

58.2%: 119.29
51.25%: 108.98

LOPOTENCO VIORICA

DEVELOPMENT
OF THE NEW INTERNATIONAL
FINANCIAL ARCHITECTURE
AT THE NATIONAL
FINANCIAL SYSTEMS LEVEL



RS Global

Warsaw 2021

LOPOTENCO VIORICA

**DEVELOPMENT OF THE NEW INTERNATIONAL
FINANCIAL ARCHITECTURE AT THE NATIONAL
FINANCIAL SYSTEMS LEVEL**

Monograph

**RS Global
Warsaw, Poland
2021**

DOI: 10.31435/rsglobal/027

Lopotenco Viorica

Development of the new international financial architecture at the national financial systems level. – Warsaw: RS Global Sp. z O. O., 2021. 82 p.

ISBN 978-83-960097-2-2

ISBN 978-83-960097-3-9 (eBook)

The fundamental purpose of this paper is to analyze the transformations in the international financial architecture and their impact on the national financial system. The analysis of the international financial architecture's functioning mechanism suggests its similarity with the software system structure. It is static in the way the system functionality is decomposed and divided into implementation teams.

The efficiency of international financial architecture's functioning depends mainly on how balanced and interconnected its elements are. Thus, according to systems theory, only by overcoming the deformation of the international financial architecture at all its levels, it is possible to increase the financial system's overall performance. In this regard, maintaining a dynamic balance in the development of the international financial architecture as an integral unit of its structural elements and functions is becoming of urgent importance.

This aspect of the research allows the creation of an instrumental and methodological basis for forecasting the directions for further developing the international financial architecture in the context of the globalization of the world economy at the national financial systems level.

This study concludes that the complex solution of the international financial architecture challenges involves creating the foundations for implementing progressive structural changes in the economy and contributing to sustainable economic development.

ISBN 978-83-960097-2-2

ISBN 978-83-960097-3-9 (eBook)

© Lopotenco Viorica, 2021

© RS Global Sp. z O.O., 2021

CONTENTS

INTRODUCTION	4
Chapter 1. THEORETICAL AND METHODOLOGICAL FOUNDATION OF THE INTERACTIONAL FINANCIAL ARCHITECTURE CONCEPT	6
1.1. Conceptual landmarks of the international financial architecture paradigm.....	6
1.2. The methodological approach to the international financial architecture analysis.....	15
1.3. The implications of high technology and innovation on the international financial architecture.....	26
Chapter 2. TRANSPOSITION OF THE NEW INTERNATIONAL FINANCIAL ARCHITECTURE AT THE NATIONAL FINANCIAL SYSTEMS LEVEL	32
2.1. The links between the international financial architecture and the national financial architecture.....	32
2.2. Methodology for assessing the level of national financial systems development.....	42
Chapter 3. FINANCIAL SYSTEM ADJUSTMENT IN THE REPUBLIC OF MOLDOVA TO THE NEW INTERNATIONAL FINANCIAL ARCHITECTURE	52
3.1. The international financial architecture implications on the institutional development of national financial systems.....	52
3.2. Financial architecture development of the Republic of Moldova.....	59
CONCLUSIONS	73
REFERENCES	74
Appendix	80

INTRODUCTION

In the modern world, change happens much faster, which has both negative and positive implications. As a result, the world economy, as a whole composed of national economies and non-state entities, and their mutual relations, has undergone fundamental changes. A new model of the world economy has emerged as a holistic, multi structural system of national and transnational institutions, which have become integral elements of a world economy and financial monetary space.

At the heart of the world economy, changes are the simultaneous acceleration of innovative development and globalization. Innovations affect the qualitative parameters of the processes that occur in the world economy and globalization - the quantitative ones. Combining these factors has ensured the accelerated growth and liberalization of international economic relations - world trade in goods and services, increasing the flow of migrants, and the extent of capital redistribution. As a result, the cross-border movement of substantial financial resources has dramatically advanced the growth of production needs and has, in many cases, become speculative. These changes have significantly affected the international monetary system but also the national financial systems.

Simultaneously, the many changes of the international monetary system, which have been registered in the last decade, have repercussions on the consolidation of new forms of international financial and economic relations. As a result, an analysis of the financial space and the relationship between global financial practices and policies aimed at ensuring the integrated development of national economies and adapting international financial institutions to prevailing international monetary and financial relations were required to spread the financial component in society. In this way, we can see that the development of the international financial architecture is determined by the modern trends of the scientific paradigm in the social field.

Objectives. The purpose of this study is to analyze the mechanism of operation of the international financial architecture and its implications on national financial systems from the perspective of complex systems theory.

The monograph comprises three chapters.

Chapter 1, "Theoretical and methodological foundation of the interactional financial architecture concept," defines international financial architecture. Simultaneously, the methodology for analyzing the international financial architecture is elaborated and presented, but also the implications of high technology and innovation on the international financial architecture.

Chapter 2, "Transposition of the new international financial architecture at the national financial systems-level" analyzes the links between the international financial architecture and the national financial architecture and formulates the methodology for assessing the level of national financial systems development

Chapter 3 “Financial system adjustment in the Republic of Moldova to the new international financial architecture” formulates the international financial architecture implications on the institutional development of national financial systems and analyzes the financial architecture development of the Republic of Moldova.

The conclusions and the references used are presented, at the end of the study.

Chapter 1. THEORETICAL AND METHODOLOGICAL FOUNDATION OF THE INTERACTIONAL FINANCIAL ARCHITECTURE CONCEPT

1.1. Conceptual landmarks of the international financial architecture paradigm

Essential conditions for intensifying the process of globalization manifested themselves in the 1990s when financial liberalization measures were taken everywhere - most countries lifted currency restrictions related to current international operations and liberalized the capital movement account.

At the same time, the world economy has gone through several deep and protracted financial crises, which have sparked heated discussions about determining the methodological approach to ensuring financial systems' stability.

The turmoil related to the financial crises has caused great concern to the international community and has prompted the adoption of measures to reform the international monetary system. During a financial crisis in the second half of the 1990s, the first deputy director of the IMF, Stanley Fisher (1998), on this occasion, wrote: "The international financial system, which has sustained the world economy through 50 years of growth and prosperity, needs reform to ensure that this continues - and that the mistakes of the 1930s are not repeated. For the IMF, which has had a central role in the system, to continue to play its part, it needs the support of its membership as it adapts to a changing world economy - and it urgently needs the quota increase" [1].

On October 6, 1998, in Washington, Michel Camdessus, the IMF's executive director, in his address to the IMF Board of Governors, said the global crisis needed a global solution. The architecture of the international monetary system needs to be strengthened, but not through direct intervention. In this context, Michel Camdessus referred to the President of the United States' speech, in which he stressed that there is something more important than the architecture of a house; namely, the way houses relate to each other and how to choose conflict resolution.

The IMF chief executive emphasized: "What is even more important than the architecture of a house is how the people inside behave towards each other and how they resolve conflicts. Here, we have good principles that have served us well over the past decades: cooperation, democratic principles, predictability, and accountability towards each other. We therefore need to build on this foundation to strengthen the architecture of the international financial system, adapting it to new challenges" [2].

