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IMPACT ANALYSIS OF THE FACTORS INFLUENCING THE DEVELOPMENT OF THE ALTERNATIVE FINANCE MARKET IN MOLDOVA

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Abstract

The emergence of a decentralized peer-to-peer platforms that matches lending and borrowing without collateral requirements and bank lending channels allowed to develop the new market of alternative financial instruments. In this paper, we aim to analyze the origins and nature of alternative finance, consolidate, and categorize the theoretical foundation of the alternative finance market, determine the taxonomy of its instruments, and identify and critically analyze the strategies and legislative framework for the development and functioning of the alternative finance market in the Republic of Moldova. The theoretical and practical significance of this research lies in the development of an econometric model that examines the influence of various groups of factors (regulatory, social, economic development, information technology) on the per capita volume of the alternative finance market. The obtained data enabled the identification of priority areas and specific proposals for the development of conditions and the potential of alternative finance in the Republic of Moldova.

JEL classification: M12, M21

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Introduction

The global financial depression of 2007-2008 had a significant impact on the world economy, causing a banking and credit system crisis, which, as a result, led to a lack of available bank financing. In 2009 in the context of the socio-economic slump that followed the financial crisis, the new banking regulation standards called Basel III were adopted. One of the main provisions of this document was the increase of capital adequacy requirements for banks, which had a significant impact on the growth of interest rates and on the decrease of the volume of credits issued to individual borrowers who did not have sufficient reliability, including technology start-ups, small and medium-sized innovative technology companies. New requirements facilitated the flow of capital and demand for it into unregulated sectors of the economy, thus a market for new alternative financial instruments began to form. At the initial stage, professional players-venture capitalists-came to this sector, which led to development of "crowdfunding"-various crowd instruments allowing an entity to attract funds directly from a wide range of micro-investors who believe in innovative products and are ready to invest in them.

Today, one of the most important goals of global economic policy is high and sustainable economic growth through financial inclusion, which means access to convenient and affordable financial products and services-transactions, payments, savings, loans and insurance-provided in a responsible and sustainable manner. The widespread penetration of the Internet and mobile networks, the development of artificial intelligence, “big data” and biometric identification have had a significant impact on the expansion of financial inclusion.

The fourth industrial revolution is approaching, and companies are investing record amounts of capital in innovations to stay competitive (Hanusch & Pyka, 2007). In this regard, the growing industry of alternative finance, although still a small part of the overall lending market, is changing the way individuals and organizations interact with global capital and introduces new types of products and methods of distribution. Alternative finance, being innovative and decentralized, provides access to loans for ordinary consumers, provides seed money for start-ups and growth capital for SMEs, stimulating the regional economies and financing socially significant projects.

This new type of financial instrument is most theoretically justified by the principles of Complex Neo-Schumpeterian Economics, which emphasizes qualitative, innovation-driven development and the interconnectedness and interaction between the three pillars of development: industry (real sector), finance, and the public sector. It incorporates the concept of creative destruction, innovation, and uncertainty as pervasive and interconnected factors of economic development.

Research problem identification. Despite significant annual growth in the alternative financial instruments sector worldwide and the development of new financial instruments, the crowdfunding market in the Republic of Moldova is currently in the nascent stage. The existing financial system and infrastructure are primarily oriented towards financing large and steadily growing projects. The volume of alternative financial instruments in the market is insignificant and foreign investment is also low. "National Development Strategy European Moldova 2030" (Parlamentul Republicii Moldova, 2022) partially addresses the prospects and the necessity of utilizing alternative financial instruments, and the legislative framework is being developed, specifically the "Law on Crowdfunding Services" (Ministerul Economiei al Republicii Moldova, 2022).

In this context, the main challenges are development of a regulatory framework, participation of non-professional investors in the market and the necessity to ensure their protection. Therefore, the analysis of problems and prospects related to the use of traditional and alternative investment instruments is an important and relevant research subject in the context of the need to attract investments to the Republic of Moldova and achieve long-term development goals and stable economic growth.

The objective of this scientific project is to identify the factors driving the development of the alternative investment instruments market with the aim of further economic growth, increasing the quantity, and enhancing the "survivability" of new business projects, improving the efficiency of the investment process, creating new jobs, increasing tax revenues, and consequently, boosting GDP and enhancing the country's and region's competitiveness. The influence of social, regulatory, economic, and technological variables on the per capita market volume will be determined.

To achieve the fundamental objective of this scientific project, it is necessary to investigate the essence of new investment instruments by implementing the following specific tasks:

A) Defining the theoretical framework of the research.
B) Studying national legislation and strategies of the Republic of Moldova to determine the potential for using alternative investment instruments at the local level.
C) Developing, verifying, and validating an econometric model that incorporates quantitative assessments of the alternative financial instruments market and the social, regulatory, economic, and technological determinants influencing them as variables.
D) Assessing the impact of the developed recommendations.

