the question of debt arises, it must be secured. When an investor buys the bonds of a corporation, he/she buys in the anticipation of future profits of the corporation, from which he/she will be able to service the debt. If we lend to a neighbor, we wonder how he/she will earn the money to repay us. Likewise, the creditors of a state should be aware that the government of the country will be able to repay the debt by reducing its budget with surpluses; thus, the discounted amount of future budget surpluses should be sufficient security for the public debt.

A country's need for financial resources can be covered by an international loan. An international loan is a tool used by countries to compete for markets, spheres of capital investment, sources of raw materials, and superiority in crucial areas of scientific and technological progress. An international loan enhances the imbalances of social reproduction, thus facilitating the development of the most profitable industries and delaying the development of industries to which foreign capital is not attracted. Through the channels of the world market for loan capital, “hot” money is moving; it increases the volatility of monetary circulation and credit, the monetary system, balance of payments and the national and world economy as a whole.

At present, world-class lenders include the IMF, the WB, other international financial organizations, economically stable countries and so forth. When issuing a loan, international financial organizations put certain conditions upon the debtor country, causing it to be provided with economic and political measures. Otherwise, the loan is not granted; that is, a policy of credit discrimination is pursued. Credit discrimination is the establishment of worse conditions for obtaining, using or repaying an international loan for certain borrowers compared with others in order to exert economic and political pressure on them. The main methods of credit discrimination are: placing credit restrictions; raising interest rates, commissions and fees; reducing the entire term of a loan or a grace period; requiring additional security; and causing a sudden decrease in the loan amount.

In a case when a creditor is another state, in exchange for a loan, political concessions or loyalty regarding a given issue are required from the debtor country; in other words, international credit contributes to the creation and strengthening in debtor countries of favourable economic and political regimes for creditor countries.

A country with public debt that cannot be repaid can solve this problem in two ways: either by default or restructuring – which also means technical default – or by hyperinflation, which “eats up” the real cost of debt and thereby eliminates the problem.

While the classical school of political economy considered public debt as a temporary phenomenon that should certainly be repaid, since the time of John Keynes, public debt has been viewed as a necessary element of effective economic policies aimed at maintaining a sufficient level of aggregate demand levels for production and employment. State debt has ceased to be perceived as evil, and has begun to be considered an element of sound economic policy. That is, the state can and should borrow on acceptable and reasonable terms. Optimal debt for a country is a real testimony to the credibility of the state in the eyes of its creditors.

Public debt can be either domestic (debt on issued and outstanding public loans) or external (financial obligations of the country to foreign creditors). Domestic public debt includes domestic loans or other credit obligations to creditors who are residents of the state. Domestic debt makes it possible to give a percentage of the loan to residents of the country, and protects the state from international risks.

Practically speaking, in an effectively developing and stable economy, external public debt is not a key problem for the development and functioning of society. As a rule, external public debt increases during stages of active economic growth; it should be noted that a developing economy and modernized production require certain investments, including state ones.

The list of countries with the largest external public debt is headed by the United States (16.9 trillion USD), the United Kingdom (9.8 trillion USD) and Germany (5.6 trillion USD). What do the Americans themselves think of their current public debt? Here, the warnings of the American founding fathers about public debt are of interest. The third US president, Thomas Jefferson, once said that if he could make another amendment to the constitution of the United States, he would impose a total ban on any borrowing on the part of the federal government.

Republican senator Rand Paul, who has run for the presidency of the United States three times, believes that Washington may face an economic crisis if the government does not learn from the history of the Greek debt crisis. Paul has also commented on other exorbitant spending. In his opinion, the United States suffers from excessive social security and corporate benefits. One of the election promises of the current US president, Donald Trump, was the elimination of US public debt. The president insisted that his economic measures would solve this problem; yet during the first year of Trump's presidency, the national debt grew by more than a trillion dollars.

"Micro" states such as Brunei, Macao and Palau do not have external public debt, and minimal external public debts are held by Equatorial Guinea, Algeria and Iran.

The situation of external public debt in the post-Soviet states is of interest. Let us consider this issue in terms of the very different economies of Azerbaijan and Ukraine. Azerbaijan, like other countries of the world, carries out external public borrowings (Figure 1). At the beginning of 2018, the size of that country's external public debt was 9.4 billion USD, or 22.8% of Azerbaijan's GDP. The external debt per capita is 949.5 USD.

For the period from 2010 to 2017, Azerbaijan's external public debt increased from 3.9 to 9.4 billion USD, and is represented in US dollars, Euros, SDRs (special drawing rights on the IMF) and others. Creditors of Azerbaijan include the WB, Asian Development Bank, Islamic Development Bank, European Bank for Reconstruction and Development, International Cooperation Agency of Japan and other international financial structures. Basically, external lending is used for infrastructure projects (road construction, water supply and sewage), electricity, land reclamation, irrigation and so forth.

The country's domestic public debt is small, and includes bonds of the Ministry of Finance, the CBA and SOCAR.

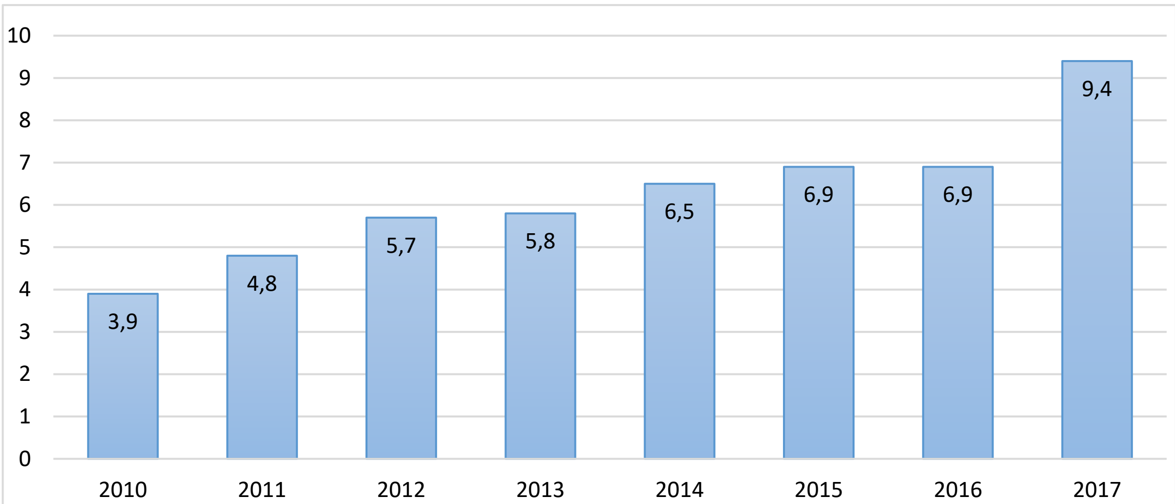

Figure 1. Dynamics of the external public debt of Azerbaijan, billion USD (Ministry of Finance of the Azerbaijan Republic, n.d.)

In fact, the gold and exchange currency reserves of Azerbaijan, which are formed from the reserves of the CBA, the assets of the State Oil Fund and the treasury funds of the Ministry of Finance, amounted to 41.1 billion USD at the beginning of 2018 and exceed the country's external public debt by more than four times. The Presidential Decree of August 24, 2018 approved the "Medium and Long-Term Strategy for Public Debt Management," the main task of which is to ensure the sustainability of public debt and reduce its share in relation to the GDP. In accordance with the Strategy, the government plans to bring the total volume of public debt to below 15% of the GDP by the end of 2025 (Azerbaijan State News Agency, 2018).

The external public and publicly guaranteed debt (hereinafter referred to as "external debt") of Ukraine has gradually increased since 2010 (Figure 2). At the beginning of 2018, Ukraine's foreign debt amounted to 49.0 billion USD, which is 43.7% of the country's GDP. The growth of debt is associated with various factors, including the insufficiency of the state budget and the balance of payments, a high dependence on energy imports, inefficient use of attracted loans and a lack of proper control over this process, and the fall in the hryvnia exchange rate. The country's external debt per capita is 1,160.70 USD. In recent years, foreign debt has outstripped the gold and foreign exchange reserves of Ukraine (which are 18.0 billion USD); at the beginning of 2018, only 36.7% of foreign debt was covered by Ukraine's reserves.

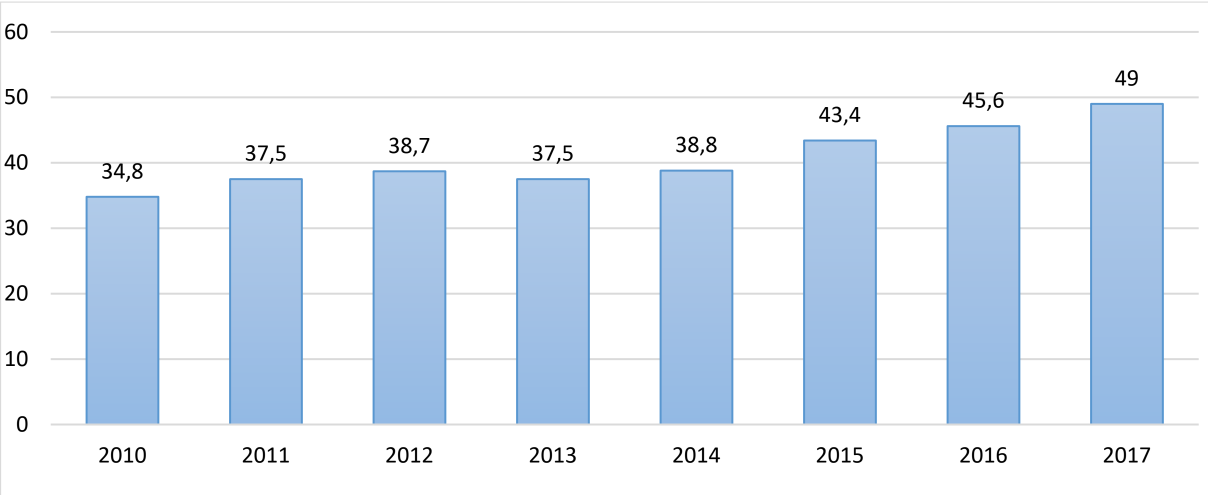

Figure 2. Dynamics of the external public and debt of Ukraine secured by the state, billion USD (MinFin Media, n.d.)

The ratio of the public debt of Azerbaijan and Ukraine to their GDP is presented in Figure 3.

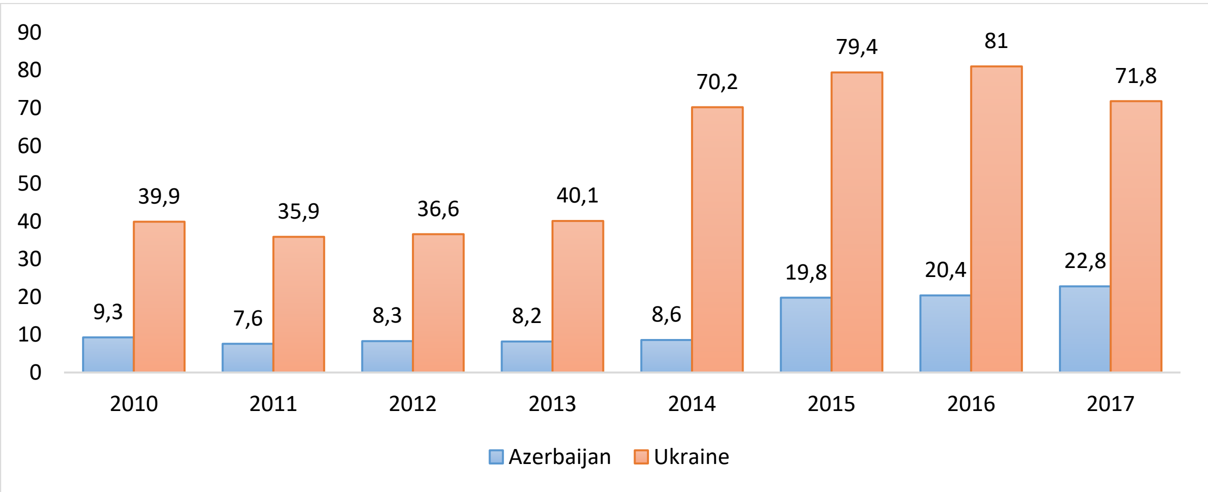

Figure 3. The ratio of the public debt of Azerbaijan and Ukraine to their GDP, % (Ministry of Finance of the Azerbaijan Republic n.d.; MinFin Media, n.d.)

How the size of the external public debt influence the economic security of a state? What relative indicators are available for the measurement of external public debt, by which it is possible to compare the state of external debt of different countries? For a cross-country analysis of external public debt, three indicators are most often used: the ratio of total external debt to gross domestic product, the ratio of total external debt to the export of goods and services, and the ratio of debt service payments to the export of goods and services. According to the threshold indicators of external debt based on the Maastricht standard, it is recommended that the debt burden ratio does not exceed 60% of the GDP; for exports of the country, this figure is 200%. As for an indicator of the share of the external debt service (repayments on interest and principal debt) in a country's exports, no clear criterion exists, but it is believed that this indicator should not exceed 15%-20%. Some countries also use an indicator such as external debt per capita. It should be noted that this indicator gives an idea of the external economic dependence of the country rather than of the absolute value of its external debt.