The term "financial architecture" was first mentioned in a speech by US President B. Clinton at the New York Foreign Relations Council in September 1998. He called the financial crisis 1997-1998 "the biggest financial challenge facing the world in a half-century" [3].

Around the same time, a scenario of the reform of the international monetary order was presented by Gordon Brown in several speeches and articles: "A New

Global Financial Architecture" [4], "Building a Strong World Financial System" [5], and in his speech at the Kennedy School of Management at Harvard University, on December 15, 1998, later published in *The Wall Street Journal Europe* [6].

For 50 years, Gordon Brown argued, all regulatory, supervisory, and crisis management policies have been formed without regard to the principles of globalization, but with a focus on independent national economies with limited capital regimes and with slow movements. At that time, Brown argued, the world economy had entered an era of interdependent and mobile capital markets. National economies already could not be separated from the massive, rapid, and sometimes destabilizing global financial flows.

Naturally, said the UK finance minister, we should respond to this new call; we need a new financial architecture and reform at the national and global levels [7].

The popularization of the term international financial architecture is attributed to Barry Eichengreen after the publication of the paper "Toward a New International Financial Architecture," edited by the Peterson Institute [8]. According to Barry Eichengreen, the Asian financial crisis and the global economic crisis that followed highlighted the need to prevent and manage financial crises quickly. The author also referred to concerns about existing institutional arrangements, including institutions founded in Bretton Woods, which could no longer adequately address the current reality of high capital mobility. The recommendations were based on the belief that financial markets can malfunction, provoking convincing arguments for a financial security system (and therefore a role for the IMF) and creating moral hazard issues that need to be addressed.

The new financial architecture consists of codes of conduct, a new global regulator, and an international memorandum of understanding, which clearly defines responsibility for crisis prevention and resolution. Gordon Brown's vision is not about new institutions, but how we behave in the interdependent world, respect discipline, and reach solutions in a more coordinated way. The fundamental challenge that lies ahead is the definition of new rules of the game, which, by increasing investors' credibility and confidence, contribute to stability and prosperity [4].

On the other hand, the Canadian researcher Germain Randall considers the structure of decision-making, international financial architecture, can be identified with absolute precision. International financial architecture consists of four main pillars, each with its supports, but also supported by interlocking connections. One of the pillars is the G-7, which can still be considered the global economic engine, but which increasingly recognizes the fundamental dependence between its economies and the peripheral ones. Another pillar is the G20, which is the only target institution in which industrialized and emerging economies can meet to discuss common interest's financial issues. A third pillar is the FSF (Financial Stability Forum), another new institution specifically designed to combine the interests of industrialized economies and emerging markets on regulatory issues. The final pillar focuses on the IMF, which extends through information links to the entire

community of international financial institutions (IFIs) which represent the highest level of technical expertise on global financial issues: the World Bank, the BIS (together with the specialized committees operating under its auspices the Basel Committee on Banking Supervision (BCBS), the International Association of Insurance Supervisors (IAIS), the Committee on the Global Financial System (CGFS) and the International Organization of Securities Commissions (IOSCO) [9].

Figure 1.1 provides a schematic representation of the new international financial architecture.

According to Germain, this vision of the international financial architecture can be clearly identified as a consensual decision-making structure. One of the remarkable attributes of the emerging international financial architecture is the absence of explicit command and control channels. The transition to standards of conduct and codes of good practice as constraints on global finance means that one pillar's ability to command another is disabled. For example, the FSF cannot order insurance supervisors in other countries to adopt specific rules and procedures; instead, it must convince these countries of the opportunity to do so.

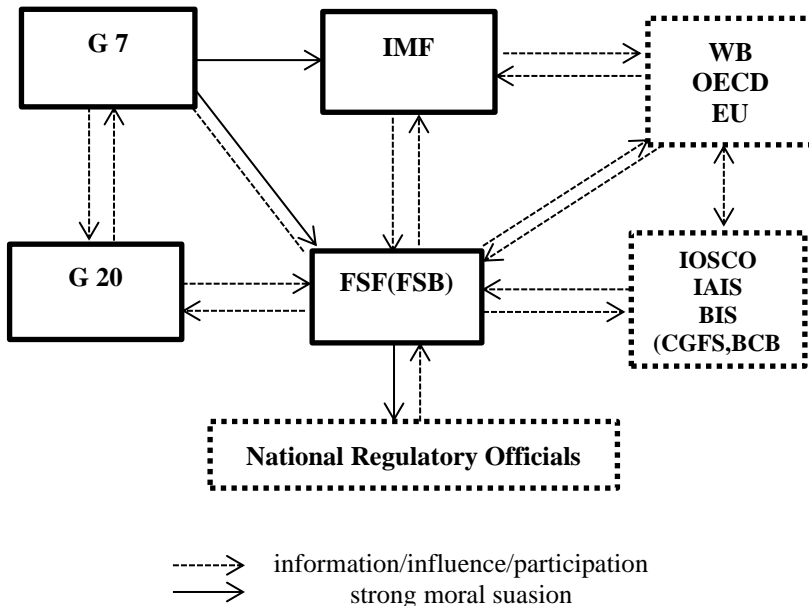


Figure 1.1. The new international financial architecture
Source: [9].

In conclusion, Germain Randall states that it is more useful to consider the international financial architecture as the mechanisms and structures through which rules and arrangements are made: the set of institutional arrangements that determine who receives, what receives, when, and how. This architecture vision emphasizes its

political nature and sees the current reform effort as a clear political agenda that reorients the political issues that have remained dormant for the last thirty years.

The term international financial architecture is also widely discussed in Russian literature. Thus, the Russian researcher Vitalii Şmelev, treats international financial architecture through components - blocks: "the international financial architecture includes essential elements the international money and institutions, but also the rules that ensure their issuance and normal functioning [10].

Natalia Vovcenco appreciates the international financial architecture more generally - as "the institutional structure of the international monetary system, taken into account in a dynamic process" [11].

Russian law researcher Alexei Moiseev, for his part, believes that the essential role in solving global problems lies with international organizations (such as the IMF and the World Bank), whose representatives believe that the complex of initiatives aimed "at crisis prevention and management" is, in fact, the international financial architecture [12].

And George Soros, in his work "Reforming Global Capitalism", in Chapter 10: A New Global Financial Architecture, argues that "speaking of the international financial architecture, we first consider the role of international financial institutions, especially the IMF" [13].

And World Bank materials state that in response to the financial crisis, the international community has taken some initiatives to prevent and manage crises. This structure is considered as a global financial architecture [14].

The Asian crisis has spread a shock to the countries at its epicenter and the entire international economic and financial system in general. As a result of this crisis in global financial circles and the literature, a debate has begun to adopt emerging economies' policies and strengthen international financial markets. The mentors of what has been called in the literature "reforming the international financial architecture" quickly fell into two camps.

The first group generated proposals for the radical reshaping of the international monetary system. The second group focused on policy adaptation in emerging markets and supported more limited changes in international financial markets' structure and governance.

Of course, the mortgage crisis of 2008 has placed both progress in this area and previous literature in a new light.

Despite the active use of the term "international financial architecture," several methodological approaches are used to determine this notion's economic content.