By accomplishing these tasks, the study aims to gain insights into the nature of new investment instruments, understand international and national contexts, and create an econometric model that can provide valuable assessments and recommendations for the development and utilization of alternative investment instruments.

Given the theoretical positive economic effect and the rapid pace of development in the global market of new investment instruments, the identified research problems and tasks allow us to form the following hypothesis for a possible solution: one of the important factors for sustaining sustainable economic growth in the Republic of Moldova could be the development of alternative investment instruments, influenced by social, regulatory, economic, and technological determinants.

The operationalization of this hypothesis will be conducted through the search and establishment of quantitative macroeconomic variables and indices, such as the volume of the alternative financial instruments market as a percentage of GDP per capita, the economic freedom index, the index of regulatory restrictions on foreign direct investment, the level of social capital development, the global innovation index, the global ranking of digital competitiveness, and the financial development index and others.

The verification of the proposed hypothesis will be conducted using the tools of economic-mathematical modelling. The construction and verification of the model will be carried out through the examination of experiences from different countries and utilizing appropriate statistical tools.

Given the nature of this scientific research, it falls under the category of interdisciplinary study, as it involves examining issues within the field of economics, specifically investment activity and alternative financial instruments.

In a unified research approach, the following types of research objects will be employed as distinct phases:

A) Exploratory component: The aim is to explore the possibility of using new alternative investment instruments in the Republic of Moldova.
B) Descriptive component: Characteristics and types of alternative financial instruments, as well as market volumes and trends in different countries, will be described.
C) Causal component: This phase aims to evaluate the validity of the hypotheses regarding the relationships between the identified dependent and independent variables using econometric modelling techniques. The correctness of the model construction will be tested, and the type and force of relationships will be determined.
D) Evaluative component: This component will assess indicators between countries with different market sizes, thereby comparing the initial state of a developing alternative financial instrument market with a developed one.

From a research methodology perspective, this study will primarily employ quantitative analysis methods, considering the type and quantity of data being analysed, as well as the research objective of quantitatively assessing processes to determine the extent and direction of their dependence.

The expected data collection methods for this study, considering its empirical nature and the use of macroeconomic indicators, involve the analysis of secondary data. Secondary data refers to data that have been collected previously for purposes other than the current research. The choice of secondary data is also justified by the practical challenges and cost associated with collecting primary data specifically for studying the investment market.

The type of secondary data used is external, which refers to publicly available reports and statistical materials from international organizations, government agencies, research centres, and scientific institutions. The practical implementation of the data search process involves the use of the following types of external secondary sources:

A) Regulatory acts, such as the "Law on Investment in Entrepreneurial Activity", national strategies for attracting investments and regional development.
B) National and international statistical data provided by organizations such as the World Bank, International Monetary Fund, Organisation for Economic Co -operation and Development, United Nations, National Bank of the Republic of Moldova, National Bureau of Statistics, etc.
C) Data obtained from research conducted by specialized companies or research centres, such as reports on the market of alternative financial instruments from the Cambridge Centre for Alternative Finance, Global Competitiveness Report from the World Economic Forum, Global Innovation Index.

Data validation will be conducted through comparative analysis from different information sources, utilizing triangulation procedures.

The next step is data utilization, which involves a purposeful set of actions including measurement, organization (systematization), and subsequent data analysis.

Measurement allows the studied object to be quantitatively expressed using the nominal, interval, and relative types of scales. The measured data will then undergo the primary procedure of organization-systematization through summarization and grouping.

The presentation of the summary and grouping results can be done using statistical series, tables, and graphs.

Next, we proceed to the direct analysis of the obtained quantitative and qualitative data.

The analysis of quantitative data is conducted using the following tools:

A) Descriptive statistics, which are used for quantitatively describing and summarizing variables through statistical measures. Depending on the economic nature of the data, the research will utilize relative indicators, measures of central tendency, variation, dynamics, correlation, regression, and elasticity to varying degrees.
B) Inferential statistics, which encompass statistical methods and techniques used for generalizing data to the population and testing the quality of model construction through parametric and non-parametric tests.

The conclusions and recommendations will be based on conducting a comprehensive empirical analysis for theoretical substantiation. This includes initial observation of the research object, hypothesis formulation, data analysis, and the confirmation of the hypothesis through theoretical assumptions and collected empirical data.

Data limitations: the study relies on panel data from a limited sample of 30 countries over a specific time period. It is important to recognize that data availability and quality can vary across countries and timeframes, potentially affecting the robustness and generalizability of the findings.