An analysis of the dynamics of the share of external public debt in the GDP and exports of Azerbaijan (Figure 4) indicates sufficient stability of these indicators in the period 2010–2014. The share of external public debt in the GDP and exports increased abruptly and reached its highest value in the period 2015–2017 due to a sharp drop in oil prices in 2014, the devaluation of the national currency, lending to meet Azerbaijan's obligations regarding international oil and gas projects, and the repayment of most of the external obligations of the largest bank in the country – the International Bank of Azerbaijan.

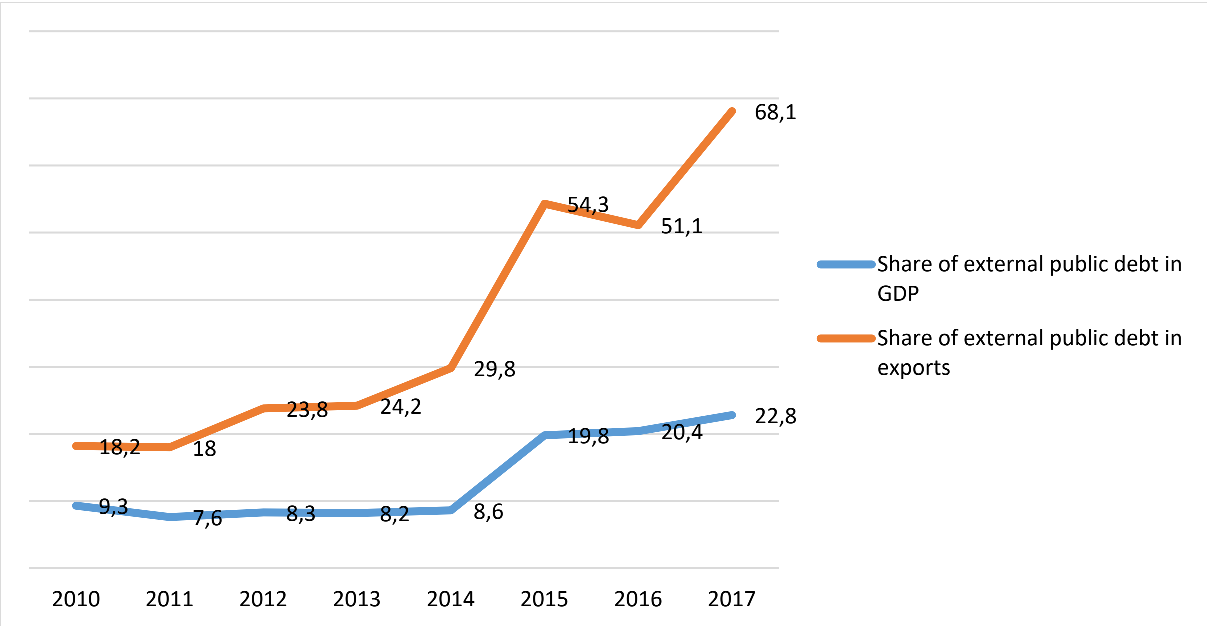

Figure 4. Dynamics of the share of the external public debt of Azerbaijan, % (The State Statistical Committee of the Azerbaijan Republic, n.d.)

In 2017, the ratio of Azerbaijan's foreign debt to the GDP amounted to –22.8%, almost three times less than the threshold value of the Maastricht standard; the ratio of external debt to exports was – 68.1%, also almost three times less than the threshold value; and the ratio of debt service payments (855.9 million USD) to the export of goods and services was 6.2%, three times less than the threshold value.

Thus, we see that the indicators of Azerbaijan's external debt are satisfactory in comparison with the limit values of the Maastricht standard. This fact is evidence of a cautious policy of foreign borrowing of the state.

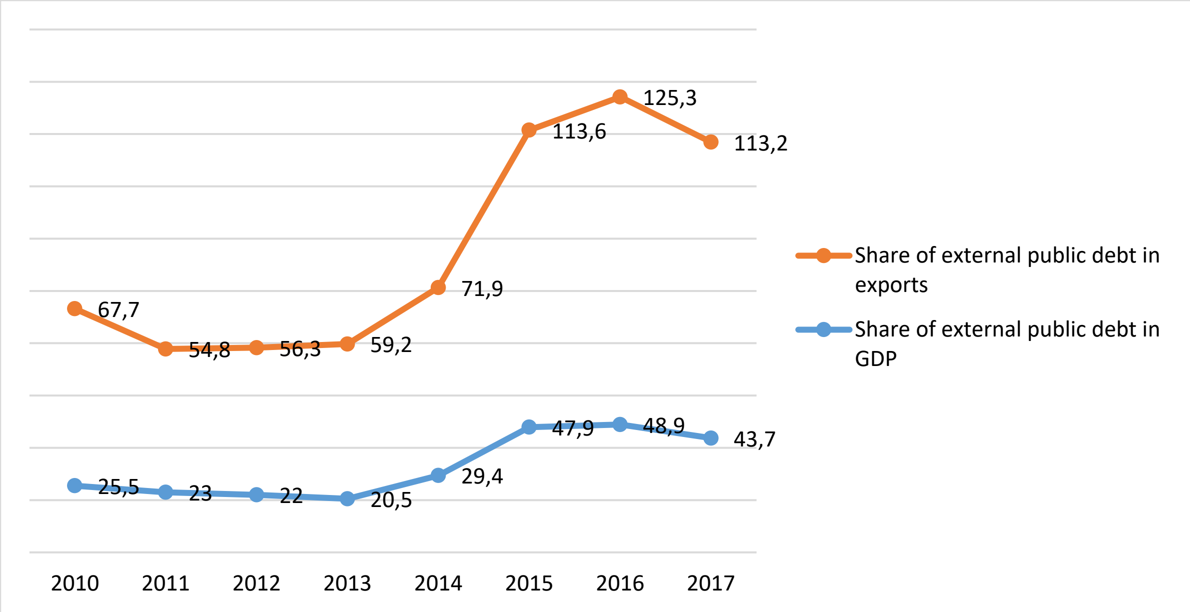

Figure 5. Dynamics of the share of the external public debt of Ukraine, % (Minfin Media, n.d.)

Although it remains quite high, the level of the external debt of Ukraine is not critical at present (Figure 5). The ratio of Ukraine's external debt to its GDP is 43.7%; this is below the threshold value, since the international Maastricht standards state that government debt obligations greater than 60% of the GDP are considered critical. The ratio of Ukraine's external debt to its exports is 113.2%, which is also less than the threshold value of 200%.

The growth of the indicators of Ukraine's external debt is mainly caused by the growth of dollar against hryvnia. Therefore, with the onset of the financial crisis, the government of Ukraine began to seek IMF loans in order to preserve the stability of the country's banking sector and stabilize the national currency. Some of these funds were also used to cover the public debt.

When countries have public external debt, the problem of effective debt management arises. The art of managing external debt involves ensuring that the government does not lack financial resources for investment projects, while simultaneously ensuring that the obtained loans do not create a debt-overhang situation and do not increase the debt burden on the economy to the point at which debt service is not burdensome for of the state.

The experience of developed countries in managing public debt is of interest to both Azerbaijan and Ukraine. Many countries are creating management structures – that is, debt agencies – to implement this task. The debt agency systematizes all information flows that are relayed from different government agencies by creating a single information database on debt obligations and macroeconomic parameters. In addition to accumulating information about the parameters of the state of the national economy, the debt agency accumulates data on the state of world financial markets, credit ratings, new programmes of international financial organizations, and so forth. This information makes it possible to quickly track recent global trends in the macroeconomic sphere – especially changes in indicators with a direct impact on the solvency of the state in the short and medium term. The main purpose of creating a debt agency is the effective management of public debt with minimal maintenance costs.

World practice has provided several examples of such agencies. The main activity of the German Federal Republic Agency GmbH (n.d.) is to quickly respond to the rapidly changing needs and requirements of financial markets, reduce interest costs in the medium term, and optimize risks in the structure of the debt portfolio. The agency also acts in financial markets solely on behalf of and at the expense of the German federal government. Its most important task is to ensure the solvency of the German Federal Government. The Swedish National Debt Office has a similar task (n.d.): to minimize the costs of the central government without taking excessive risks. The work of the agency should ensure that taxpayers' money is used as efficiently as possible and that the financial system remains stable. The UK Debt Management Office (2019) has been transformed into a separate structure by restructuring from the Bank of England; today, it is responsible for implementing a debt management policy and minimizing financial expenses in the long term, while taking all risks into account.

In conclusion, I would like to suggest several practical proposals for solving the debt problem, as follows:

- the establishment of a clear rationale for the need for new public debt;
- the development of transparent and convincing criteria for providing state guarantees;
- the establishment of an optimal size for external public debt; and
- the improvement of the management and service system for public debt.

External financial sources should be considered in terms of their volume and efficiency of use, as the inefficient use of resources leads to an unlimited need for more. Although the absolute value of public external debt can be quite large, the debt must always be within a certain level of dependence relative to the volume of the GDP. Excessive public external debt in comparison with the volume of the GDP, followed by other macroeconomic indicators, will pose a threat to the economic security of the country.

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CURRENT CONDITIONS AND CHALLENGES OF PUBLIC DEBT MANAGEMENT IN UKRAINE

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Abstract

This research, based on ideas of agency theory and accountability concepts, aims to investigate the public debt management process in Ukraine, including how the interaction between the institutions involved into the government debt management occurs. The paper focuses on the issues and problems of public debt management in Ukraine, the analysis of the shortcomings and government efforts to improve this process. There are examples of chaotic interrelations between public debt management institutions and unsystematic approach to improve public debt management in Ukraine. In order to overcome existing barriers, the optimization of the public debt policy and introduction of the strategy of public debt management should be holistic and comprehensive, based on the foreign experience and recommendations of trustworthy country partners, e.g., the IMF. The findings are useful for practitioners and researchers to gain knowledge on the issues and challenges of public debt management in Ukraine.

Keywords: *public debt management, public servants, agency model, accountability, public debt, public finance*

Paper type: Research paper

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Introduction

The issue of public debt management is important and rather global. Recently public debt has increased significantly in developed economies, and this trend has been accompanied by mixed dynamics of GDP growth (Checherita-Westphal and Rother, 2012). For instance, USA national debt rose for more than $21 trillion by February 2019 (Caronello and Murray, 2019). Japan comes in second place, with a gross national debt burden of US$9.6 trillion, followed by China with US$5.2 trillion (Japan Debt Clock, 2019; China Debt Clock, 2019). The annual growth of the public debt of Ukraine exhibits a constant trend. By the end of 2018, the volume of government debt was US$78,32 million. The most intensive debt growth was observed in 2014-2016, due to economic instability in the country caused by high currency borrowing risks and a significant debt burden on the budget. In 2014, Ukraine has experienced a combination of political, financial, economic and banking crises. The conflict in the East of Ukraine together with macroeconomic imbalances accumulated in previous years negatively affected macro-financial stability.

Despite the numerous negative consequences of this method of financing of the budget deficit, public debt remains the most popular method of financing the expenditures. The level of the debt burden of many states, and in Ukraine in particular, is critical. This was caused by ineffective debt policy and the lack of an optimal strategy for public debt management (OECD, 2017).

Today scholars in economics do not consider public debt as a serious problem; rather the problem lies in poor management and instability of public debt. Inadequate debt management and constant growth in debt-to-GDP ratios may lead to negative trends and changes in key macroeconomic indicators such as non-investing, financial system instability, inflationary pressure, or exchange rate fluctuations (Checherita-Westphal and Rother, 2012). There are also important social and political consequences of an unstable debt burden. A steady and high public debt requires large budget resources to service the debt. Consequently, the government is forced to reduce allocations to other public services and public assistance (Lyutyy, 2008).

Notably, the potential for debt financing in Ukraine is not used effectively in practice. The main part of borrowed funds is used to finance current budget expenditures. Only financing from international financial institutions and foreign banks is used to finance development projects. On the other hand, in developed countries the bulk of borrowings is directed at the implementation of large-scale national projects, infrastructure development and promising sectors of the economy. This shows that Ukraine needs to improve the system of planning, implementation, and control of development projects financed by public loans.

It is important to get an understanding of difference between terms “public debt”, “government debt”, “state debt”, “national debt” and “sovereign debt”. Although most of the above terms are used in reference to one concept, there may be some differences and nuances in their meaning. For example, in some countries, in particular in the federal states, the term “public debt” may relate to the debt of state, provincial, municipal, or even local authorities, as well as the debt of the central federal government. In the context of Ukraine, these terms are used in the same way and in general mean “public debt”. According to Rozhko (2005), public debt is the sum of government financial liabilities for issued and unpaid internal and external loans. Since there is no clear distinction between these terms in Ukrainian literature, we will consider all these terms synonymic.

Literature review: international and national perspective

Scholars from different countries have been investigating issues of government debt management. For instance, Smith and Cannan (2003) determined public debt management as all government actions, in particular action of the Treasury and the Federal Reserve, which affect the structure of public debt. However, the determination of the volume of new borrowing to cover a deficit or amount of liabilities that should be repaid by the state under the conditions of a budget surplus does not belong to the sphere of public debt.