Thus, the International Monetary Fund defines the international financial architecture as the institutions, markets, rules of the game, and practices, which governments, business, or individual households, usually carry out in its economic and financial activities.

According to Andrew Crockett, "architecture" may seem a pretentious word to describe the ad-hoc set of arrangements that make up the current international

monetary system. Even in a reformed international monetary system, the clarity of structure and design that are the hallmarks of good architecture will certainly be lacking. However, a financial system should conform to certain general principles, which could be readily understood and widely accepted [15].

On the other hand, Nicholas Hopkinson said that following the Asian, Russian and Latin American crises of 1997-98, governments sought to strengthen the international financial architecture to maximize profits in global markets and minimize the risk of disruption. But the view remains divided on measures taken in the wake of the Asian crisis, in which the international system has not been effectively improved, as some felt the same systemic flaws - potential market failures, volatile capital flows and exchange rates, vulnerable financial systems, and international contagion - could trigger another crisis.

The new international financial architecture, according to Nicholas Hopkinson, involves rules and conventions in governing international economic and financial relations and institutional arrangements for developing, monitoring, and enforcing the rules. The current international financial architecture is a market system based on flexible exchange rates, market-determined adjustments, endogenous liquidity created, and open capital markets. Strengthening the architecture may involve crisis prevention (enhancing the market's functioning), crisis management, and resolution (strengthening institutional responses). Crisis prevention involves better macroeconomic policies (international surveillance) and more robust financial systems (development and application of prudent codes of conduct). Full macroeconomic policies require sustainable budgets, structural policies, and avoidance of fixed regimes that cannot be adjusted [16].

Critics of the new international financial architecture, shaped by the Asian crisis, said it was too focused on what developing countries should do. There had to be more symmetry in the debate, emphasizing the cooperation and development of the G7 economies. For example, the most disturbing warning signs at the time seemed to be, according to some researchers, imbalances in the USA economy and doubts about the solvency of life insurance in Japan (although the situation was not thought to be as severe as and the real one, which he was facing). Even though there is always more information about the USA economy than any other economy, the so-called "writing on the wall" is often ignored. It is challenging to stay away from the flock; if fund managers do not invest in a particular sector or bankers do not lend at a certain level, sector, or country, they can be punished. Markets then overestimate the depth and duration of crises.

On the other hand, optimists of the new concept of the international financial architecture countered that these risks are known and constrained and that a lot of crisis prevention activities have been done in the construction of the new international financial architecture. Also, the periodic crises have not prevented the United States and other G7 economies from being very successful countries, which can also learn from the painful experience. Some argued that it was not essential to

know where the next crisis would come from and understand how to deal with it. This seems to suggest that we are content to manage crises rather than engage in costly crisis prevention.

Faced with the severity of the financial crises in Mexico and especially in Asia, the goal of the new financial architecture, as defined by the G7 and the IMF, is to control international financial instability, according to André Cartapanis and Michel Herland. However, many questions remain. Is it just a matter of improving the transparency of information to encourage better financial practice or introduce much stricter rules while accepting the principle of limiting the international mobility of capital? If such questions arise, it is because there is no theoretical consensus on the dysfunction observed in international financial markets in the 1990s. Paradoxically, this leads us to reconsider the theoretical legacy left to us by Keynes. Discussions on international monetary governance recall Keynes's debate, first in *Treatise on Money*, to improve the gold standard system and prepare for the Bretton Woods Conference. Could this new financial architecture not be seen as a rematch of Keynes? The new architecture is a working compromise that brings together neo-Keynesian and neoliberal principles, but which cannot fully meet systemic risk challenges [17].

A new round of heated debates on international financial architecture has emerged ten years after the Asian crisis. Of course, the determining factor in these reflections was the subprime credit crisis of 2008, which shed both progress and shortcomings from the previous literature in a new light. Thus, it has become clear that emerging markets are empty than mature ones.

Another product of the international financial crisis of 2008 was the second round of calls for a new international financial architecture. These came from Gordon Brown, and were repeated by Nicolas Sarkozy, and embraced by George W. Bush.

But to avoid reinventing the wheel and to prevent predictable mistakes, it may be more useful to understand the dynamics and limitations of previous debates on the international financial architecture, says Barry Eichengreen [18].

What were the priorities after the 1998 financial crisis? The principal reformers focused on strict supervision, regulation, financial transparency, and corporate governance by adopting international standards and codes. Morris Goldstein had already proposed an international standard for banking supervision and regulation [19].

Subsequent contributions have been generalized to several policies and practices related to financial stability. The idea was that standards and codes encapsulate best practices. They would have provided concrete targets to which the countries concerned could aspire. Compliance would be a visible indicator of what has been achieved. The standards should have focused on market assessments of national practices and applied on a peer-to-peer basis, as those in difficulty incurred higher borrowing costs. Simultaneously, the standards we're expected to pay particular attention to the International Monetary Fund's surveillance activities,

which was also to curb the temptation to keep developing countries in a continuum of demanding requirements.

Fabrizio Saccomanni, General Manager of the Bank of Italy, in the period 2006-2012, analyzed in detail the plan to reform the international financial architecture after the Asian crisis, to highlight the mistakes made [20]. According to him, the international community's response to the instability episodes that have affected the international monetary system since the 1980s has generally been carried out on a case-by-case basis, focusing on "internal" factors and circumstances than on "systemic" determinants. This reflected the conventional wisdom that crises are inevitable because they are primarily the result of immutable human factors, such as greed and vice. Crises are also seen as part of a physiological process by which "incompetent" market participants are eliminated and "the most suitable" survive and become stronger. In this context, market excesses are tolerated in the belief that they will self-correct in a relatively short time. From a political point of view, conventional wisdom has recommended the so-called "house-in order-approach." This approach assumes that all imbalances have an internal origin and that if all countries adopted appropriate policies at the national level, there would be no systemic problems to be addressed, and therefore, there was no need for a coordinated response at the international level. Internal factors play a role in triggering crises, but they are often amplified and propagated by global financial markets' functioning. Thus, balanced response to crises should ideally address both types of factors. In reality, the policy response has generally been biased in adapting to imbalances' internal causes, such as the IMF's financial assistance packages for emerging countries in the 1990s. Actions to address systemic problems have been sporadic or partial. G7 countries carried out occasional interventions to correct the major exchange rates alignment. Still, they were primarily "verbal" at the time, despite evidence of success in attesting unsustainable or unjustified trends, such as the dollar appreciation in the mid - the 1980s, the appreciation of the yen in 1995, of the euro depreciation in 2000.