Market volatility: the alternative finance market is susceptible to economic and financial fluctuations. It is essential to acknowledge that the study's results may reflect a particular period characterized by specific market conditions. External factors, such as economic crises or regulatory changes, can significantly impact market dynamics, introducing potential limitations to the study's applicability.

Local idiosyncrasies: the study includes a diverse set of countries, each with its unique economic, social, and regulatory context. Local factors, such as cultural nuances, legal frameworks, or specific economic challenges, can shape the development and behavior of the alternative finance market. Consequently, the generalizability of the findings to other regions or countries should be approached with caution.

Causal inference: while the econometric modelling allows for examining correlations between factors and market volume, establishing causal relationships based on observational data presents challenges. The study's identification of positive correlations does not definitively prove causation, as there may be unobserved or external influences at play. Additional research is needed to ascertain causal links conclusively.

Recognizing and addressing these economic limitations is essential for accurately interpreting the study's results and understanding their broader implications. Future research should aim to overcome these limitations and provide a more comprehensive understanding of the factors driving the development of the alternative finance market.

Alternative finance instruments market notion, taxonomy, current state

Sharing instead of owning is one of the major trends in modern life (Belk, 2014; Omarini, 2018). The sharing economy theory studies peer-to-peer (p2p) relationships for the acquisition, provision or sharing of goods and services, often with the assistance of a community-based platform. The basic principles of the sharing economy are:

1) online platforms, with the role of facilitator and the convenience of participants,
2) temporary access, shared form of consumption and idle power,
3) peer to peer connection,
4) environmental sustainability,
5) trust and network activity,
6) opportunity to work with near-zero marginal cost,
7) opportunity to diversify the investment portfolio, vary its volume, create an individual risk profile,
8) decentralization.

However, at the same time, the market is subject to the following risks/problems: high degree of information asymmetry, lack of direct platform responsibility for project implementation or income guarantees, and underdeveloped legislative regulation (Yoon et al., 2018).

The characteristics and concepts mentioned above allow the author to derive the following working definition of the sharing economy: peer-to-peer integrated self-regulating socio-economic relationships that are not limited by geography and aimed at realizing surplus resources through the exchange of material and immaterial resources using technologies and online network platforms that facilitate the achievement of participants' strategic, tactical, or operational goals through effective management, reducing transaction costs, meeting end consumers' quality service requirements, and achieving mutual benefits.

At present, the world market of "new money"- classic crowdfunding, crowdfunding, and crowd investing- is showing active annual growth, new online platforms are emerging and the transition to the global market is taking place. Alternative financial instruments

provide access to financing to those categories of borrowers for whom access to bank loan products is often limited or impossible (Xu et al., 2019). For example, SMEs, as well as innovative technology projects, due to various difficulties (the need for collateral, high cost of financing) or their characteristic high degree of risks, cannot get or have limited access to traditional bank lending.

Even though the market for alternative finance initially developed as a non-banking market, evolutionary processes have already led to partnerships between alternative financial platforms and banks that participate in the capital of the platforms themselves and gain access to new customers that they do not plan to support with their traditional products. This balanced approach allows the banks to capitalize on the growth of the platform while maintaining customer loyalty. At the same time, some traditional players are increasingly using alternative financing solutions in their own operations, such as Goldman Sachs, which launched its own online lending platform. It is noteworthy to mention that the alternative finance market using modern technological tools for the provision of financial services is part of a larger industry called "FinTech", which includes electronic payments, direct lending, machine learning and artificial intelligence for BigData analysing, insurance technologies (InsurTech) and others. On the other hand, BigTech companies, tech giants whose main business is not financial services, have also entered the peer-to-peer lending market directly or in partnership with other financial institutions. In general, these processes confirm the viability and ongoing development of alternative financial platforms to create both cost savings and growth opportunities for all market participants.

The new epidemiological situation challenges and the measures taken to restrict the movement of people also significantly influenced and changed all spheres of the economy and created ripple effects in financial markets that are still being felt today. A sharp drop in the level of sales and, therefore, a lack of liquidity forced many SMEs to shut down. In this vein, the use of online crowd and peer-to-peer lending is becoming relevant and allows entities to attract financial resources remotely, without the need for various procedures inherent to the traditional banking sector (thorough risk check, the need for collateral and a mandatory visit to the bank). While the pandemic challenged the core of several industries, it also accelerated interest in new opportunities particularly in the cryptocurrency and digital asset spaces.