Public debt management legislation is a central element in ensuring reliable financial policies and clear responsibilities, accountability and transparency. Debt management legislations limit the potential abuse of power and the possibility of multiple issuers of government debt and establish appropriate accountabilities for managing government debt portfolios. All these issues are contained in public finance management legislations administered by ministries of finance (Wheeler, 2004).

The legal framework should clearly predict the existence of an institutional framework for the implementation of debt management. According to Wheeler (2004), in most countries, responsibility for managing public debt is centralized either within the Ministry of Finance, or in the debt department outside this office, which provides advice on the debt management strategy. Besides, Wheeler (2004) points that central banks also perform a debt management functions, including daily operations on the domestic market.

The issue of public debt management is widely discussed in the Ukrainian economic literature. For instance, Yuriy (2008) states that the concept of «debt management» is a complex of measures carried out by the state and authorities in order to determine the scope and conditions for raising funds, their placement and repayment, as well as ensuring the solvency of the state.

According to Rozhko (2013), public debt management is a set of actions of the state related to the knowledge of market conditions on the capital market, the issuance of new loans and the development of terms of issue, with the payment of interest on previously issued loans, the conduct of conversion and consolidation of loans, the definition of the exchange rate on the money market, the conduct of measures to determine interest rates on state loans, as well as measures of the state to repay previously issued loans.

At the same time, not only the management category is used, but also the category of government debt regulation. Prutska (2010) distinguishes these two concepts, defining the «management» as a set of techniques and methods of purposeful action on the object in order to achieve a certain result, and «regulation» - as the complex of actions on the object in order not only to achieve a certain result, but also to normalize it within the specified parameters, plans. However, management is a broader concept, because, in addition to methods, functions, forms and principles, management also involves management departments and control subsystems.

According to Zhulin (2012), public debt management, as a system, combines the following components: the object of management, the subjects of management and the management mechanism. Objects of public debt management are issued debt obligations of the state and borrowed funds received by government and business entities from internal and external sources. Subjects of public debt management are the bodies, organizations, institutions, which, in accordance with the legislation, are obligated to carry out activities related to the management of the public debt, as well as legal persons (borrowers of guaranteed loans), international financial and credit organizations and governments of foreign states that are creditors of the state. The mechanism of public debt management represents the system of methods, levers, instruments used in the activities of the state and enterprises for the relevant regulatory, legal and information provision policies at the micro and macro levels (Londar and Timoshenko, 2009). Plet's (2012) argues that the main elements of the mechanism of public debt management are following components: forecasting and planning (development of management strategy), debt service, monitoring and control, accounting and financial reporting.

Vorobyov (2009) notes that in the process of functioning of the public debt it is necessary to distinguish terms such as:

- debt repayment, which is appropriate to consider as the execution of debt obligations to domestic and foreign creditors for repayment of the principal amount of debt;
- debt servicing, which should be considered as a mechanism for accrual and payment of interest on debt in accordance with the agreements on government loans.

In practice, many cases were observed when governments could not sustain their debt obligations and were forced to state a default. The sovereign debt varies between countries, for example, by maturity, currency in which it is issued, and whether it offers nominal or real interest rates (Medeiros et al., 2007).

Governments are usually lent by issuing securities, bonds and promissory notes. Lenders sometimes attract money directly from international organizations - the IMF, the World Bank. Since the state receives income from a large part of the population, public debt can be considered as an indirect taxpayer debt. Unlike private debt, sovereign debt is particularly difficult to fulfill (Mesjasz and Mesjasz, 2016).

Public debt restructuring can be defined as the exchange of outstanding government debt instruments such as loans or bonds for new debt instruments or cash through litigation (Das et al., 2012). There are two components of debt restructuring:

- redevelopment of debt, which can be defined as an extension of the maturity of the old debt, possibly with lower interest rates; the redistribution of debt involves the release of debt, since they shift contractual payments for the future;
- debt reduction, which can be defined as a reduction in the personal (nominal) value of the old instruments.

Most studies on public debt management focus on debt restructuring, which usually involves a form of debt reduction. Debt restructurings and default are closely linked, but not identical. Default is the government's failure to pay general debt or interest in due time (after the grace period). Credit rating agencies, such as Standard & Poor's (S&P), determine a default in a case when a country breaks a contract, or when a government tender offers a stock exchange offering a new debt with less favorable terms than the original issue (Chambers and Kraemer 2011). According to Tomz (2013), a default can also mean the termination of all debts to creditors. These cases are also called a moratorium on debt or a delay in payments.

Another kind of debt restructuring is redemption (repurchase) and debt swap. It means that repurchased issued debt instruments are exchanged for cash, often at a discount. There are three reasons why governments in developing countries are committed to swapping repayments: reduce debt repayments, minimize sovereign risk, and develop domestic capital markets (Mesjasz and Mesjasz, 2016).

Theoretical background: agency theory and accountability concept

The development of an effective system of debt management requires the investigation of the processes of interaction of key actors. The theory of agent relations allows to identify the motives of the behavior of agents and principals, outline the main problems of their interaction. Opportunistic behavior, asymmetry of information and other factors affect the system of economic security of the state and enterprises. Moreover, one of the possible ways to solve problems is to harmonize the interests of the abovementioned subjects (Homayoun, 2015).

Zaharko (2012) defines a conflict in public administration between agents and principals as a process of communication, when one side feels that the other side is opposed to its general interests, the general purpose. The reasons of conflicts in the field of public administration are phenomena, events, facts, situations that precede the conflict and cause it under certain conditions of activity. According to Dawson et al. (2016), the public sector needs to pay more attention to politically sophisticated allocations of public resources. In fact, the public sector differs from the private sector in two important ways: the lack of profit maximization as a confusion target and public service motivation (PSM).

That is, considering the assumptions about the interactive environment, the presence of asymmetric information allows to state the hidden possibilities of the agent in securing their personal interests and hidden dominance in their relationships. In addition, the honesty of the agent as a principal cannot be fully controlled, therefore opportunism may arise. It should be noted, that PAT is one of the most useful tools for research and understanding of corruption-related issues when people definitely do wrong things when they are not being watched (Widmalm, 2016).

The existence of problems between the principal and the agent generates agency costs and principal residual losses (the monetary equivalent of the difference between the actual decisions of the agent and those that maximize the welfare of the principal). According to this information asymmetry, the manager must spend additional resources to control the agent through supervision. In the case of the public sector, an overly regulated field seeks to emphasize information asymmetry because of the enormous number of bureaucratic documents that require cost estimates and impedes monitoring (Homayoun, 2015). In addition, agency costs come from many sources: cost of hiring, unfounded choice of employees, provision of incentives, evasion, theft, corruption, monitoring and police activity, self-regulation (Shapiro, 2005).

As a result, many scholars in the last years suggested that a government needs to have a high level of accountability to solve problems in the relationship between the principal-agent. In democracies, the citizens (or voters) are the principals, and government officials (politicians and civil servants) are the agents. Gailmard (2014) considers the principal-agent relationship as a relationship of accountability. Accountability is a matter of concern for many countries due to widespread public demands for transparency in governance and global protest against corruption (Roberts, 2006). Accountability is important for public administration for better governance (World Bank, 2016).

Asogwa (2013) noted that the main idea of accountability is that one person or institution is required to report on its activities to another person or institution. The general patterns of accountability relate to any relationship of this kind. In governance, responsibility relates to relationships between public and private actors. The application of general models to specific cases of relations between the government and citizens is often a matter of doubt, not least because the rules of what is considered appropriate vary from one country to another, one sphere of state activity to another, and so on. Norms in the relationship of accountability also change over time.

Accountability is clearly caused by liability, so those who is responsible is thus accountable. According to Stanley (2000), civil servants are accountable in the following:

1) public funds management, including: regularity (means the requirement that all costs and receipts should be considered in accordance with the law), effective control systems and value for money;
2) relevance: with state policy and initiatives; with law; with public expectations of proper behavior;
3) performance, including: setting goals and objectives; providing acceptable levels of public service.

Through the change of paradigm, accountability is seen as a more interesting area for studying with the involvement of public administration and accountability, which is discussed in the latest scientific literature (Almquist et al., 2013). Since this concept has recently been expanded, it can now be applied to more complex relationships. Accountability is not limited to the principal-agent relationship, and vice versa, entities can be responsible to many organizations inside and outside the organization. To this end, different types of accountability have been identified depending on the type of relationship, which means that it can now involve a wider range of stakeholders (Sinclair, 1995). For instance, Khotami (2017) states that public accountability consists of two types: vertical and horizontal accountability. Vertical accountability is the responsibility for managing the funds of higher authorities, such as accountability of working units to local self-government bodies, regional accountability to central authorities, etc. Further, horizontal responsibility is a responsibility that is passed on to the general community. The idea is that institutions such as parliament and the judiciary provide what is usually called horizontal accountability or the capacity of a network of relatively autonomous powers that can call into question, and eventually punish, improper ways of discharging the responsibilities of a given official. Alternatively, vertical accountability refers to the ability of the state's population to ensure accountability of its government through elections and political parties. It focuses on relations between citizens and their elected representatives. Thus, vertical responsibility includes the possibility of organizing political parties and participating in elections.

Vertical and horizontal reporting reflects the main role of formal institutions - elections, parliaments, courts - in the field of state supervision. However, the effectiveness of vertical and horizontal forms of accountability itself is limited. Such official accountability institutions may not have the ability to constantly monitor the daily activities of the entire state apparatus.

Corruption and voting studies have shown that in practice citizens often cannot punish corrupt regimes through elections. Hence, diagonal accountability is aimed at attracting citizens directly to the functioning of the horizontal reporting agencies. It is an effort aimed at strengthening the limited effectiveness of the functions of watchdogs of civil society by breaking the state monopoly into responsibility for official control of the executive.

The ideas of the agency theory and accountability concept perspective are relevant for our research in that they enable an analysis of the influence of institutions on the public debt management.

Empirical research and results

The research in the paper consists mainly of analysis of secondary data. Most of the secondary data was founded via online services. This information was both quantitative and qualitative. For the collection of secondary data, published data from following were used: a) various publications of the government of Ukraine and national rating agency (e.g., Budget Code, Acts of Parliament, annual reports and financial statements of Budget of Ukraine, statistical statement, reports of government departments, reports of National rating agency “Ryrik”); b) various publications of international bodies and rating agencies (e.g., IMF, World Bank, Fitch, Moody’s, etc.); c) books of various authors, journal articles and newspapers about government debt management; d) official web-sites.

Institutional framework of governmental debt management

The institutional structure of public debt is the internal organization of its components, which act as a certain integral system. In Ukraine, economic institutions of public debt are state authorities and administrations, which define the main priorities of debt policy in the short and medium term, as well as legal entities (guaranteed loan borrowers), international financial organizations and foreign governments acting as creditors of the state (Figure 1).

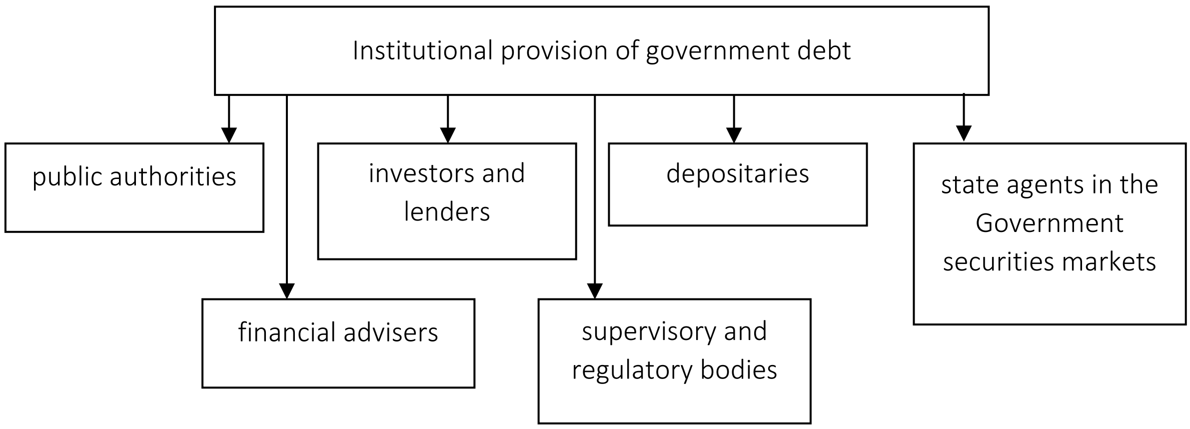

Figure 1. Institutional provision of government debt in Ukraine (adopted from Lyutyy, 2017)

Currently the following institutions are involved into the process of government debt management: Verkhovna Rada of Ukraine, Cabinet of Ministers, Ministry of Finance of Ukraine, Treasury of Ukraine, National Bank of Ukraine, Accounting Chamber of Ukraine, The National Commission on Securities and Stock Market. Their main functions are outlined in Table 1.