Also widely inflated is the "reform of the international financial architecture" launched by the G7 countries after the Asia-Russia crisis of the 1990s, which proved to be mainly focused on the need to strengthen financial systems in emerging countries, primarily through adopting a series of standards and codes of good conduct. The plan drew criticism from a high-level task force set up by the Foreign Relations Council and led by Morris Goldstein for failing to address more fundamental issues, such as the moral hazard implicit in IMF-sponsored bailouts or overlapping roles. IMF and World Bank in crisis management and resolution [21]. A minority in the Task Force, including Fred Bergsten and Paul Volcker, criticized the plan to ignore exchange rate reform, an omission they equated with "watching Hamlet without the Prince of Denmark". Finally, the international financial architecture reform has forced the IMF to invest a large number of resources in a Financial Sector Assessment (FSAP) program,

which has produced reports that are extremely valuable but not widely read all IMF member countries, but with a significant omission, without the United States and China. Another key objective of the reform, which filled in the gaps in the financial regulatory regime, is again to force the IMF to focus more on offshore financial centers' activity based on exotic islands, rather than hedge funds and another unregulated market financial system participants with greater systemic relevance. In this context, it can be seen that the supervision of the financial sector has led to a "crawling mission" of the IMF, redirecting resources from its essential institutional task of monitoring the macroeconomic and monetary policies of member countries. This concern was directly highlighted by a senior US Treasury official, who argued that the IMF was "asleep at the wheel of the most fundamental responsibility - exchange rate supervision" [22].

However, this unexpected "wake-up call" proved to be less motivated by global stability reasons than the much more prosaic concerns of the widening gap in US bilateral trade with China, attributed entirely to the renminbi undervaluation. Ted Truman concluded that "the IMF is in eclipse as the preeminent institution of international financial cooperation. Consequently, the world is worse off." Therefore, the world is worse. Allowing this eclipse this "eclipse" is probably the most crucial flaw in the response of the international community to the challenges of globalization [23]. This has led to the perception of the markets and the general public that the widening of global payment imbalances, exchange rate fluctuations, the rapid growth of monetary and credit aggregates, and extremely low-risk premiums have not been seen. As a threat to global financial stability, the international community faced the worst economic and financial crisis of the 1930s, unjustified self-satisfaction, and a weak institution weakened by domestic political disagreements.

On the other hand, the theorizing of the new international financial architecture after Aaron Major is like a manifestation of the "second side of neoliberalism" - the re-regulation of financial markets by veiling and technocratic isolation from democratic political pressures. Using a more expansive definition of the new international financial architecture includes the institutional link of international monetary management and the rules and regulatory bodies governing capital. The author develops this argument by analyzing the origins and functions of two institutions that are covered by the international financial architecture - the Basel Capital Accord and the dissemination of inflation targeting regimes at the level of central banks. This article highlights the neoliberal logic embedded in these institutions and then shows how these new forms of institutional logic contributed to the 2008 financial crisis, creating many opportunities and constraints that led to the rapid growth of the asset-backed securities market, paying particular attention to the role that central banks should play in this process [24].

Carrying out a brief analysis of the literature in the field of international financial architecture, we can conclude that the debate on global financial

architecture covers several essential dimensions: desired reactions to international capital mobility, managing the financial opening of emerging markets, debates highlighting the absence of an international creditor last resort, the progress made in the regulation and supervision of international banking and finance.

Thus, the reform of the international financial architecture must mean the need to further develop according to the scenario that provides for the introduction of new institutions, using multilateral forms of interaction of essential participants in the international monetary system—coordinating the activity of these international economic organizations. Also, in the current conditions of globalization, there is a growing need for a new theoretical paradigm of economics in general and the creation of another theoretical basis, which would be the basis for the further development of the global economy and finance.

The issue of consolidating the architecture of the international financial system, according to André Cartapanis, was raised on the international agenda with the onset of the financial crisis in Asia in 1997, before spreading to all global financial markets. But it is doubtful that the new architecture will take the form of a set of law rules, the combination of which would lead to a new system binding on the international community, such as the It is a pragmatic response to international financial instability and not institutional progress in international monetary and financial governance. The new global financial architecture is, in fact, similar to an agenda of international consultations, involving a wide range of participants responsible for examining issues related to the stability of the international financial system and the efficient functioning of global capital markets. Under the G7 and G22 groups' auspices, the ad hoc working groups were set up in April 1998 to make recommendations in three areas: increasing transparency and accountability, strengthening financial systems, international financial crisis management [25].

In this context, Lionel Jospin notes that despite France's official position in favor of new regulation of the international system [26], it can be questioned that there is still room for improvement in the institutional framework in which architecture could fit. Renewed international monetary and financial relations and, therefore, the regulations, institutions, and global finance functions.

However, the new international financial architecture is not just about financial techniques to better control international financial instability by improving transparency and market surveillance. Political stakes also affect the responsibilities assigned to markets and states in crisis prevention and management.

Therefore, the interest of a political economy of the new international financial architecture indicates the doctrinal options and the rules of the game that it covers and imply a new neo-liberal compromise, both ambiguous and unfinished [27].

In conclusion, we can conclude that the shocks that have taken place in the international monetary system in the last twenty years have forced the revision of the theoretical and practical legacy left by researchers in the past, which laid the foundations for international financial architecture. As a result of the fact that the

scientific methods and practices developed have proved to be powerless in overcoming the disruptions in the stability of financial and economic systems.

Today, the modern scientific literature is represented by a series of research papers related to the formation, transformation, and strengthening of the international financial architecture, many of which are unsystematic and momentary, with a politicized nuance. Although we should not ignore the influence of the political factor on the evolution and development of the international financial architecture: it is becoming increasingly clear that in modern society, the need to investigate the root causes associated with global civilizational contradictions in the world. Thus, there are theoretical and practical differences in approaches in the research community and the expert community, which conditions the need to argue the research in this field.

1.2. The methodological approach to the international financial architecture analysis

The world economy has a hierarchical, multidimensional structure, but at the same time, it is a subsystem concerning society as a whole. The immanent property of an economic system is its evolution as a cumulative process of change in society. The profound changes in the system that lead to the emergence of a new system are called transformation. The transformation has a temporal characteristic and depends on the forces' activity, marked by large-scale changes in the economic, political, social, and technological spheres.

Most experts believe that the financial industry is a leader in these processes, and the changes of the last decades are called financial globalization, financial revolution, financing. As a result of these processes, planetary finance was formed, but also a new type of economy - financial economy or, in other words, finansonomics.

Financial transformations in economic systems, resulting from a qualitative evolution and a quantitative increase of capital, objectively require an understanding of these phenomena's essence from the perspective of a methodology to study the transformation processes from financial accents' standpoints due to the value nature of capital. Particular attention is paid in these conditions to the international financial architecture, which is becoming a dominant part of economic relations.

Simultaneously, the international monetary system's many changes, which have been registered in the last decade, have repercussions on the consolidation of new forms of international financial and economic relations. As a result, an analysis of the financial space and the relationship between global financial practices and policies aimed at ensuring the integrated development of national economies and adapting international financial institutions to prevailing trends in international monetary and financial relations were required to spread the financial

component in society. Thus, we can see that the development of the international financial architecture is determined by the modern trends of the social field's scientific paradigm.

The institutional and legal finalization of the international financial architecture took place with the establishment of the IMF and the WB and the conclusion of international agreements at the Bretton Woods conference in 1944. But the premises for the formation of the international financial architecture appeared already in the 20s of the twentieth century; the conferences in Brussels (1920) and Genoa (1922) raised the need for multilateral regulation of international economic relations [18].

Discussions about the need for global regulation and the reform of the international financial architecture, which emerged at the turn of the twentieth century as a reaction to the crises that shook the international financial markets in the 1990s, make us pay special attention to a theoretical review the legacy left by the most significant economists. They were at the origin of the paradigm of the formation of financial architecture on an international scale.