The taxonomy of alternative finance market models can be broadly divided into Debt, Equity, and Non-investment models, as follows:

Debt-models, commonly associated with P2P/ Marketplace Lending activities, include non-deposit taking platforms that facilitate online credit to individuals, businesses, or other borrower- entities from individual lenders or institutional investors. This debt can be in the form of a secured or unsecured loan, a bond, or another type of debtor-note.

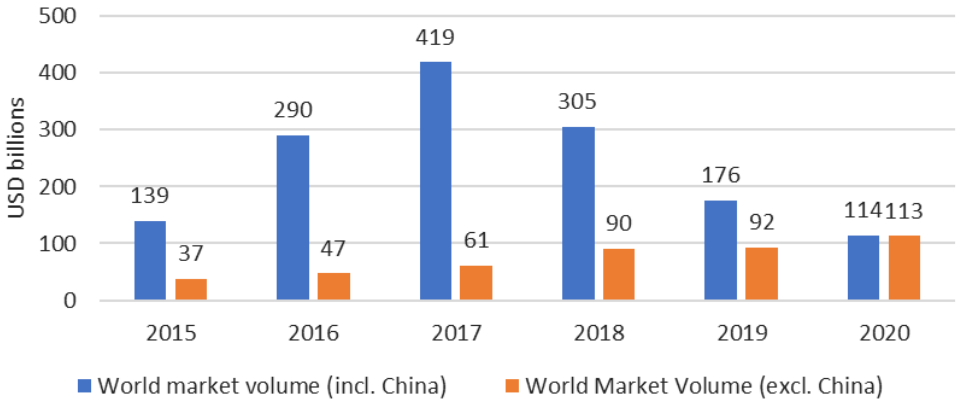
Equity-based models relate to activities where individuals or institutions invest in unlisted shares or securities issued by a business, typically a start-up.

Finally, Non-investment-based models, including Reward-based and Donation-based Crowdfunding, are arguably the iterations of crowdfunding most recognised by the public. In the case of these two models, individuals provide funding to a project, an individual or a business without any obligation from the fundraiser to provide a monetary return for the funds raised.

A detailed description of the trends in the growth and development of the alternative financial instruments market can be found in the annual reports published by the Cambridge Centre for Alternative Finance (CCAF) since 2013.

The global alternative financing market size in 2020 (Figure 1) amounted to 114 billion US dollars. The leaders in terms of market share were the United States and Canada (73.93 billion US dollars), the United Kingdom (12.64 billion US dollars), and Europe (excluding the UK) (10.12 billion US dollars). However, in 2017, when the global market size reached a record high of 419 billion US dollars, 85% of the market volume was attributed to China, while the European market accounted for only 2.8%. China dominated the global alternative online financing market until 2018. However, the development of the domestic market and regulatory changes (Liu, 2018) led to a significant decline in volumes and its share in the global market in 2020, accounting for only 1%. This decline is a direct result of specific political measures taken by the Chinese authorities to irradicate Ponzi schemes used by many platforms.

Figure 1: Size and Growth of the Global Alternative Financing Market



Source: Developed by the author based on Cambridge Alternative Finance Benchmarks (Accessed: 28.04.2023).

The development of the global alternative financing market continues to be uneven, with notable successes in the United States and Latin America, but a decline in the People's Republic of China. Consequently, when China's volumes were included in the global analysis, the overall volume of the global market significantly decreased, dropping by 42% in 2019 and another 35% in 2020 – from 304.5 billion dollars in 2018 to 176 billion dollars in 2019 and 114 billion dollars in 2020. However, if we exclude the Chinese market from the analysis, it becomes clear that the global alternative online financing market has been steadily growing over the past five years. Global volumes (excluding China) increased by 51% from 44 billion dollars in 2015 to 91 billion dollars in 2019. Furthermore, in 2020, despite COVID-19, the global market volume grew by an additional 24% year-on-year, reaching 113 billion dollars.