Table 1. Main functions of the institutions of the system of public debt management in Ukraine

Institution	Function
Verkhovna Rada of Ukraine	carries out control over the size of government borrowings and the state debt in the course of approval of the State Budget for the current year
Ministry of Finance	providing control of absolute and relative indicators of debt and timely execution of debt obligations in accordance with the schedule of payments
National Bank of Ukraine	regulation of the size of the money supply, control over the receipt and use of the credit resources of the State Budget of Ukraine and special NBU accounts, the determination of the discount rate
National Securities and Stock Market Commission	state regulation and providing control over the issue and circulation of securities and derivatives in the territory of Ukraine
Treasury of Ukraine	accounting of revenue and expenditure of the State Budget of Ukraine and control over observance of the accounting rules
Accounting Chamber of Ukraine	control over payment of interest payments and repayment of state debt and efficiency of management of funds of the State Budget of Ukraine

Source: developed by authors

The Ministry of Finance of Ukraine has the authority to attract borrowed financial resources, to service them, perform operational management of the public debt, interact with the foreign governments and international financial organizations.

However, an important condition for increasing the effectiveness of institutional support for public debt management is the transparency that can be provided by the relevant legislative and regulatory framework. There is no separate Law "About public debt management" in Ukraine. Issues concerning public debt management are noted in the Budget Code. The draft of the Law «About Public debt of Ukraine» was created in 2003 for approval by the Verkhovna Rada of Ukraine, which stated that one of the tasks is to create a new institution - the Public debt Management Agency of Ukraine. The Verkhovna Rada did not approve this draft.

Nevertheless, in 2018, The Ministry of Finance of Ukraine intends to establish a Debt Management Agency to strengthen the institutional capacity of the department in this direction. This was reported by Finance Minister Oksana Markarova:

> *"Currently, we are working with the government debt commissioner Yuri Boutsoy and the World Bank team on choosing the optimal model for the functioning of such an agency in order to be able to attract professionals from market for this work."*

Many experts agree with Oksana Markarova that it is necessary to create an agency that would be a separate independent institution and had functions of a non-government service.

Challenges of managing government debt in Ukraine

Public debt management is one of the key factors in ensuring macroeconomic stability in the state. The settlement of a debt management problem depends on the budget capacity of the country, the condition of its foreign exchange reserves, the level of interest rates, the investment climate, etc. (Shelest, 2017). The current economic situation is characterized by a high level of debt burden in Ukraine.

The issues and problems of public debt management can be both institutional and technical. Some problems are permanent, while others are temporary. Similarly, it may be politically related to debt operations (Figure 2). Good debt management needs to overcome all these challenges and issues for debt management tasks. In that way, some debt management issues in Ukraine will be described in this paragraph.

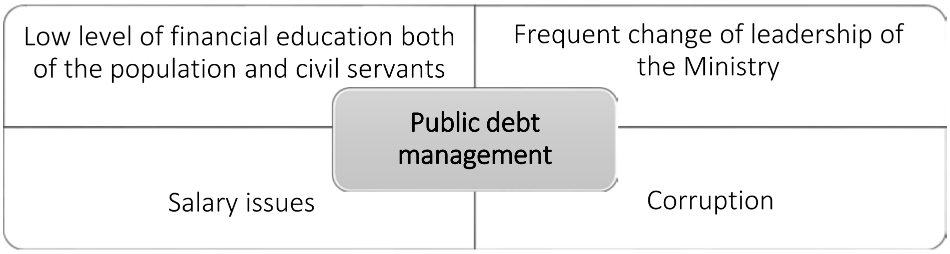

Figure 2. Main issues of the government debt management
Source: developed by authors

The interconnection exists between the frequent change of politician power in Ukraine, and civil official's turnover especially in those Ministries which are responsible for economic issues. Thus, the actions of politicians play an important role in the process of government debt management. As the government changes, senior civil officials also change. According to the statistics, the Ministry of Finance loses about 8 months of work, during the process of team change and the acquaintance with their responsibilities. There may be different conflicts of interests, for instance, the conflict between existing staff and newcomers.

In addition, there is a problem with the lack of the staff, because the Ministry does not have enough people to fulfil all their tasks. Young and ambitious people do not often see the prospect of working in the Ministry of Finance. Consequently, an important problem caused by the low competition in their field is the low level of financial education not only among the population, but also among civil servants.

There is also gender inequality since the office of 25 people has only 5 men. Since women constitute the majority of employees in the Ministry of Finance, there is noticeable staff turnover, as they often go on maternity leave.

It is also worth noting that Ministry of Finance is a public service and salary issue is an important one. Public wages cannot compete with salaries received in business. That is why highly qualified specialists do not want to work in the Ministry of Finance. If you compare a young specialist in a market structure and a young specialist in state structures with the same volume of workload, they have a noticeable salary gap.

The situation may be even more critical with regard to cheap top-management of the Ministry of Finance. Generally, there is a strong discrimination in relation to inconsistency of wages in public service and business in Ukraine.

An important problem is corruption. 91% of Ukrainians consider corruption a serious problem for the state, and 61% - are convinced that this is the most serious problem that impedes the development of the country. This is stated in the results of the survey conducted by the Foundation in conjunction with the sociological service of the Razumkov Center. During the last year, Ukraine has risen to 10 positions in the Corruption Perception Index, ranking 120th among 180 countries.

Debt Management Agency: rescue or unnecessary structure?

As stated above, Ukraine is planning to establish a Debt Management Agency in Ukraine. It is worth considering what institutional systems exist in the world. There are three main models of institutional support for public debt management: ministerial, banking and agency (Lyutyy, 2017).

The essence of the ministerial model is that the main tasks are assigned to the State Treasury, or the Ministry of Finance, which manages the external authorities, and the objectives of debt management are consistent with the objectives of the country's fiscal policy (Borinets, 2012). This model is used in Ukraine, Italy, Spain, Lithuania, Estonia, the Czech Republic, Slovenia and other countries.

According to Sych (2013), banking model is the management of external debt through the Central Bank of the country. It corrects all current operations in the financial market, develops the country's debt strategy, manages public debt, which is subordinated mainly to the purpose of monetary policy of the state. The countries that use the banking model are Cyprus, Denmark, Malta, India and the Philippines.

The agency model forms a separate structure, or an agency that chooses the most optimal methods of managing external public debt. The agency develops and implements operational objectives and public debt management considering market-based methods and management techniques in accordance with government decisions. All public debt management functions are concentrated in the hands of one agency (Lubkay and Popko, 2014). Countries such as the US, UK, Austria, Belgium, Finland, France, Greece, Netherlands, Ireland, Latvia, Germany, Portugal, Sweden, and Hungary use an agency model for managing public debt. In this case, government or banking, they are also agent. In the government model, the agent will be the government, and in the banking model the agent will be the bank.

The choice of the optimal model for Ukraine can be considered as a prospect for growth of economic stability, as well as increase of the credit rating of the country.

With the new Minister of Finance, Markarova, and with the support of World Bank, the idea of establishing a separate Debt Management Agency appeared. The budget with separate UAH50 million for the creation of such an agency was approved in the State Budget 2019 year.

Among the problematic issues of the creation of Debt Management Agency which are discussed among experts are the following:

- civil servants need to understand the integrity of the whole financial system of the country, to separate the structure without understanding how it will act, it's just another barrier. In this case it will extends the time for making the decisions and will worsen management;
- the problems at the adoption stage due to the recent substantial politician power changes, new president and Parliament.
- corruption issues in Ukraine may cause deviations from the initial mission of the Debt Management Agency (e.g., people with inappropriate qualifications might be hired). Thus, the first step to building such an agency is to overcome corruption;

- it will contribute to the growth of hidden unemployment. The creation of another institution will simply increase transaction costs.
- the issues of open generated data and electronic services should be solved to reduce the amount of transaction costs and corruption component associated with the process of debt management. After it is efficiently done there may be no need to introduce the Debt Management Agency.

The above stated issues are steps to overcome and the general idea of the creation of the Debt Management Agency is worth attention. Precisely, the agency has authority to operate under the Budget Law and within the regulations set by the IMF. The agency should operate in market conditions, look for most appropriate ways to attract money for the budget and methods to save on debt servicing. Therefore, it will reduce the deficit of the budget and this will reduce the need for additional funding.

To sum up, the creation of the Debt Management Agency is a prospective step for the improvement of the public debt management experience in the country. To become successful, this institution should be protected from corruptive component and operate new online services. It should hire employees with high qualification and guarantee them a competitive salary. The staff should also have the authority and independence of their actions framed according to the regulations whereas the audit should not be conducted by the Accounting Chamber, but by an independent organization, such as Deloitte or R&Y.

Conclusion

The public debt is an integral part of the economic system of any country. In a market economy, the public debt becomes an important component of state policy, acts as a source of formation of state revenue and as a regulator of economic processes. According to the current legislation of Ukraine, the management of the public debt and its servicing is implemented by the Ministry of Finance of Ukraine. The state borrows from the financial market to finance the current budget deficit; repay previously disbursed loans; smooth the irregularity of the receipt of tax payments; provide commercial banks with liquid reserve assets; finance the state investment for social programs; and influence the processes on the domestic financial market.

Effective government debt management assumes a set of measures and approaches that cover the entire debt process, namely, the attraction of state loans, their use, servicing of debt, repayment and control for the formation and use of debt resources. Many examples of public debt management methods and practices exist in the world. Whether a highly developed country or a developing one, the goal of public debt management remains the same: minimization of public costs and reduction of public debt. The experience of some countries can be used and put into practice when developing an efficient system of public debt management in Ukraine. It should be noted that the optimization of Ukraine's debt policy requires the development and implementation of a coherent strategy, which combines the improvement of the legal and institutional base of public debt policy, and the creation of short and medium-term external debt management.

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REFORMING THE MECHANISM OF STATE BUDGETING OF ROAD INFRASTRUCTURE OF UKRAINE

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Abstract

The article discusses the reforming process of budgeting mechanism of the road infrastructure in Ukraine. The main institutional changes are studied using the legislature, regulations and other official resources. The key financial contradiction in the road industry is discovered, which is explained by the inefficient structure of financial resources expenditures, but not because of a significant lack of funds.

Keywords: *budgeting, road infrastructure, program-target budgeting, the State Highway Agency of Ukraine*

Paper type: General review

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Introduction

Current economic conditions require to reform and modernize the system of budgeting of road infrastructure in Ukraine. Moreover, the development and proper financing of Ukraine's road infrastructure is one of the priorities for economic development, which ensures the work of both the main productive sectors of the economy and the social development of society.

Highways are an important component of the development of the region's economy and the country as a whole. Road construction and operation are a driver for a large number of related industries, road maintenance is a key factor in the social and political stability of the region, and the ability to access remote areas can trigger the growth of new industries. However, it is the road sector that has suffered the most from the financial and economic crisis, the military actions in the East, and the issue of resuming road construction growth is one of the priorities.

Currently the road infrastructure of Ukraine is characterized by the lack of a systematic approach in solving the problems of the road sector, in particular, such as insufficient financing of construction and maintenance of highways at the expense of budgetary funds, low road safety, imperfection of regulatory and legislative base in the field of road construction, need to renew the production base of road transport and organizations and enterprises of road transport, etc. Ensuring proper functioning of Ukraine's road infrastructure is impossible without the development and use of financial resources. The mechanism of budgeting of this area plays an important role.

At the initial stage of the state budgeting system development, a standardized method of planning budget expenditures is used. According to this method of budgeting, the calculation of the 1 year costs are required to ensure the activities of budget organizations without taking into account the evaluation of the final results of their functioning. The advantage of this method of budgeting is its relative simplicity and potential control of budget expenditures through their detailed specification. However, the statutory method has significant drawbacks that do not provide quality development of planned budgetary indicators and effective implementation of management decisions.

In Ukraine, the need to move from a statutory budget to a program budget is motivated by following reasons: expansion of the area of state influence in regulation of economic processes; development of the state financial system; improving public administration of budget funds; the need to improve the efficiency of use of funds; improving the transparency of the budget process; improving the quality of public services.

At the present stage of budgetary policy reform, institutional reforms are underway in the budget planning and execution system, aimed at using the progressive budgeting method while using elements of the traditional method of spending planning. Thus, in the budget process, the main components of the program-target method are used, which requires its further improvement and deepening at all budgetary stages.

The studies of financial support and efficient use of financial resources in the road area (Bezugliy et al., 2011) suggest implementing an effective system of maintenance of public highways on a competitive basis for the customer and the contractor by reforming the road management system. Levkovets and colleagues (2006) generalized the materials of the basic legislative acts and other documents reflecting the current state of legal and regulatory support for the carriage of goods by road transport of Ukraine. Their materials are based on international documents, resolutions of the Verkhovna Rada of Ukraine, decisions of the Government, regulations and instructions of the Ministry of Transport, which constitute the regulatory framework for the management of road transport of Ukraine. As well, much attention was paid to the activity of the State Highway Agency of Ukraine and financing of the road industry. In particular, Yukhnovsky et al. (2004) analyzed the current state of the road infrastructure of Ukraine, peculiarities of industry management and methods of determining the quality of road construction works, the cost effectiveness of construction, reconstruction, repair and maintenance of roads was analyzed.

This paper aims at describing and analyzing the process of reforming the mechanism of budgeting the road infrastructure of Ukraine. To reach this aim, the corresponding regulations and legal acts in Ukraine and texts on roads construction and reconstruction and relevant material on the official websites.

Empirical findings

Evolution of approaches to budgeting of road infrastructure in Ukraine

Since 2002, program and functional classification of expenditures and crediting have been implemented at the level of the state budget in accordance with the world standards of statistics of public finance. The budget is planned according to the four-level classification of expenditures and crediting (Figure 1).