While the notion of "international financial architecture" has been frequently used for the last 20 years, to date, there is no generally accepted definition of this term or its economic content.

The word "architecture" comes from the Latin *architectura*, adapted in turn from the Greek word *arkhitekton*. This is a word composed of *arkhi* (leader, chief, the one to follow) and the word *tekton* (builder, craftsman, creator, planner, master in the field).

According to the English Explanatory Dictionary Cambridge, the term "architecture" means the art and practice of designing and making buildings [28]. Construction has always involved complex processes that, observed in detail, allow us to see that they can be organized in different ways, with different shades and customs, according to other legislative frameworks and with different usual results from the perspective of the quality of architecture obtained. Building means relationships and communication, evolution and decisions [29]. Drawing an analogy with the term "architecture," we could consider that the foundation of the global financial architecture consists of the principles of construction, operation, and development of the global financial system's institutional structure. Such a metaphor, mentioned by the interpretation of the essence of "international financial architecture," could be misleading if we understand it in the strict sense of the word.

Therefore, from our point of view, in terms of international financial architecture, it is more appropriate to associate with the analogy of "computer architecture (software, network)," which covers all the functionality and connections between the components of large software systems. An architectural look at a system is abstract, revealing implementation details, algorithms, and data structures, focusing on the interaction and functionality of established components [30]. *Architecture* has become a crucial component of a system's design process.

To begin with, we could conclude that architecture defines elements. The architecture contains information about how the elements interact with each other. This can lead to the deliberate omission of items that have nothing to do with the other items' functionality. Thus, it can be said that architecture is an abstraction of a system that restricts the details of the elements for which it does not matter how they are used, linked, or interacted with the other aspects. In most modern systems, the elements interact through interfaces that share the details of private and public elements. The architecture focuses on the public part of these interfaces - the personal information, which has to do strictly with the internal implementation, is not related to the architecture.

If we make a similarity with software architecture, then according to Bass, "the architecture of a computer system is the structure or structures in the system, which include software elements, the external characteristics of these elements, and the relationships between them." By external characteristics, we mean the features that other elements may assume that the component in question has, such as the services provided, performance indices, fault tolerance, use of shared resources, etc.

If we make a similarity with software architecture, then according to Bass, "the architecture of a computer system is the structure or structures in the system, which include software elements, the external characteristics of these elements, and the relationships between them." By external characteristics, we mean the features that other elements may assume that the component in question has, such as the services provided, performance indices, fault tolerance, use of shared resources, etc.

Next, we will try to elucidate the essence of the international financial system's architecture by analogy with software architecture. Bass's definition clarifies that a system can and even comprises more than one software structure and that a single frame cannot be considered architecture. For example, with a certain level of complexity, each project is divided into several phases and tasks; each phase has set out the activities and results contained in it and, in most cases, is the basis for the implementation teams. Such a step or task comprises, on the one hand, data and software that can be accessed by other groups or can be used in different phases, and on the other hand, private, internal data. In large projects, several teams/sub-teams deal with the planned tasks for one stage. This type of structure is similar to a format used to describe a software system. It can be said to be static in how the system's functionality is broken down and divided into implementation teams. Other structures will focus more on how the components interact while running to ensure the specified functionality.

These two concepts' affinity shows that the international financial system has a global financial architecture because any system can be defined as comprising several elements and the relationships between them. In the most trivial case, a system is itself a component element - a point that is of no interest and probably not very useful, but undoubtedly an architecture. Although each system has an architecture, no one may have all the details related to that architecture. This case

makes the difference between the architecture of the system and the actual representation of this architecture. Unfortunately, an architecture can exist regardless of its description or specifications, which raises problems in the functioning of the financial architecture and the re-formation of the architecture in critical situations.

The element functionality is part of the architecture, to the point where it can be observed or established in the context of another element. Such behavior allows the components to interact with each other, which we have found is part of the architecture. This aspect supports the statement that "the lines and boxes in the representation of the international financial architecture are in no way architectures. They are simple lines and boxes; they serve as landmarks, to provide information about what each element represented" (fig.1.1). It is not assumed that the exact functionality of each element should be documented in detail in all cases; however, since the functionality of one aspect affects the way another element must be implemented to interact with it, or influences the compatibility of the system as a whole, this functionality is part of the architecture. The international financial architecture can be seen as a totality of economical relations, based on which are determined both the principles of building the international financial system and national financial systems and financial institutions, which consist of the international financial system and national financial systems.

Regarding the aspects related to the "quality" of the architecture - is it a good architecture or not - a "trial-and-error" mechanism is not acceptable for the choice of the international monetary system's architecture. From this point of view, the importance of designing and evaluating international financial architecture is highlighted.

In modern economics, there are several methodological approaches or analytical systems (for example, approaches that include a set of essential tools that can be used for several purposes), for research into various aspects of socio-economic systems. Dissemination of systemic study and the systematic approach is one of the characteristic features of science in the second half of the twentieth century.

From our point of view, the systemic approach fits best into the general methodological paradigm of scientific research and the development of financial architecture. The approaches underlying the general methodology of systems theory and synergy and which form the prevailing scientific paradigm include the following: the institutional approach that allows identifying general patterns of formation and institutional characteristics of the international financial architecture's evolution. The procedural approach, in which the definition of the new international financial architecture development principles can be explained most efficiently. The structural-functional approach, allows the determination of the global financial architecture's functions.

Development of the new international financial architecture
at the national financial systems level

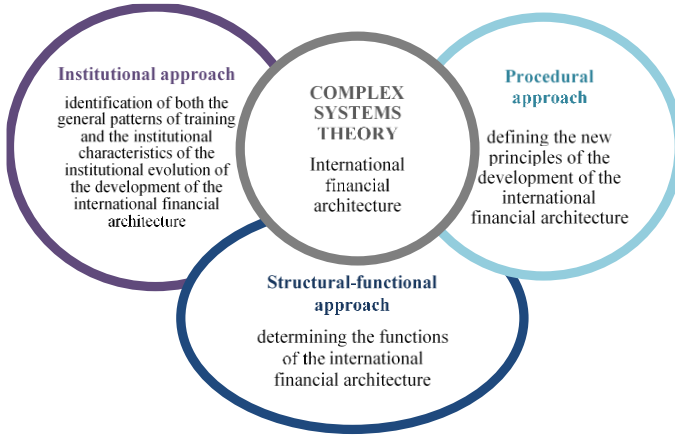


Figure 1.2. International financial architecture from the perspective of complex systems theory
Source: the author.

Simultaneously, in the context of the theory of complex systems, we could consider that the international financial system's architecture consists of all the norms, laws, or rules that structure the international financial system's order. In this circumstance, differentiated laws define the internal manifestation of the system (own internal configuration) and regulations that define the international monetary system's behavior in its environment, the rules of interaction with other systems and entities within it. The architecture of the international financial system is, therefore, equivalent to its character.