Investment climate and alternative finance market in the Republic of Moldova

The volume of the alternative finance market in the Republic of Moldova amounted to $94 million in 2020. There were four foreign active platforms registered, with no local platforms. The investment landscape in the Republic of Moldova is not attractive to foreign investors, with the majority (75%) of investments coming from domestic sources. Various derivative and alternative financial instruments are used in very limited volumes. The existing financial system and infrastructure in the Republic of Moldova are primarily focused on financing large and steadily developing projects. The international assessment of the investment attractiveness of the Republic of Moldova, specifically the aggregated Global Competitiveness Index, is also at a low level, ranking 86th out of 141 analysed economies. Despite such an assessment, there are also strengths and development opportunities, such as a competitive ratio of productivity to labour costs, a multilingual population, liberalization of legislation, favourable geographic location, and a free trade regime with the EU. However, it is important to address current problems and reduce risks, including a shortage of skilled and highly qualified labour, outdated programs in vocational education, unsatisfactory physical infrastructure, low-quality governance (corruption), a lack of domestic sources of raw materials, macroeconomic instability, a weak domestic financial sector, inflationary pressure, and the frozen conflict in Transnistria. To overcome these challenges, the National Investment Attraction and Export Promotion Strategy was adopted and implemented from 2016 to 2020, but it did not adequately address the problems, prospects, and the need for alternative financial instruments. However, in November 2022, the Parliament of the Republic of Moldova approved a more comprehensive and encompassing "National Development Strategy 'European Moldova 2030'", which includes some specific goals for the development of the alternative finance market. Currently, there are no specific legislative frameworks regulating crowdfunding activities in the Republic of Moldova, potentially leading to the application of numerous unrelated laws. However, the draft law "On the Approval of the Draft Law on Equity Financing" is under discussions. The provisions of this law align with those observed in European countries. We highlight potential issues with the draft law, such as the possibility of employees of the supervisory authority holding managerial positions in service providers, delays in the law's adoption, and a 12-month period for its enforcement from the date of publication, as well as the absence of the possibility for European platforms to operate in the Moldovan market.

Factors influencing alternative finance market development

The growth of alternative financing within a country is shaped by a multitude of factors, with economic

factors being significant but not the sole determinant. Examining these factors and quantifying their impact on the dynamics of the alternative finance market will enhance our comprehension of how the alternative financing mechanism operates and uncover the interplay between its development and a country's economic circumstances. To assess the reasons for the development of the alternative financial instruments market, an analysis of various scientific research studies was conducted, leading to the identification of the following categories of variables that influence the alternative finance market:

Regulatory variables

They consider the stringency and effectiveness of local regulations. Legal institutions play a crucial role in the development of financial markets and entrepreneurial activities. Stricter legal norms prevent fundraisers from intentionally misleading investors, thereby enhancing the perception that such campaigns are conducted in good faith.

In the research titled "Law, Trust, and the Development of Crowdfunding", empirical evidence supports the notion that the level of legal institutional development exerts a positive impact on the magnitude of crowdfunding financing (Rau, 2020).

Another recent report found a positive correlation between the perceived adequacy of regulation by platform owners and the volume of crowdfunding (Shneor et al., 2020).

The impact of legislative regulation on crowdfunding can vary. On the one hand, investor protection encourages them to invest in financial crowdfunding. On the other hand, overly strict regulation reduces the number of qualified investors and hampers fundraisers' motivation. Consequently, regulators must strike a balance that both promotes the crowdfunding market and safeguards the interests of investors.

Social capital

The second direction in the scientific literature extensively discusses social capital as a form of informal institution and its connection to crowdfunding. Social capital refers to the relationships, networks, and social norms that facilitate cooperation and collaboration within a community or society. In the context of crowdfunding, social capital plays a significant role as it influences the willingness of individuals to participate, invest, and support crowdfunding campaigns. Trust and social connections among members of a community can enhance the success of crowdfunding initiatives by promoting engagement, spreading awareness, and mobilizing resources. Cai et al., (2021) developed a model to analyse the influence of various aspects of social capital during three phases of fundraising. The authors concluded that most social capital aspects are positively associated with crowdfunding effectiveness. Another study conducted in the field of entrepreneurship has demonstrated that social capital plays a more significant role when legal institutions are less developed (Guiso et al., 2004).

In environments characterized by weak or absent formal legal systems, social capital becomes especially critical for entrepreneurial activities. In such contexts, entrepreneurs heavily rely on personal relationships, trust, and informal networks to secure resources, gather information, and navigate the complexities of business challenges. Social capital can provide access to funding, knowledge sharing, mentorship, and other forms of support that compensate for the absence of strong legal frameworks. Some economists argue that the level of general trust and other forms of social capital contribute to economic activity by hindering opportunistic behaviour (Guiso et al., 2011). Kshetri (2018) argues that trust in strangers increases investors' willingness to participate in crowdfunding financing.

When trust exists within a society or community, it reduces transaction costs and fosters cooperation. Individuals are more willing to engage in economic interactions, such as trade, investment, and entrepreneurship, when they trust that others will uphold their commitments and act in good faith. Trust and social capital create a conducive environment for mutually beneficial transactions and long-term relationships, as they mitigate the risks associated with opportunistic behaviour.

Variables related to information technology and internet access infrastructure

Alternative financing encompasses not only financial innovations but also technological innovations. The emergence and development of this mechanism would have been impossible without the current level of information and communication technology. The utilization of alternative online financing mechanisms requires access to specialized technological tools, internet connectivity, and computer skills. Therefore, it is reasonable to assume that the level of technological development in a country influences the number of internet users and, consequently, the potential participants in the alternative financing mechanism. In their analysis, economists from The World Bank (The World Bank, 2013) demonstrated that the penetration of social networks has a stronger correlation with crowdfunding platforms compared to general internet access. This finding aligns with the highly social nature of crowdfunding.