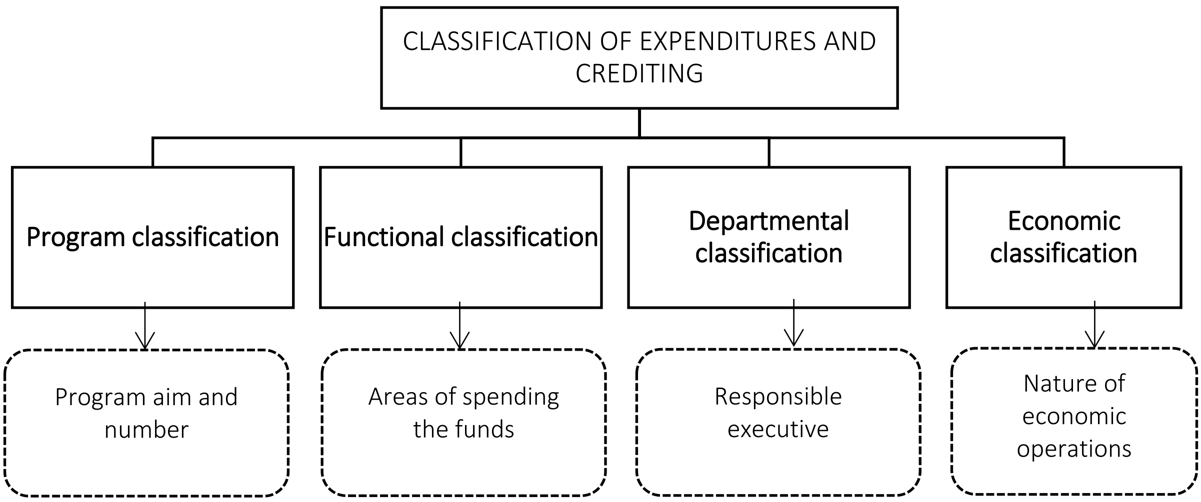

Figure 1. Four-level classification of expenditures and crediting
Source: developed by authors

The introduction of program classification enabled a clearer structure of budget expenditures for road infrastructure programs, thus increasing transparency of budgetary process.

In 2002, by the Decree of the Cabinet of Ministers from September 14, No. 538-p introduced the program-target method into the budgetary process aiming at establishing the link between the resources used and the results obtained in the budgetary process. Accordingly, expenditures on road infrastructure are developed under the state targeted economic program for the development of public roads of national importance. The program includes such components as: the purpose of the program, objectives, volume and sources of funding and expected results. The main purpose of program budgeting of road infrastructure is to allocate budget resources according to the identified priorities (programs) and to evaluate the effectiveness of the use of budgetary funds by indicators. The targeting method links the decision on the implementation of expenditures with the expected return on these expenditures, their effectiveness and efficiency and provides for medium-term financial planning, which in turn is based on strategic planning of budget spending units, namely the State Highway Agency of Ukraine and its structural units.

A combination of program budgeting cycles and strategic planning in road infrastructure is presented in Figure 2.

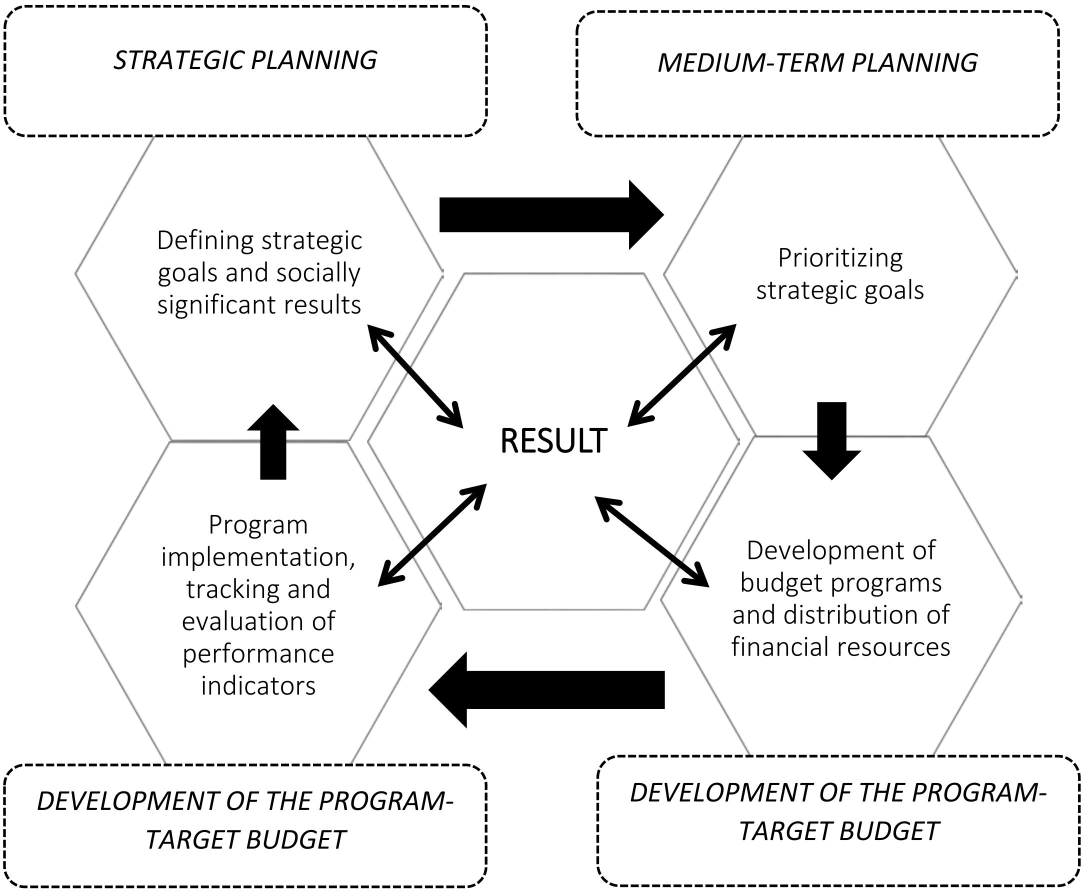

Figure 2. Connection between target budgeting cycles and strategic planning in road infrastructure
Source: developed by authors

Medium-term budget planning is a component of the strategic planning. Medium-term budgeting is an approach to the planning and management of public finances that broadens the horizon for budgetary policy by three to five years and allows planning and forecasting the budget revenues and expenditures needed to achieve the strategic goals of the state budget policy in the medium term. Typically, medium-term budgeting in road infrastructure should be carried out in three stages, as shown in Figure 3.

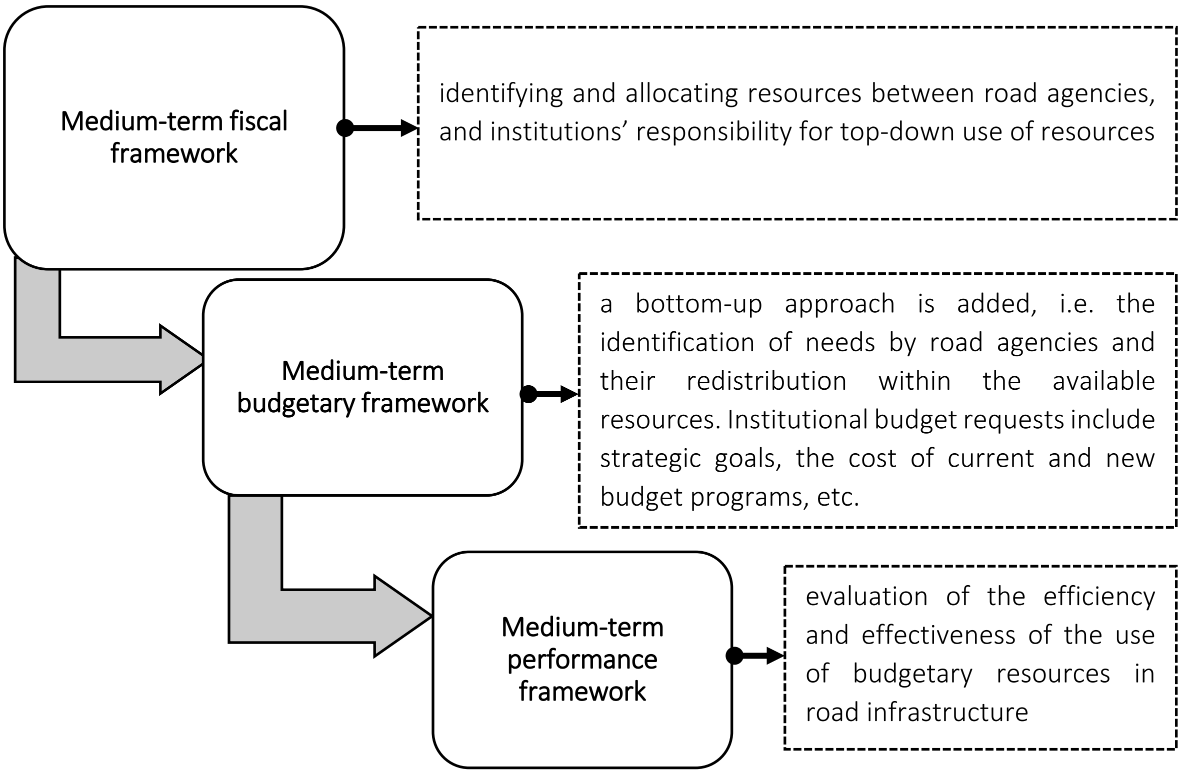

Figure 3. Stages of medium-term budgeting in road infrastructure
Source: developed by authors

Medium-term budgeting of road infrastructure may have three approaches:

1. Top-down - identifying medium-term available resources. Preliminary allocation of available financial results between road agencies based on past expenditures, new priorities and overall strategy.
2. Bottom-up - identifying medium-term resource needs by spending agencies. The agencies develop an indicative plan of expenditures based on a sectoral strategy that is converted to multi-layer budget requests.
3. Conciliation of results distribution and completion of the annual plan through the redistribution process. Road agencies are developing an approximate spending plan based on industry strategy and available resources.

Financing issues in the field of road infrastructure

The main problem of program-target method in the field of road infrastructure is the lack of additional expenditures for financing road construction works provided by the state budget. This was observed in the budget requests of the State Highway Agency of Ukraine.

In the 1990s, repair work and construction of roads were carried out in Ukraine in the amount of 29 000km per year, including major repairs - 9 000 km and daily repair works - 18 000 km. Today, the scope of work varies from 300 to 600 km per year due to chronic underfinancing. 80% of State Highway Agency of Ukraine budget goes to servicing loans, leaving very little for roads maintenance.

In 2005 the State Program for the Development of Public Roads for 2007-2011 was approved, aiming at: improving the safety, speed, comfort and economy of transportation of passengers and goods by road; improving the transport and operational status of roads, bridges and road infrastructure; ensuring the systematic development of the road network; improvement of technical indicators, increase of competitiveness of highways in support of transit transportation and development of motor tourism; promoting of socio-economic and ecologically balanced development of the state.

In 2013, the State Targeted Economic Program for the Development of Public Roads for 2013-2018 was developed and approved, the implementation of which was compromised due to significant underfunding. During these years, works on road construction were actually discontinued, the volume of works on current average repairs was ten times less than the normative ones, the capacity was eliminated on time and not on all roads. As a result, the condition of the roads deteriorated to catastrophic. The problem of underfunding was exacerbated by the fact that in 2015-2016 the targeted sources of financing of the road industry were cancelled, and the expenditures for the development of roads, as a rule, under-financed by the State Treasury, were planned under the General Fund of the state budget.

In 2016-2017, due to the increase in funding, the reparation and construction of public highways were intensified, but the lists of objects were formed not on the basis of this program, but by separate orders of the Cabinet of Ministers of Ukraine.

The role of the State Agency of Highways of Ukraine

Today the State Agency of Highways of Ukraine is responsible for the purposeful use of budget funds for construction, reconstruction, repair and maintenance of public highways. The list of objects and amounts of budget funds for construction, reconstruction and major repairs of public roads of public importance is approved by the Cabinet of Ministers of Ukraine and determined in accordance with the Law “On Sources of Financing of the Road Economy of Ukraine”. The goals of the state policy in the areas of activity of the state budget spending unit and the indicators of their achievement in 2016-2018 are listed in Table 1.

As shown in Table 1, works on public roads of national importance were performed both at the expense of the state budget in the amount of 20 627 316,4 thousand UAH and due to the balance of borrowings raised by the State Agency of Highways of Ukraine under state guarantees in the past years in the amount of 422 210,0 thousand UAH, as well as at the expense of loans from international financial institutions in the amount of 3 722 274,1 thousand UAH. Based on the results of 2018, within the limits of the available budgetary allocations, the planned goals, goals and objectives of the activity were largely achieved.