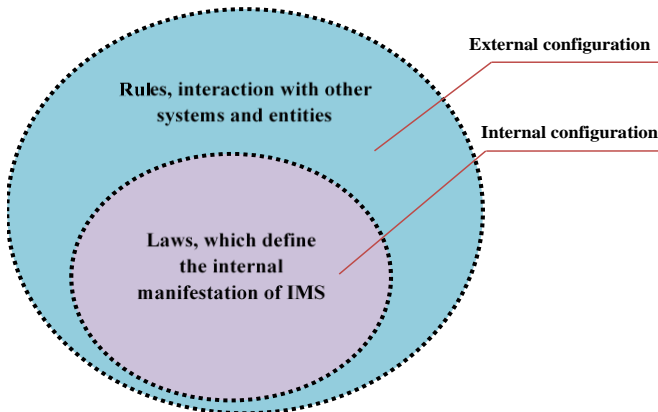


Figure 1.3. The configuration of the international financial architecture
Source: the author.

We will analyze the mechanism of operation of the international financial architecture, taking into account the facets or interdependent elements of the financial architecture highlighted by Andrew Crockett [31], namely:

- firstly, the basic economic model that governs cross-border monetary and financial relations;
- secondly, the institutional structure that exists to manage and, if necessary, adapt these relationships;
- and thirdly, the distribution of decision-making authority in international institutions (their "governance").

All three aspects of the international financial architecture have been profoundly affected by the way the world economy has evolved in recent decades, but also by specific trends that have, at some point, turned into the current crisis. At the same time, these elements continue to change due to lessons learned from the latest dysfunctions.



Figure 1.4. Elements of international financial architecture
Source: developed by the author on the basis: [31].

At the macro level, the international monetary and financial relations model should continue to be based on open capital and commodity markets, undoubtedly leading to flexible exchange rates. But there needs to be a more efficient way to ensure that exchange rates reflect vital factors and that the adjustment process works smoothly. For some countries, especially emerging markets, there may be a case for managing the mobility of capital and exchange rates to avoid pro-cyclical market trends, but this must be done in a small and transparent way. Above all, there must be an internationally accepted process for assessing the adequacy of exchange rates, which results from the combination of market forces and governance. At the micro-

level, it has been amply demonstrated that poor risk management can generate systemic crises. Reforms are needed to reduce the likelihood of failures of crucial institutions and markets and limit costs in the event of institutional shortcomings.

From a broader perspective, how the market-led model influences the international financial architecture is opportune to analyze several aspects (fig.1.5), including economic flexibility, the importance of information, transaction costs, and influence of globalization, education, and technological change.

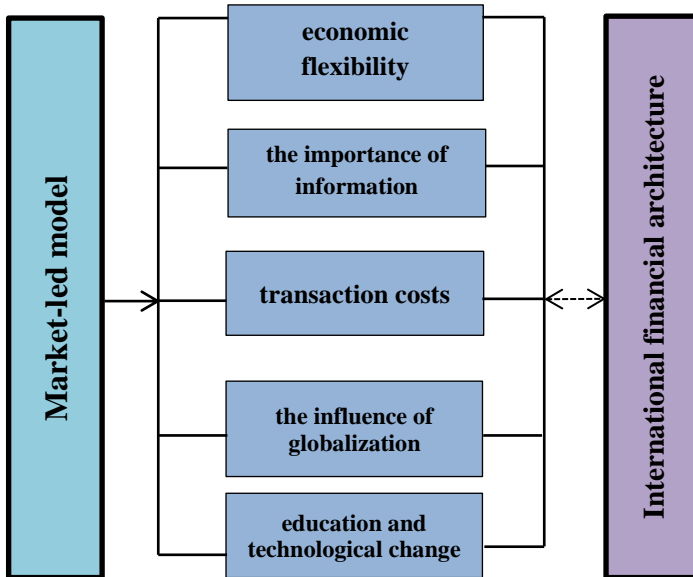


Figure 1.5. The channels of influence of the market-led model on the international financial architecture
Source: the author.

The orientation towards the market model of the national and international economic management had important implications for the institutional arrangements and for international economic cooperation.

The institutional structure is an essential element of the international financial architecture and plays an essential role in the functioning of both the world economy and national economies. The international monetary system's institutional system and any economic system generates productive and counterproductive incentives for businesses, and economic history is a combination of divergent development trends. Institutions play a profound role in society: they are fundamental factors in economic systems' long-term functioning.

The research of the particularities of the global financial architecture's institutional development is determined by the modern tendencies of the scientific paradigm in the social field. Thus, Douglass North finds that the development of

institutional change theory seems to be an essential condition for the further progress of the social sciences in general and the economic sciences in particular. At present, neoclassical theory (as well as other theories in the instruments of the social sciences) cannot explain the differences in the functioning of societies and economies both at a given time and for a certain period. The arguments of the neoclassical theory are not convincing, given that, although model explains the individual differences in the functioning of economies (for example, in the volume of investments in education, in the rate of saving, etc.), still does not justify why to take the necessary measures do not succeed, even if they can usually provide a high yield. And the yield is determined by the institutions [32].

Institutional change is a complex process because changes at the margin can result from changes in rules, informal restrictions, modalities, and the constraint's effectiveness to impose rules and restrictions. Moreover, the process of institutional change is usually visible rather than discreet. The explanation of how and why visible changes occur and why even discrete changes are never entirely discrete has its roots in informal societal restrictions. Although formal rules can be changed overnight by political or legal decisions, informal restrictions that fit into customs, traditions, and codes of conduct are much less susceptible to conscious human effort. These cultural restrictions link the past with the present and the future and give us the key to understanding the path of historical development.

In the conditions of transformation tendencies, the system is in a state of disordered institutional balance. Achieving the institutional balance is an abstraction, so it is logical to talk only about a possible aspiration to achieve it. Cross-border changes in the system cause changes in transaction costs, which leads to the need to revise rules, and contracts at different levels. In this case, the lack of institutional change strategy or the unsuccessful tactics of its implementation leads to the violation of formal rules' unity, the escalation of institutional conflict between dominant legal institutions, and various informal institutions.

As the results of institutional development manifest themselves over a long time, the institutional approach is imperative in the long run, which analyzes the dynamics and endogenous structure of participants involved in the change process and analyzes institutions' adaptability to the new environment.

As an abstraction of the international financial system, the international financial architecture does not appear simultaneously but gradually changes during its evolution. Each of its formation stages differs by solving a specific range of tasks in the conditions of institutional constraints: transaction costs, completeness of information, and characteristics of decision-making processes, based on existing rigors. Consequently, international financial architecture will rise to a new level, realizing its institutional capacity. The time limits of the stages are largely conditioned. However, their selection makes it possible to establish qualitative leaps or, in other words, progressive institutional growth points of international financial architecture, as a holistic entity.

As an expression of the interdependencies and relationships between its elements, the structure of a system results from its movement (components) in a given system. The elements self-organize, reaching ratios (proportions) optimal under the given condition ordering themselves in a relatively stable - integrated systemic formation. The role of the object structure is always dual. On the one hand, it provides stability, balance to a system that develops in a flexible environment. On the other hand, the structure establishes a tunnel of freedom for its elements for the evolutionary development within the integrity of the object. Therefore, the static, inflexible structure cannot be absolutized. The structure's purpose is not limited to a rigid fixation of some relations, established together with their elements and functions. Any design within certain limits allows an object to change its properties and parameters to adapt to a rapidly changing external environment. It follows that the concept of "structure" expresses the dialectical unity of the stability of an object, its elasticity, and variability.