Variables characterizing the state of the economy

When examining the state of the economy, special consideration should be given to factors such as the

investment climate and the progress of business development. A favourable business environment and the availability of financing sources for small and medium-sized enterprises, which are the primary users of crowdfunding and peer-to-peer lending, are especially important.

Economists note that GDP growth positively correlates with venture capital activity (Gompers & Lerner, 1999, Ning et al., 2015). It has been documented that entrepreneurial activity contributes to real economic growth (Audretsch, 2007). On the other hand, there is a negative correlation as well. High inflation, an unfavourable investment climate, a decrease in household savings, adverse business conditions, and other threats to the macroeconomic environment negatively affect the development dynamics of all segments of the financial market, including both the banking sector and the alternative financing market.

Development and analysis of the econometric model determining factors influencing the alternative finance market

Formulation of hypotheses and input data. After conducting a comprehensive analysis of specialized scientific literature, four hypotheses were formulated to explore the relationship between the volume of financial resources raised through online platforms and the quantitative and qualitative characteristics of the associated factors. These hypotheses aim to provide preliminary insights into the potential influence of these factors on the development of alternative finance.

Hypothesis 1: The volume of alternative finance is directly dependent on the nature of the regulatory impact on the economy.
Hypothesis 2: The volume of alternative finance is directly dependent on the level of social connectedness in society.
Hypothesis 3: The volume of alternative finance is positively correlated with the level of development of information technology in the country.
Hypothesis 4: The volume of alternative finance in a country is directly dependent on its level of economic development.

Utilization of econometric modelling is further needed to investigate the hypotheses and formalize the influence of factors on the dynamics of the alternative finance market. Econometric modelling forms the basis for analysing interdependencies between variables by determining relationships in the form of functions, for subsequent use in decision-making processes at both microeconomic and macroeconomic levels. This approach provides a systematic examination of the relationships between factors and the volume of alternative finance, aiding in a deeper understanding of the market dynamics and facilitating evidence-based decision-making. Therefore, it is an important tool in formulating monetary and credit policies, structural analysis, and forecasts.

Given the complexity of each identified factor and the need to assess its impact on the development of the alternative finance market, it is crucial to employ comprehensive, aggregated indicators. The author suggests using indices and indicators that capture the comprehensive state of economic, financial, regulatory, technological, and innovative factors. By employing such indices, data comparability can be ensured globally, enabling an accurate reflection of the nature and impact of each factor on the dependent variable during international analysis. This approach allows for an accurate reflection of the nature and impact of each factor on the dependent variable in scope of intercountry analysis.

Table 1 presents the selected quantitative indices/indicators that have been chosen from a wide range of indicators for the purpose of the final analysis.

Table 1: List of variables used in the study

Variable name	Abbreviation	Description	Source
Share of alternative finance market volume per capita	AFM_{cap}	Market volume for each individual country in US dollars	(Cambridge Alternative Finance Benchmarks, World Bank Open Data)
Economic Freedom Index	ECF	Rule of law, regulatory efficiency, market openness, tax burden	(The Heritage Foundation)
Index of regulatory restrictions on Direct Foreign Investment	REG	Legislative restrictions on foreign direct investment	(The Organization for Economic Co-operation and Development)

Variable name	Abbreviation	Description	Source
Social Capital (component of Global Competitiveness Index)	SOCIAL	Social cohesion and engagement, political participation, institutional trust	(The World Economic Forum)
Global Innovation Index	GII	Global trends in innovation, education, infrastructure, knowledge creation in the economy	(The World Intellectual Property Organization)
World Digital Competitiveness Ranking	IMD	Economy's readiness to adopt digital technologies as a key factor in economic transformation in business, government, and society as a whole	(International Institute for Management Development)
Financial Development Index	FDI	Level of development of financial institutions and markets in terms of their depth, access, and efficiency	(International Monetary Fund)

Source: Developed by the author.

A panel dataset (Appendix 1) consisting of 90 longitudinal observations for the years 2018-2020 across 30 countries was used for the econometric analysis. These countries exhibit heterogeneity in financial market conditions, economic development, technological capabilities, and the level of informal institutions.