Table 1. Objectives of the state policy in the areas of activity of the chief spending unit of the state budget and indicators of their achievement in 2016-2018

Title, unit of measure	2016 fact	2017 fact	2018			Explanation of differences between actual and planned indicators of achievement of the public policy objective
			plan	*fact*	*deviation*	
1	2	3	4	5	6	7
Goal	**Improve the condition of the public highway network, its effective functioning and development**					
Roads of national significance	0,0	0,5	13,8	7,3	-6,5	budget indicator 3111140 was not reached due to lack of financing due to “confiscated funds” which did not reach the budget
Length of capital repaired highways of national importance (km)	0,0	11,8	30	33,7	3,7	Failure to comply with the budget program indicator 3111160 due to lack of financing from “confiscated funds” that are not received the budget
The length of highways of the state value, where the work on the current average repair was carried out (km)	556,3	708,3	991,0	951,5	-39,5	Failure to comply with the budget program 3111120 was caused by the unforeseen destruction of the lower layers of the base of the roads, which led to a decrease in financial capacity for the arrangement of the upper layers of the pavement at the planned section of the road Failure to comply with budget program 3111020 is related to the length of tendering procedures, as well as the stoppage of work on some sites due to adverse weather conditions.
The length of roads constructed, reconstructed and overhauled at the expense of MFI credit, including co-financing from the state budget	0,0	28,6	368,6	18,8	-349,8	Failure to comply with the budgetary program 3111600 due to the contractors’ failure to fulfill their contractual obligations (termination of the Contract), as well as the postponement of work completion due to changes in design decisions
The length of the road covering which has been eliminated damage, destruction and deformation (thousand square meters)	9155	8330	5 600	5 819	219	n/a
Percentage of timely performed debt payments (%)	100	100	100	100	0	-

Source: developed by authors based on the Law “On Sources of Financing of the Road Economy of Ukraine”

On January 1, 2018, there were changes in the financing of the road economy in accordance with the Law of Ukraine "On Amendments to the Budget Code of Ukraine" from 07.12.2017 No. 2233-VIII and the State Road Fund was assigned to the special fund of the State Budget of Ukraine (Figure 4). According to these laws, the State Budget annually provides for the financing of works related to the construction, reconstruction, repair and maintenance of public roads

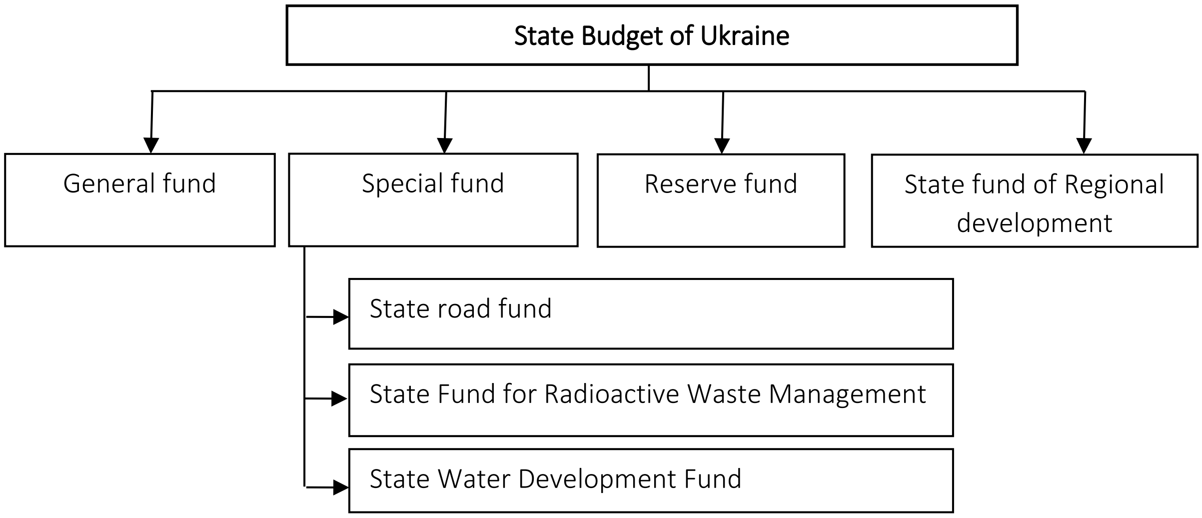

Figure 4. State Road Fund as a component of the State Budget of Ukraine
Source: developed by authors

According to the Resolution of the Cabinet of Ministers of Ukraine from December 20, 2017 No. 1085 "On the procedure for directing funds of the state road fund", budgetary funds are directed to:

1) financial support for the construction, reconstruction, reparation and maintenance of public roads of national importance, execution of research and design works, creation and operation of the information-analytical system of the road economy, ensuring development of production capacities of road organizations, etc.;

2) financial support for construction, reconstruction, repair and maintenance of public roads of local importance, streets and roads of communal property in settlements, including arrangement of parking places, stops, parking of vehicles operated by disabled, (in the amount determined by the Law of Ukraine "On the Fundamentals of Social Protection of Persons with Disabilities in Ukraine");

3) fulfillment of debt on borrowings received by the state or under state guarantees for the development of the network and maintenance of public highways;

4) fulfillment of debt on borrowings received by the state or under state guarantees for the development of the network and maintenance of public highways (in relation to public highways of local importance);

5) financial support of road safety measures in accordance to state programs.

The sources of formation of the state road fund in 2018-2020 are shown in Table 2.

Table 2. Sources of formation of the state road fund in 2018-2020

№	Types of receipts	Percentage of entries		
		2018	*2019*	*2020*
1	Excise tax on fuel and vehicles produced in Ukraine	50%	75%	100%
2	Excise tax on imported fuel and vehicles into the customs territory of Ukraine	50%	75%	100%
3	Import duties on petroleum products and vehicles and their tires	50%	75%	100%
4	Road tolls for vehicles and other self-propelled machinery and mechanisms whose weight or dimensions exceed regulatory standards			
5	Funds of the Special Fund of the State Budget of Ukraine, obtained by attracting loans (loans) from banks, foreign states and international financial organizations to the development of the network and maintenance of public highways			
6	Fees for toll roads of public use of national importance, the maximum amount and procedure of which are established by the Cabinet of Ministers of Ukraine			
7	Other revenues foreseen by the State Budget of Ukraine to the extent determined by the Law on the State Budget of Ukraine for the respective year			
8	Concession or lease payment			

Source: developed by authors

Conclusions

Therefore, in our point of view, the road infrastructure budgeting should be considered as a process of formulating and analyzing the implementation of budget programs, which includes allocation and use of budget funds for road maintenance and contributes to increase of control over use of financial resources. Budgeting is, in fact, the only form of financial support for Ukraine's road infrastructure. The main financial contradiction in the road industry arises not only because of a significant lack of funds, but due to inefficient structure of expenditures, since almost 78% of all expenses are debt repayments. Development of Ukrainian road economy is challenging due to misuse of deficit financing. It leads to debt increase, therefore the review of debt policy is needed. At the same time, an important task is to find additional sources of replenishment of the Road Fund of Ukraine and territorial road funds as well as targeted and efficient use of their financial resources.

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INTRODUCTION OF NEW TECHNOLOGIES OF INSURANCE MARKET DEVELOPMENT AS AN IMPERATIVE OF STATE REFORMING OF THE FINANCIAL SYSTEM

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Abstract

The purpose of the study is to analyse the newest trends in the development of the insurance market as an important component of the state reform of the financial system to stimulate economic growth through an overview of world and domestic experience. The article analyses existing views on modern insurance, its state support and regulation, the main innovations in the insurance market, and its development in the conditions of digitalization of the economy. The findings show that level of insurance culture of citizens increases, which causes activation of insurance companies' activities on the national insurance markets. At the same time, the domestic insurance sector has faced many internal and external challenges and contradictions, which actualize scientific research aimed at finding determinants of its development, better perception and understanding by citizens and the state of importance of providing both social and insurance protection. One of the strategic directions of implementation of national and international projects is the increase of financial inclusion, which may qualitatively improve the insurance protection of the population of the country and effectiveness of made financial decisions. As a result, the state's interest in partnership with the key insurance market operators, stimulating and flexible rule-making, and adequate regulation are capable of ensuring economic growth in the country.

Keywords: *global trends, development determinants, competitiveness, insurance market, digitalization*

Paper type: General review

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Introduction

One of the key aspects of ensuring growth and importance of the financial system in improving the overall economic climate is a stable, efficiently functioning insurance market. It allows business entities and the population to be protected from permanent impact of economic challenges and threats at the expense of functioning of expanded infrastructure and financially stable insurance companies. The latter, assuming a part of insurance risk and redistributing it among other subjects of the insurance system, provide minimization of negative consequences from the beginning of certain events or level them and, thus, guarantee insurance protection to their clients. Thus, insurance links interests of economic entities, the population, the state and the society and is an integral part of the national economy and a strong pillar of financial market (Sadhak, 2005).

The development of insurance depends on such factors as the general economic situation that has developed, the frequency, intensity and depth of financial crises, currency fluctuations, price conditions, informatization and modernization, increase of natural disasters, spread of diseases as well as the effectiveness of state regulation.

The importance of building a paradigm of the insurance state stems from social and economic development of the society. In this context, changes in fundamentals of functioning of the insurance market and restructuring of its state regulation system are taking place in some countries. In Ukraine, in order to improve the functions of the state regulation of financial services markets, a law No. 1069-2 "On Amendments to Some Legislative Acts of Ukraine on Improving Functions of The State Regulation of Financial Services Markets" was adopted, according to which the National Bank of Ukraine becomes the regulator of the insurance market and the body for protection of rights of consumers of financial services. Moreover, the cooperation between the state and insurers has deepened in the implementation of the compulsory insurance model of citizens. All these changes lead to other transformations in the field of insurance:

- rethinking of separate business processes and business philosophy;
- a new vision of the underwriting mechanism;
- improvement of approaches to conducting an insurance business;
- development and implementation of innovative channels for the implementation of insurance products in order to simplify them (one-click purchase) and availability;
- improvement of customer service technologies;
- improvement of insurance services, etc.

The outlined changes aim at creating competitive advantages for national insurance markets and significant growth opportunities for insurers and the state as a whole.

For the domestic insurance market, there is a certain inertia, unsystematic, lack of constructive development and institutions that would be able to implement a strategy for its further progress. There is also a certain state overregulation and unwillingness to carry out the systemic reform of the specified sphere. Changes in tax legislation, reinforced by political, economic and social challenges, are further hampering the positive developments in this segment of the financial system. In its turn, the global trends in the development of the world insurance market and Ukraine's integration trends put forward new requirements and rules for domestic insurance business, which should be the basis for its improvement and technological re-equipment.

Insurance: the international perspective

Insurance may define the level of freedom and independence of an individual. Freedom is primarily reflected in the possibility that an individual is secured from the consequences of their activities if causing damage to another one (Piljan *et al.*, 2015). The need to provide insurance protection by business entities and individuals has caused a growth of the world insurance market. This was, first, due to growing recognition of insurance in developing countries, and second, the feature of the insurance market, which is the increase in the number of insurers which does not affect the reduction or increase of the amount of insurance premiums (Zekaj, 2016). A striking evidence of this is the data in Table 1, according to which the growth rates of insurance premiums in both life insurance and in risk type of insurance in countries-leaders in 2017 gained negative values.

Table 1. The volume of insurance premiums of the countries-leaders in the types of insurance, US dollars

Countries-leaders	Life-insurance			Non-life-insurance		
	2016	2017	Growth rates, %	2016	2017	Growth rates, %
Australia	44465	47893	7,71	37706	32169	-14,69
Great Britain	95218	93499	-1,81	195637	189833	-2,97
India	19522	24764	26,85	62375	73240	17,42
Italy	40424	41562	2,82	119202	113947	-4,41
Canada	64381	67927	5,51	48947	51592	5,40
China	203515	223876	10,0	262616	317570	20,93
The Netherlands	61550	63404	3,01	16120	15610	-3,16
Germany	119709	126005	5,26	95084	96973	1,99
South Korea	72625	78378	7,92	104284	102839	-1,39
The USA	792378	830315	4,79	557604	546800	-1,94
Taiwan	16952	18873	11,33	84496	98602	16,69
France	84508	88083	4,23	152909	153520	0,39
Japan	117272	114818	-2,09	334161	307232	-8,06
Ukraine	*1269*	*1523*	20,02	*108*	*110*	1,85
Europe, total	597863	621171	3,89	850956	858025	0,83
In the whole world, total	2120869	2234424	5,35	2581972	2657270	2,92

Source: compiled and calculated by the authors on the basis of "World insurance in 2017: solid, but mature life markets weigh on growth" (https://www.swissre.com/dam/jcr:a160725c-d746-4140-961b-ea0d206e9574/sigma3_2018_en.pdf.)

In particular, the TOP-3 countries with the highest levels of life insurance penetration were the United States, China and Japan, while in the risk categories of insurance were the United States, China and Germany. At the same time, countries such as India, Taiwan and Australia are particularly attractive for insurance, as they showed high growth rates for insurance premiums in 2017. To such countries, we can also attribute Ukraine, where for the analyzed period insurance premiums for life insurance increased by 20.02%, and for risky types of insurance – by 1.85%. Therefore, the future will belong to those insurers who are proactive enough in targeting emerging opportunities, are agile enough to switch to new ways of working and to adopt new business models and most importantly form the right partnerships early on to develop the capabilities which will be critical in the future (Kumar, 2018).