The natural development of interdependencies and relationships of elements can lead to the emergence of new blocks and the destruction of old ones, transfers of functions from a component to another, significant relocations in the structure of integrity. It should be noted that these characteristics do not constitute the prerogatives of the developed (mature) system; they are entirely right for the object, passing the stage of its formation - the transition from the simplest, from a historical point of view, the first form of existence of the item to a system with a developed structure.

The institutional structure of a system is determined by how well it responds to objectives; secondly, how effective are leveling conflicts in this system; third, by restrictions on individuals' actions and their associations. Changing the institutions in the system, the interconnections between them, according to North, means transforming order in this system. The economy's institutional system's basic framework is the institutional matrix, which includes, to varying degrees, market institutions, and non-market subsystems.

Compared to other institutions of the global economy, the international monetary system's architecture is different, specific and able to change radically both in time and space.

Using this peculiarity of the international financial architecture, it is possible to highlight three main components:

National: the scope covers the financial functioning of national systems to establish the most favorable combination between the stability of a national monetary unit, the level of liberalization of the internal financial sector, and the implementation of the national regulator's functions.

International: covers the activities of states in overcoming contradictions in establishing the free movement of capital and preserving the country's relative autonomy using monetary policy mechanisms.

Global (supranational): after the scale of action is a mechanism for managing the international community as a whole, not limiting states' sovereignty through the system of international financial institutions.

Development of the new international financial architecture
at the national financial systems level

If we refer strictly to the institutional structure of the international financial architecture, its parts are systematized in the figure below:

The figure shows that the international financial architecture has a hierarchical character, based on linear, functional, regional, and project structures.

The international financial architecture cannot be properly analyzed without reference to the global governance arrangements that shape the regulatory environment in which financial actors operate. The rules and conditions of the global financial system - the organizations, regimes, principles, rules, regulations, and decision-making procedures that govern everything from banking practices and accounting standards to monetary relations and official cross-border lending - profoundly impact the functioning of this system [15]. Although the international monetary system is commonly conceived as mostly unregulated, it is generally characterized by a commitment to a specific set of political priorities by key global governance actors.

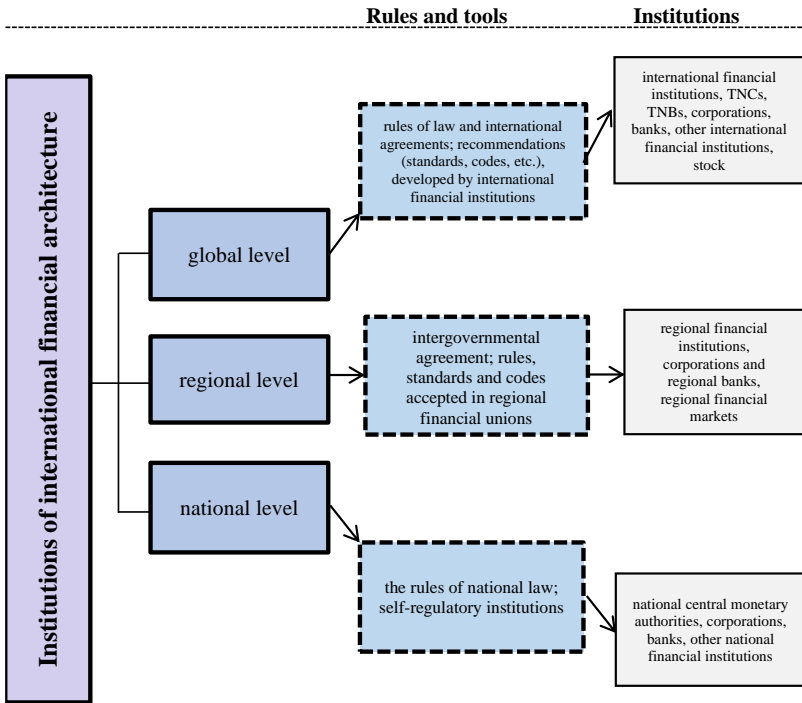


Figure 1.6. The constituents of the international financial architecture
Source: developed by the author on the basis: [33].

It should be noted that since the second half of the 1990s, the IMF has taken a number of measures aimed at achieving transparency in the financial market, the so-called "second-generation reforms" (compared to traditional channels of relations with member countries). These included:

Development of the new international financial architecture at the national financial systems level

- developing, adopting, and disseminating codes of "good practice" in the field of fiscal, monetary, financial, and monetary policies, compliance with which would contribute to financial and macroeconomic stability both domestically and internationally;

- implementation of particular standards for data dissemination and all Member States' involvement in their scope. The most important of these include data on foreign exchange reserves, central bank forward transactions, current short-term debt, and total external debt.

Based on the international monetary system monitoring, the IMF has started to publish a report on global financial stability twice a year. Some changes have been made to the IMF's organizational structure. In connection with the inclusion in its sphere of activity of regulating international monetary and financial relations, the IMF Interim Committee on the International Monetary Financial System was transformed in September 1999 into the International Monetary and Financial Committee functioning of the international monetary system. In 2001, the Department for International Capital Markets was created, which in June 2006 was transformed into the Department of Monetary Systems and Capital Markets. Its main tasks were: identifying potential risks to global financial and macroeconomic stability, and introducing safeguards to prevent financial crises, reduce and manage risks. In April 1999, as mentioned earlier, a new international financial organization, the Financial Stability Forum (FSF), was set up by G7 finance ministers and central bank governors. It was created to promote international financial stability through the exchange of information and international cooperation in the field of financial supervision. Its members were ministries of finance, central banks and other financial supervisors from 12 countries, 5 international financial organizations (BIS, ECB, IMF, OECD, WB) and 6 institutions, associations and organizations, setting international standards in the field of financial markets (3 BIS commissions, the International Association of Insurance Supervisors (IAIS), the International Accounting Standards Board (IASB) and the International Organization of Securities Regulators Commissions - IOSCO)). The FSF supported 12 essential financial system security standards, which constituted a set of global best practices in various aspects of financial markets' functioning and regulation.

After the last financial crisis, it became clear that those bodies dealing with specific financial market regulation issues proved to be the most effective in resolving the processes related to overcoming the crisis and creating a new international financial architecture. Many experts have considered their work to be inefficient, fragmented, failing to prevent crises and actively counteract them concerning international financial institutions. Moreover, their prerogative did not include the direct development and creation of a new international financial architecture infrastructure.

1.3. The implications of high technology and innovation on the international financial architecture

The reform of the international monetary system and its core institutions is one of the global problems of modern world development, which is seen differently by various international relations actors. In addition to the conceptual disagreements behind which multiple interests are hidden, there is an agreed position. The architecture provides a source of strength rather than weakness. The general approach is reduced to the discretion of the need to strengthen the capitalization of interstate financial institutions, expand their powers, and strengthen supranational instruments in their activities, forming a control mechanism over global financial flows. These trends and a departure from the ideology of deregulation are associated with the fact that financial activity in the context of globalization and financial innovations, especially hedge funds, is becoming extremely risky, which has negative consequences for global economic development and development generally sustainable.