AFM_{cap} (alternative finance market volume per capita) is considered an endogenous variable. The analysis of explanatory variables, which are considered significant for the dependent variable AFM_{cap}, started with the analysis of correlation coefficients between variables (Table 2). A linear relationship between and the other variables is observed (column 1). At the same time, a linear correlation is observed among the exogenous variables (coefficients below the main diagonal of Table 2), which are intended to be included in the model. This leads to multicollinearity issues among the exogenous factors, resulting in large variance values of regression coefficients and distorting the process of testing statistical hypotheses. Variations in the original data cease to be independent, making it impossible to isolate the impact of each independent variable individually on the dependent variable.

Table 2: Pairwise correlation coefficient matrix

	AFM_{cap}	ECF	FDI	GII	IMD	REG	SOCIAL
AFM_{cap}	1.00	0.34	0.24	0.42	0.45	-0.15	0.27
ECF	0.34	1.00	0.34	0.59	0.68	-0.42	0.53
FDI	0.24	0.34	1.00	0.73	0.65	-0.12	0.46
GII	0.42	0.59	0.73	1.00	0.91	-0.36	0.59
IMD	0.45	0.68	0.65	0.91	1.00	-0.31	0.67
REG	-0.15	-0.42	-0.12	-0.36	-0.31	1.00	-0.05
SOCIAL	0.27	0.53	0.46	0.59	0.67	-0.05	1.00

Source: Developed by the author based on statistical data.

A visual analysis of the correlation matrix reveals that the high correlation coefficient between IMD and GII (0.91), GII and FDI (0.73), SOCIAL and IMD (0.67) suggests that including these variables together in the regression would be redundant. However, relying solely on correlation coefficients is limited when testing for multicollinearity, so we will also use the VIF (Variance Inflation Factor) test (Table 3). The VIF is a measure used to assess the extent of multicollinearity among the variables in the model. A VIF value less than 5 indicates low correlation between variables. Values between 5 and 10 indicate moderate correlation, while VIF values above 10 indicate high and unacceptable correlation among the predictors in the model (James et al., 2013).

Table 3: Multicollinearity Check

Variables	Centered-VIF
ECF	2.23
FDI	2.28
GII	7.51
IMD	7.66
REG	1.43
SOCIAL	2.03

Source: Developed by the author based on statistical data.

Values of centered VIF for the factors GII and IMD are observed to be above 5, indicating that the simultaneous inclusion of both factors leads to multicollinearity issues. Considering the significance of the analysed factors, another combination of factors was tested, which helped eliminate multicollinearity.

Table 4: Repeated Multicollinearity Testing

Variables	Centered VIF
FDI	2.07
SOCIAL	1.82
(IMD+GII)/2	3.66
(REG+ECF)/2	1.92

Source: Developed by the author based on statistical data.

Since all VIF values are less than 5, it can be concluded that the constructed model does not contain collinear factors and can be used for analysis and forecasting. Thus, the task of selecting factors in the regression model has been resolved.

During the process of econometric models selecting careful consideration was given to both economic theory and empirical analysis. These two pillars form the basis for understanding and identifying the interdependencies between all the factors involved. As a result, the following regression was obtained and approved:

$$log(AFM_{cap}) = \underset{(-4.38)}{-9.28} + \underset{(7.9)}{1.53}\log(FDI) + \underset{(2.5)}{0.66}log(SOCIAL) + \underset{(1.52)}{0.38}log(\frac{IMD+GII}{2}) + \underset{(4.45)}{2.38}log(\frac{REG+ECF}{2}) + \varepsilon \quad (1)$$

$R^2 = 0.95$, $t-$ *student test in brackets.*

The goodness of fit of the model, as determined by the coefficient of determination (R-squared), indicates a strong level of relationship between the variables. A high R-squared value suggests that a significant portion of the variability in the capacity of the Alternative Finance Market (AFM_{cap}) can be explained by the selected variables in the model.

Based on the obtained regression results, it is evident that the exogenous factors included in the model have a positive influence on AFM_{cap}. This observation aligns with the positions put forth by economic theory, which suggests that factors such as economic conditions, financial factors, regulatory environment, technological advancements, and innovations can contribute positively to the growth and development of the alternative finance sector. Furthermore, the logarithmic form allows us to determine the percentage impact of each endogenous factor as follows:

A) If FDI increases by one percent AFM_{cap} increases by 1.53%. This implies that the level of development of financial institutions positively correlates with the volume of alternative financing per capita with GDP, and the relationship is clear and significant. This suggests that, in general, the more developed a country is economically, the higher the volumes of alternative financing in the country. The result indicates that as FDI inflows increase, the capacity of the Alternative Finance Market experiences a proportional growth. These findings support the notion that a robust financial infrastructure, including the presence of well-developed financial institutions, can contribute to the growth and accessibility of alternative financing options, ultimately benefiting the economy and individuals seeking alternative funding sources.