Moreover, insurance companies are now operating under conditions of increased financial convergence. The main reason of convergent evolution is the similarity of certain individual niches of institutions or systems. A peculiarity of the convergence process is the penetration of components of one system into the others, which generates new qualities and/or functions of the phenomenon (Denys and Tustanovsky, 2018). Objectively predetermined, natural transformation is an internal necessity of the development of any intermediary structures and it consists in constant adjustment of their marketing policy, financial management by means of promoting new financial services, restructuring of a financial institution and optimization of the corresponding business processes (Korneyev, 2007). Although there is still no convincing evidence that would support the hypothesis that the evolution of financial conglomerates is based strictly on economic considerations and performance or efficiency expectations (Szüle, 2003).

The main forms of financial convergence are:

- "autonomous activity", that is, carrying out by one financial intermediary (institution) the functions of another. Often it is identified with aggressive compulsory dragging of functions of another market participant, which allows increasing the market share of their own participation;
- cooperation or joint efforts of various financial intermediaries on the basis of cooperation of representatives of various sectors of the financial market, aimed at jointly increasing the participation share in each of them. Such cooperation can take the form of agency relations or cooperation. In the first case, the sale of own products is carried out in accordance with the concluded agreement with other financial intermediaries through the use of their agent network. Cooperation allows partners to form alliances and thus contribute to their development in all areas.
- formation of financial conglomerates with a single financial service through the merger of various financial institutions, which eventually will carry out the functions of co-partners.

The most typical types of convergence in insurance and not only are M&A deals. The main areas of activity they touched are shown in Table 2.

Table 2. Insurance sector M&A activity, 2017-2018

Number of deals	CY 2017[1]	YTD 2017[2]	YTD 2018[3]	YoY change (Jan. to July), %
Underwriters	84	42	45	7
L&H	31	16	15[5]	-6
P&C	53	26	30	15
Brokers	537	315	273	-13
Total	627	357	318	-11
Aggregate deal value	**CY 2017**	**YTD 2017**	**YTD 2018**	**YoY change (Jan. to July), %**
Underwriters	$14.8B	$5.8B	$28.1B	386
L&H	$6.6B	$2.0B	$3.7B[4]	79
P&C	$8.2B	$3.7B	$24.4B[5]	531
Brokers	$5.4B	$5.3B[6]	$835M	-84
Total	$20.2B	$11.0B	$28.9B	162
Average deal value	**CY 2017**	**YTD 2017**	**YTD 2018**	**YoY change (Jan. to July), %**
Underwriters	$422M	$361M	$2.0B	455
L&H	$505M	$341M	$610M	79
P&C	$372M	$374M	$3.1B	717
Brokers	$194M	$250M	$2104M	-58

Source: Deloitte Center for Financial Services analysis using SNL Financial M&A database.
[1] CY 2017 represents full calendar year 2017.
[2] YTD 2017 is defined as January 1 to July 31, 2017.
[3] YTD 2018 is defined as January 1 to July 31, 2018.
[4] Includes Lincoln/Liberty Life Assurance Company of Boston transaction (deal value: $2.8B).
[5] Includes AIG/Validus transaction (deal value: $5.5B) and AXA/XL transaction (deal value: $15.4B).
[6] Includes KKR/USI transaction (deal value: $4.3B).

The most significant of these is the acquisition of AIG's and AXA's of Validus for $ 5.5 billion and XL Group for $ 15.3 billion which only increased the potential of the above transactions and the economic effects of their conduct. Deloitte's annual M&A Outlook recorded 681 transactions in 2018 across the insurance sector, up from 621 deals in 2017. This surge include an 11 percent jump in insurance broker transactions (537 to 594) and a 15 percent increase in property/casualty deals (53 to 61) (Hilton, 201).

Another important phenomenon that determines the condition of world insurance is rapid development of innovations in the specified field. This is also supported by the fact that each year Insurtech's volumes of funding are growing (Figure 1).

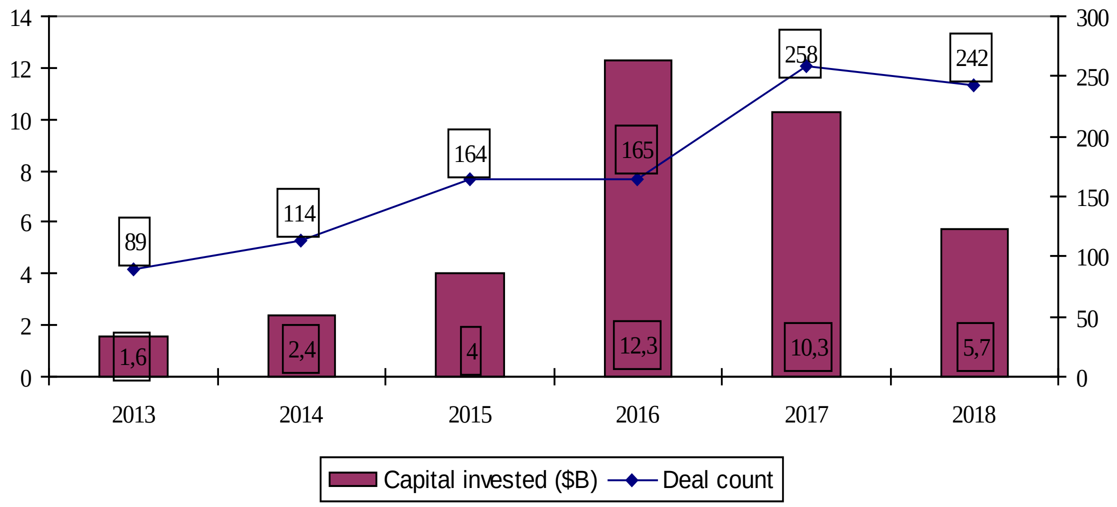

Figure 1. Global private investment (VC, PE and M&A) in Insurtech, 2013–2018
Source: The Pulse of Fintech 2018

In 2013 $1.6 billion were spent on the development and implementation of innovations in insurance, while in 2016 – $12.3 billion, that is, more than seven times higher. In the next 2017 this figure dropped somewhat to $ 10.3 billion. Thus, AIG, the American insurance company has invested considerable costs into start-up technology concerning human security, the development of portable devices, analytics and systems for improving safety. These tools help workers, managers and owners to prevent injuries in manufacturing and construction. Instead, the AXA German insurance company merged with RWE, jointly sharing the RWE automation system to minimize an obtained damage and to provide quick support. This has helped to change a customer status from a "payer to a partner". Many other additional services have been developed. In particular, it is telematics. Thus, in South Africa, Cambridge Mobile Telematics mobile application for nationwide traffic safety is used during the competitions. The results show that during this period, safe driving has increased by more than 30%.

At the same time, we can emphasize that the level of implementation and quality of customer service by insurance companies varies depending on the country and its technical and technological development.

The Top 10 Insurtech firms that took the leading positions in 2018 belonged to Zhong An, Acko General Insurance, Oscar, Lemonade, Shift Technology, Neos, Trōv, Slice, Quantemplate and BIMA (see Table 3).

Table 3. TOP 10 Insurtech firms 2018

Position	Name	Country	Funding stage	Total Funding	Insurance sector 1	Insurance sector 2
1.	Zhong An	China	Series A	$936.99m	General insurance	-
2.	Acko General Insurance	India	Series A	$32.1m	General insurance	-
3.	Oscar	USA	Series D	$727.5m	Health insurance and employee benefits	-
4.	Lemonade	USA	Series C	$180m	Property insurance	-
5.	Shift Technology	France	Series B	$39.8m	General insurance	-
6.	Neos	UK	Series A	$7.69m	Property insurance	-
7.	Trōv	USA	Series D	$87.8m	Property insurance	-
8.	Slice	USA	Series A	$15.5m	Property insurance	Motor insurance
9.	Quantemplate	UK	Series A	$13.58m	General insurance	-
10.	BIMA	Sweden	Series D	$110.6m	Health insurance and employee benefits	Live insurance

Source: The TOP 100 Insurtech firms 2018

According to McKinsey Panorama Insurtech Database of the companies' geography of incorporation shows that despite the US has been the pioneering market for insurtech, now only 46 percent of the companies are headquartered in the region with another 40 percent based in EMEA. After the US, the UK and then Germany are the homes of most insurtech companies. Asia-Pacific region accounts for only 14 percent of the insurtechs but is expected to be the fastest growing region in the coming years. Insurtechs are active in all major insurance products and business lines, with concentrations in the P&C business and in the marketing and distribution areas of the value chain. Almost all insurtechs rely on a digital customer interface for sales and service but many insurtechs are also adopting newer technologies and concepts that incumbents are only just beginning to experiment with (Catlin *et al.*, 2017).

According to the results of the survey of 450 insurers from 48 countries of the world the main measures that stimulate innovation activity in insurance have been identified. These include:

- better satisfaction of clients' needs (22%);
- gaining of competitive advantages (21%);
- increase of work efficiency (16%);
- improvement of risks selection (11%);
- expansion to new markets (10%);
- development of new products (8%);
- growth in existing markets (6%).

The most requested are: Big data, Machine learning, Usage-based insurance, IoT, Gamification, Robo-abvisory, Blockchain and Micro-insurance. The insurers themselves transfer to:

- virtual regulating of demands (for example, the US Trōv SK software which allows users to instantly receive on demand micro-insurance policies);

- P2P insurance platforms (for example, Lemonade and Friendsurance offer groups of people who know each other well, to create mutual insurance pools, and outrageous companies have achieved impressive results);

- innovative management and comparison systems (for example, Embroker in San Francisco provides a free platform for small and medium-sized companies to manage and buy business insurance, thus Embroker "builds the world's first commercial insurance management system". The British company Brolly also offers a free access to the insurance management platform, but for private individuals, not for business (Innovation in Insurance: how technology is changing the Industry));

- a wider range of mobile applications to ensure coverage on-the-go (for example such insurance companies as Sure, Trōv and Lemonade);

- customer-oriented product design, thus demonstrating to users why insurance decisions are made, even if they do not help the client;

- Smart Homes monitoring systems, which assist in promotion of property insurance products by reducing their cost;

- in the field of health insurance – biometric sensors, such as FitBits (insurers are already offering biometric sensors to their clients to stimulate their transition to a healthy lifestyle);

- the development of telematics technologies (for example, the market for insurance and telematics are expanding rapidly, from $ 857 in 2015 to $ 2.2 billion in 2020;

- the use of Drone technology, which according to Tobias Büttner, head of claims at Munich Re, "Drone techniques may become standard in loss adjustment and claims management" (Innovation in Insurance: how technology is changing the Industry).

In 2019 in the sphere of Insurtech the following trends are expected to dominate:

– Digitize or how insurers must adopt business process transformation and become agents of change;
– Ecosystems rock – and will be coming sooner than you think;
– It's a new game – press the reset button;
– Digital risk reduction;
– Focus on the digital customer;
– Data is the new oil – and the price is going up;
– Master AI and machine learning now;
– Auto insurance – disruption is coming but direction is not clear;
– New role for the oldest skills;
– Skill up and reorganize urgently for a digital world (Pritchett, 2019).

Thus, today one can trace the changes that take place in the foundations of functioning of the world insurance market and the organization of activities of insurance companies in accordance with the new paradigm of economic community development – digitalization, liberalization and convergence. The latter determine the key factors of growth and containment of the evolution of insurance (Table 4) in a qualitatively new sphere of business and protection of the world community.

Table 4. Determinants and barriers to world-class insurance

	Key Growth Factors	Obstacles
1.	Integrated ecosystems to create new risk pools and monetization opportunities	Trade wars and growing protectionism may hit trade volumes and demand for insurance
2.	Digital adoption to enhance access to data and raise process efficiency through RPA/AI	Greater market volatility to affect investment considerations and value propositions offered
3.	Blockchain to cut down cycle times and improve reliability of processes and transactions	Talent constraints to limit the appetite for innovation and ability to manage change
4.	Big data and analytics to make sense of the vast amount of data generated and consequently, create value	Rapidly shifting customer expectations to hinder plans for less agile insurers
5.	New demand by emerging and empowered customers in emerging markets	Continued regulatory pressure to limit focus on growth
6.	Reduced role of the state to generate demand for private insurance and wealth solutions	Maturing guaranteed back-book to hurt margins and capital
7.	Greater use of drones and self-driving cars	Rising inflation in developed markets to raise claim costs impacting investments in growth
8.	Cyber insurance to remain one of the fastest growing lines in an increasingly connected world	Limited information for cyber insurance modelling to limit long-term growth of cyber insurance

Source: developed by the authors based on Global insurance trends analysis 2018: https://www.ey.com/Publication/wLUAssets/ey-global-insurance-trends-analysis-2018/$File/ey-global-insurance-trends-analysis-2018.pdf.

Largely, it might be observed the improvement of insurance processes and simplification and simplicity of insurance services realization on the basis of the use of modern technologies, platforms and applications. Moreover, insurance products become more understandable and consequently in demand. Additionally, an important role in this is played by a rising of the level of insurance culture of the population and awareness of the need to form personal insurance protection.

Insurance in Ukraine

Investigating the regularity and current trends in the development of Ukrainian insurance market, we come to the conclusion that in order to become competitive and able to withstand the impact of evolutionary global trends, it is necessary to implement a comprehensive modernization. First, it will contribute to the entry of Ukraine into the European financial space, and national insurance companies that meet EU requirements will have access to one of the largest markets in the world. This will promote deepening of public-private partnership in the field of insurance.

Financial inclusion is one of the strategic directions of the state assistance to the development of insurance, as it allows to increase the opportunities of citizens in making right financial decisions and deepening public-private partnership in this field. Therefore, currently the key indicators of development of the domestic insurance market do not meet the established threshold values. Thus, the level of insurance penetration is extremely scarce and far from its normative value (8-12 in accordance with the parameters of ensuring the financial security of the state). In 2000 its value was 1.3, in 2004 it increased to its maximum mark of 5.62. Since 2005 it has decreased and in 2017 it was 1.46, and in 2018 - 1.39 (dangerous level) which is very close to a critical mark. Regarding the level of insurance coverage, in spite of the fact that in 2017 compared with 2016, it slightly increased from $30 to $36 per person, this value does not meet the established norm – not less than $140 per person. Similar tendency occured among other indicators of assessing of the effectiveness of the domestic insurance market of the country – the level of insurance payments, the share of long-term insurance in the total amount of insurance premiums collected and the share of premiums belonging to reinsurers non-residents (see Table 5).

Table 5. Indicators of domestic insurance market development for 2014-2018

Indexes	2014	2015	2016	2017	2018	Change 2018/2014, %
Gross insurance premiums, UAH million – incl. life insurance	26767,3 2159,8	29736,0 2186,6	35170,3 2756,1	43431,8 2913,7	49367,5 3906,1	184,4 180,8
Gross insurance premiums, UAH million – incl. life insurance	5065,4 239,2	8100,5 491,6	8839,5 418,3	10536,8 556,3	12863,4 704,9	253,9 294,6
Level of gross insurance premiums, %	18,9	27,2	25,1	24,3	26,1	138,1
Share of long-term insurance in the total amount of insurance premiums collected, %	8,1	7,4	7,8	6,7	7,9	97,5
Share of premiums which belong to reinsurers-non-residents, mln. UAH	1530,5	2530,2	3962,3	3396,2	2997,5	195,9
Volume of the formed insurance reserves, mln. UAH	15828,0	18376,3	20936,7	22864,4	26975,6	170,4

Source: compiled and calculated by the author on the basis of: Information on the state and development of the insurance market in Ukraine: https://www.nfp.gov.ua/ua/Informatsiia-pro-stan-i-rozvytok-strakhovoho-rynku-Ukrainy.html.

Based on information from Table 5, we can conclude that in Ukraine, in spite of positive changes in the insurance sector (increase in the volume of collected insurance premiums (+ 84.4%) and payments (+ 153.9%), the level of insurance payments (+ 38.1%) and the size of the formed insurance reserves (+ 70.4%)), the individual indicators do not correspond to the threshold value. This is due to the low insurance culture of the population and distrust of this type of financial intermediaries. Moreover, in 2016-2018, 29 insurers came out of the market (from 310 only 281 remained) among them 9 – life insurance companies. Also for 100 insurance companies accounted 97.9% of the collected insurance payments from “non-life”, whereas for

10 life insurance insurers – 96.9%, which indicates a high concentration of the market. Therefore, it can be argued that despite positive quantitative changes in the basics of the functioning of the domestic insurance market its functional and institutional characteristics do not correspond to the real needs of the national economy and Ukraine's Euro-integration aspirations.

At the same time, one of the consequences of deepening cooperation and manifestations of convergence in the insurance business was activation of bancassurance. It is embodied in:

- the joint program of "Pryvatbank" PJS CB with "Inhosstrakh", "Kredo" IC, "Unika Zhyttya" IC, "ARSENAL STRAKHUVANNYA"IC, "Yunison-Harant" IC, "Alfa Strakhuvannya" IC, "Chartis Ukraina"IC.
- the "TAS" financial holding group ("TAS-Kommerzbank" JSCB, "TAC-Invest Bank" closed joint stock bank, "TAS Insurance Group" CJSC, "International Insurance Company" CJSC CJSC) and the Ukrainian Financial Group.

Due to this, bancassurance members strengthened their own brand, increased their volumes of insurance premiums and unified their activities. At the same time, there is a need for training of highly skilled workers with relevant knowledge in the product range; significant financial investments in the development and automation of business processes for synchronization and promptness of obtaining the necessary information by partners; improving the underwriting process; additional costs for promoting a new brand, etc.

Another important step made by domestic insurers under the influence of digitization includes: development of electronic insurance, internet and direct sales of insurance services, cybersecurity, testing of mobile services, blockchain technology and online servicing, automation of insurance payments process, etc. The most widespread development got mobile digital technologies in the implementation of their own insurance products. For example, "ASKA" IC has developed the "Mobile insurance agent" application, which enables issuing and selling insurance policies from smartphones. Moreover, an innovative "KASCO Smart product" helps car owners to improve their driving skills (through the free installation of a telepathic device) while reducing the cost of auto insurance, while "KACKO4U" (the first in Ukraine, mobile CASCO with a per minute charge) allows:

- to insure a car from damage on a parking lot, as the basic condition for conclusion of an insurance contract;
- per-minute billing of a car insurance in movement, for example, in traffic jams the tariff is reduced by 50%, and insurance is possible upon the request of a car owner;
- separately as an option to activate insurance against theft;
- to analyse a driving style and determine personal discount during the movement;
- to arrange an insurance contract online through a mobile application;
- free test drive.

The "UNIQA Insurance company" in cooperation with "Audatex" launched the "AudaMobile" mobile application. Its goal is to accelerate certain processes for settling losses in transport. A circumscribed application is for use on tablets with iOS or Android operating systems and is available for free download on the iTunes App Store and Google Play. The automation of an insurance case process has the following benefits: economy of time of insurers, insurer's staff flexibility, and the speed of insurance payments. Such innovations in insurance activity have been manifested in the world practice of insurance activities. In particular, the "Allstate" US insurance company has developed the “QuickFoto Claim” application, which allows insurers to photo minor damage to their previously taken car insurance, and thus notify the insured event and make a statement of indemnity. Tthe developed mechanism does not require participation of an emergency commissioner or representative of an insurance company. The mentioned application is available for free download on the iTunes App Store and Google Play. Somewhat similar software is being implemented by the “Farmers Insurance” American insurance group via the mobile “EZ Estimate” application.

The “Tokio Marine” Japanese insurance company thanks to its cooperation with the “Nippon Telegraph and Telephone Company” has increased its sales of short-term insurance policies (“One Time Insurance”) with the mediation of mobile applications. In particular, via the GPS system and the developed mobile application the place of the insured person is determined. This allows him to offer those insurance products that are most relevant (for example, health insurance is offered at hospitals, at the airport – travel insurance or accident insurance). Buying an insurance policy is done directly through such a mobile app (Picus, 2015).

In the field of reinsurance, the “FlyRe” (electronic exchange) has appeared, the use of which is possible with any possible technological device, which has access to the Internet (computer, tablet, smartphone, etc.). It provides on-line transfer and acceptance of risks using the auction method.

An important role in the insurance of digitization has played the adoption of the “On approval of changes to the regulations of peculiarities of compiling agreements of compulsory insurance of civil and legal liability of owners of land vehicles. Decree No. 3631 from August 31, 2017, which allowed since February 7, 2018 to conclude agreements of inner compulsory motor third party liability in electronic form. However, out of 53 participants of MTIBU only 10 insurance companies were tested and started to sell insurance policies online – “INGO” Ukraine, “ROM Ukraine”, “Arsenal Insurance”, “Unica”, “AXA Insurance”, “VUSO”, “Dominant”, “UPSK”, “European insurance alliance”, “UNIVES”. At the same time, digital technologies and mobile applications of domestic insurers do not fully respond to requests and desires of clients, and are far from foreign analogues (see Table 6).

Table 6. Opportunities of mobile applications of insurers of Ukraine and countries of Western Europe

Main characteristics	In Western Europe	In Ukraine
1. Find information	Finding a branch / insurance agent	absent
	Information about the threat	absent
2. Acquisition of insurance services	Simplification of the purchase of travel insurance	absent
	Acquisition of civil liability insurance	absent
	Payment at the application level	absent
	Review before purchasing insurance, video streaming	absent
	Insurance, direct and short-term	absent
3. Servicing of the insurance policy	Help with no emergency ride	absent
	Access to a client’s account from a mobile app	absent
	Information about the predicted danger	absent
	Information about the scheduled meeting	absent
	View insurance policies of a client	absent
	Reminders about insurance cases	absent
	View of payments	absent

4. Renewal	Renewal of the insurance contract	absent
5. Occurrence of an insured event	Application for an insurance case	absent
	Instructions for action after the occurrence of an insurance event	absent
	Recording to a hospital or auto workshop	absent
6. Loss maintenance	Appeal against the insurer's decision	absent
	Review of whacked through video streaming	absent
	View of history of insurance payments	absent
	Tracking the state of elimination of the damage	absent

Source: adopted from Klapkiv (2018)

Importantly, digitization itself is a positive phenomenon, but it leads to an increase in the cost of IT services, an increase in competition from both traditional insurers and new fintech-companies, as well as the loss of customers or competitive advantages (Kryvtsun, 2018). In order to somewhat level out its outlined implications it is necessary to switch to the use of cloud technologies in their activities by insurance companies, IT outsourcing, pooling of online and offline channels for the provision of insurance of their services. This will strengthen the competitive position in the market; moreover, the question of studying the reasons for the outflow of clients to prevent it in the future is actualized.

Other strategic steps for improving domestic insurance market under the influence of global trends might be as follows:

- increase of the volumes of insurance activity and market capitalization. This can be achieved by: developing and implementing of new types of insurance products and selling technologies; capitalization of insurance companies and strengthening of their competitiveness, increase of investment opportunities of insurers; providing effective insurance protection; increase in the stability of an insurance system for absorbing systemic shocks; ensuring the balance of interests of the insurer and the insured person;

- development of professional infrastructure of the insurance market. This can be achieved by: emergence of effective professional institutions of infrastructure (insurance pools, bureaus, associations); strengthening of the role of insurance brokers; improvement of institutional capacity of the insurance system; increasing of efficiency of the centers of losses; creation of institution of professional estimators of risk; strengthening of relations between participants of the insurance market;

- harmonization of national insurance legislation with international regulations and standards. This considers the following: reformation of the system of state regulation of the market; the use of recommendations of international institutions; increase of transparency of insurance activities; gradual implementation of EU directives into domestic insurance legislation; creating conditions for integration of Ukrainian insurance market into international financial space; expansion of the sphere of regulatory influence on functioning of new/existing market participants; risk-based market surveillance; increase of effectiveness of insurance regulation and supervision tools;

- implementation of innovative approaches to market development by: improving the quality of insurance products through the use of new opportunities and technologies; improvement of the channels for advancing insurance services; reduction of prices of insurance products by reducing the cost of preparation, conclusion and maintenance of insurance contracts; leveling the negative influence of external and internal factors on functioning of the market through testing of the latest technologies for managing them; increase of informational and technological support; creation of platforms for joint development and implementation of IT and software, digitization of financial services; providing comprehensive insurance services relationships.

The above stated steps should be reflected in the Strategy for the Development of the Financial Sector of Ukraine until 2025 as the basis for a sustainable and effective transformation of the financial market and for improving well-being of citizens. We believe that the basic principle of its formation should be the public-private partnership, aimed specifically at realizing financial stability and economic growth in the country through the evolution of the insurance sector; enhancing financial inclusion and enhancing innovation in the insurance sector.

Certainly at the same time, it is necessary to direct efforts on increasing financial literacy and insurance culture of the population, because the people are the ultimate consumer of insurance products, as the number of business entities is steadily decreasing. One of such mechanisms can be introduction of functioning of insurance ombudsmen in the country, who are created by professional participants in the insurance market and whose activities are funded at the expense of the founders, and the decisions made are obligatory for an insurer, whose actions were related to the claim of an insured person (Zhuravka, 2015).

Conclusion

Current conditions of social and economic development of Ukraine and the situation in the insurance market, the implementation of institutional and digital transformation, which would touch the practical side of functioning of insurance companies and would determine the main aspects of modernizing their activities, is one of the priority tasks that need to be solved. In fact exactly insurance itself by its nature provides insurance protection for both the population and business entities from influence of various factors and threats, which are definitely relevant to our community.

Moreover, digitalisation and convergence put new demands on all participants in social and economic processes, while European aspirations of Ukraine, in turn, force both financial institutions and the state in general to look for ways to strengthen their competitive advantages. First of all, this concerns ensuring financial stability and solvency of insurers themselves and, thus, guaranteeing their fulfilment of their obligations. In addition, it might be worth considering improvement of the system of state regulation and monitoring of insurance activities and the market in general, especially as regards bringing it in line with the EU directives and transition to public-private partnership. Finally, it is important to focus on development and implementation of advanced achievements of Insurtech that would cover the growing needs of insurers, meet the requirements of time and assist increase of profitability of the insurance business. As a result of implementation of these recommendations, the domestic insurance market will be able to provide decent competition to other segments of the financial market and take a prominent place in the development of social and economic system of the country. By filling it with significant funds of financial resources, investment potential will be strengthened, the efficiency of the securities market will be improved through a free operation of its financial instruments. Moreover, the effective cooperation of the state and insurers will serve as a driving force for economic growth that is so needed today.

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