B) If the SOCIAL variable increases by 1%, mo AFM_{cap} increases by 0.66%. The study found that social trust has a lower degree of correlation with the level of the alternative market compared to economic development. However, there is still a positive and significant correlation between social trust and alternative financial capital activity in different geographical regions. This confirms that social capital plays an important role in differences in levels of alternative financial capital activity across regions.

C) If the average values of IMD and GII variables increase by 1%, AFM_{cap} increases by 0.38% There is a positive and statistically significant correlation between information technology development and per capita financing volumes. The correlation with the Global Innovation Index and Digital Competitiveness Index is the lowest among all factors studied, but it is still positive.

D) If the average values of REG and ECF variables increase by 1%, AFM_{cap} increases by 2.38%. The study found that regulatory factors have the highest elasticity among other indicators in the model. The influence of regulatory factors is the most important factor in the activity of the alternative finance market, particularly from the demand side. This is because strict legislative frameworks can act as barriers to entrepreneurship.

Conclusions

The research successfully achieved its primary objective of analysing the factors driving the development of the alternative investment instrument market. The analysis of scientific literature focused on identifying the factors that influence the development of the alternative finance market. Thus, several groups of factors, including regulatory, social, information technology development, and economic factors were identified. To test the hypotheses regarding the impact of these factors, the research employed formalized econometric modelling techniques using panel data from 30 countries spanning the period from 2018 to 2020. The resulting model confirmed the theoretical explanations and revealed a positive correlation between all groups of factors and the market size per capita. Notably, the regulatory determinants exhibited the strongest association with market development. This suggests that the level of regulatory influence and the presence of regulatory restrictions play a crucial role in shaping the activity and growth of the alternative finance market. It implies that governments and regulatory bodies should carefully consider their policies and regulations to foster a favourable environment for alternative financial instruments and activities.

Among the main methods for developing the mechanism of action in the alternative finance market in the Republic of Moldova, the author proposed the following initiatives and adapted suggestions for the establishment of the new finance market in the country:

1) Regulatory measures must be promptly implemented and enhanced to facilitate crowdfunding growth while managing risks. Strengthening investor safeguards through standardized due diligence and creditor scoring systems will enhance trust. Specific frameworks for crowdfunding investments, targeting startups and small businesses funded by diaspora remittances, will incentivize participation and support.
2) The use of regulatory sandboxes enables the experimentation and implementation of new financial products and services within a controlled environment, mitigating the risk of non-compliance with current regulations.
3) Potential need for cross-border coordination with foreign supervisory authorities due to the presence of multi-jurisdictional European platforms and foreign-based headquarters of firms.
4) Necessity for implementing investor protection mechanism and establishing a system of government guarantees.
5) Legislative provisions should be introduced to enable platforms to offer supplementary services to fundraisers, such as promotion, business planning, financial analysis, strategic guidance, and consulting, to enhance crowdfunding outcomes.
6) Regulatory bodies must set interest rate restrictions for digital lenders to curb exorbitant rates in Moldova. Moreover, creating a whitelist of regulated fintech companies in digital lending is essential for regulatory authorities.
7) Transparent tax policies and financial incentives, including tax benefits and guarantees, play a crucial role. Indirect investments through tax breaks enable the government to stimulate investment. As platform-based lending matures, it should lead to lower interest rates compared to traditional banking, thanks to reduced operational costs and regulatory requirements.
8) Ensuring the security and seamless operation of online platforms is of paramount importance, given the potential risks of fraud and technical disruptions in IT systems.
9) Cultural and educational aspects. Establishing co-working spaces, incubators, and accelerators providing financial, economic, legal, and organizational support fosters investment opportunities. Private sector contributions, such as physical infrastructure, mentorship, knowledge sharing, and market experiments, drive an entrepreneurial culture. Government programs promoting financial technology education, innovation, and training mitigate risks in alternative finance.
10) Co-investment. Local authorities can leverage alternative financial platforms for collaborative investments in local projects and SMEs. Rather than offering direct investments or grants, they can align with the crowd and jointly invest in projects supported by private investors.
11) Implementing balance sheet crowdfunding models enhances transaction accountability on platforms, while establishing a mechanism for investment banks to provide guarantees for large-scale credit transactions on crowdfunding platforms.

Therefore, it is essential to conduct an analysis of the existing online platforms operating in the Republic of Moldova's market for alternative financial instruments, as well as evaluate the objectives of the transactions being conducted. Examining the challenges and prospects of utilizing traditional and alternative investment instruments represents an important and highly relevant research objective. This research holds particular significance in the context of attracting investments to the Republic of Moldova and striving to accomplish long-term development goals and ensure stable economic growth.

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