In conclusion, it should be noted that the importance of achieving stability in the sphere of international financial and monetary relations lies in the implementation of their practical orientation. The latter consists of ensuring the international exchange of goods, works, services, and intellectual activity results and investment activity. The steady growth of the global economy as a whole and the dynamic development of its high-tech and innovative sector, which is a factor in solving regional and global problems, depends on the degree of resolution of these relations based on the rules and principles of international law.

The rapid growth and the implications of high technology and innovation on the international financial architecture ("FinTech"), so that the provision of credit and other financial services through electronic platforms, including those that allow peer-to-peer lending, is a significant new challenge for international financial architecture. Such activity is proliferating, presenting opportunities as well as risks to the financial system. FinTech offers ample opportunities to deepen and improve financial systems' efficiency, expand access to financial services - especially in low-income countries, but also has an uncertain impact. So we cannot fail to recognize the potential risks posed by the rapid technological changes in financial systems and individual users.

In this regard, it is appropriate to add to the interdependent facets of the financial architecture highlighted by Andrew Crockett, namely the implications of high technology and innovation on the international financial architecture.

FinTech is making global forays and changing the way financial transactions are conducted. Many achievements have been made in mobile payments, which has had a significant positive impact on financial inclusion. Technology companies are increasingly offering financial services alongside commercial products and services as well as facing market difficulties, albeit with

substantial differences between countries. At the same time, traditional financial institutions adapt and expand their digital presence, often in partnership with smaller companies in the technology sector or creating consortia between existing operators. Fintech - a suitcase of finance and technology - represents the collision of two worlds and the evolution of technology in financial services. Financial services and technology are locked in firm contact, and through this union, both disruptions and synergies appear.

Financial institutions engage with fintech start-ups, either as investors or through strategic partnerships. Almost 80 percent of financial institutions have entered into fintech partnerships. Meanwhile, the overall financial investment of venture capital in 2018 has already reached \$ 30.8 billion, compared to \$ 1.8 billion in 2011. The average transaction size is also growing, especially in Asia, where it is almost twice the global average, mainly due to some mega transactions [34].

The international community could not stay out of these significant changes in the international monetary system and move towards improved cooperation on both issues, most recently with the Bali FinTech Agenda's launch by the IMF and the World Bank at their annual meetings in October 2018 in Indonesia [35].

However, overall investment figures show a more nuanced set of developments. "FinTech" covers many different models. In the figure above, we can see four distinct variants of FinTech, each was operating in different niches, with different modus operandi.

The international community could not stay out of these significant changes in the international monetary system and move towards improved cooperation on both issues, most recently with the Bali FinTech Agenda's launch by the IMF and the World Bank at their annual meetings in October 2018 in Indonesia [36].

The Bali FinTech Agenda presents a framework of 12 issues, including FinTech's potential effect on the stability of domestic monetary and financial systems, financial inclusion, and the efficiency of cross-border payments and remittances. It is intended to serve as a vehicle for gathering information and exchanging experiences between countries on their needs, objectives, and views on such issues concerning FinTech's money laundering and terrorist financing, market integrity, and protect consumers.

For its part, the FSB analyzed the potential implications of FinTech's financial stability and identified ten such issues, of which the following three are considered priorities for international cooperation [35]:

- the need to manage the operational risks of third-party service providers;
- cyber risk mitigation;
- monitoring the macro-financial risks that may arise as FinTech's activities grow.

Development of the new international financial architecture
at the national financial systems level

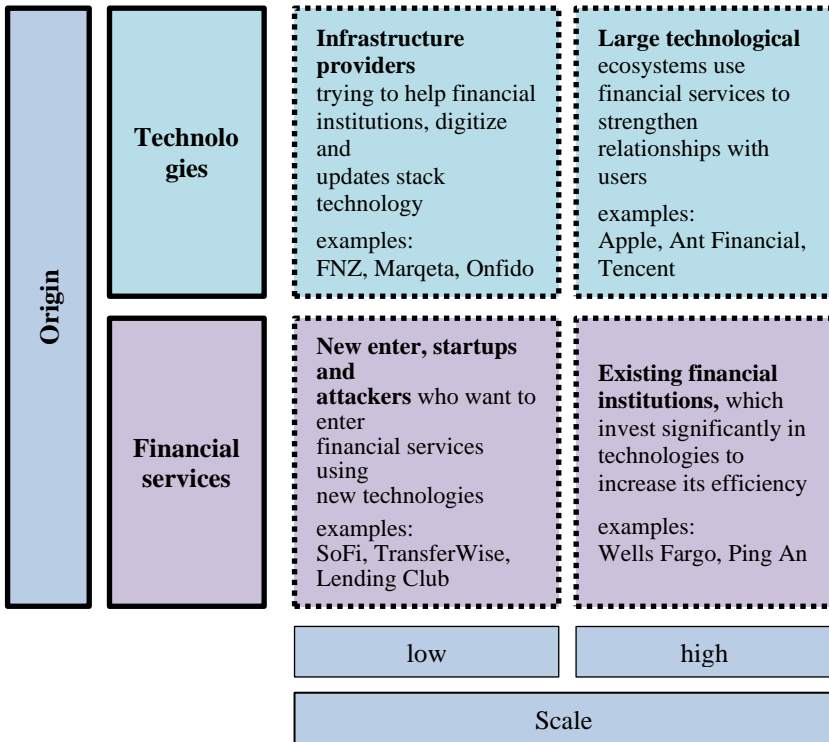


Figure 1.7. *FinTech distinct categories*
Source: [37].

The Bali Agenda and the FSB analysis emphasize the need to close the gaps, especially in those areas where international cooperation, involving all stakeholders, including FinTech actors, is both absent and urgent. Potential concerns include:

- Price volatility for traded encrypted assets;
- The rapid growth of FinTech companies, with an unprecedented scale of operations and network effects, which may lead to a rethinking of competition policies to prevent excessive market concentration and new forms of systemic risk;
- The impact of FinTech innovations on potentially volatile cross-border savings and transactions; this poses new challenges for systemic risk oversight through the need to identify, monitor, and assess changes in the nature, size, and structure of the resulting capital flows.

FinTech services could enhance financial interconnection and cross-border dissemination. Regarding cyber risks, a group of major financial services firms and FinTech leaders are working together in the FinTech Working Group of the Cybersecurity Consortium of the Forum System Initiative on Shaping the future

international monetary system to develop common principles for the cybersecurity FinTech sector [38]. Given the proliferation of cybersecurity frameworks and regulations, FinTech actors find it difficult to assess and improve cybersecurity preparedness. This also affects employees who may want to associate with them. All the important factors in the financial environment - owners, FinTech, regulators, and customers - benefit from an agile global framework, ensuring the system's integrity while allowing for additional innovation. Financial regulators have a substantial stake in quality assurance and the consistent adoption of these guidelines. Significant in itself, customer information protection is also an essential element of the broader requirements for stakeholders to align with the principles governing collecting, using, and exchanging customer data. The accelerated transformation of financial services, generated by data, creates uncertainty about what it means to use customer data in different situations properly (whether it is: data breaches in large organizations essential for the provision of credit; disclosure of practices controversial data sharing at social media companies that provide payment services; practices at social media companies that provide payment services or exchanges of customer data and transactions between banks and technology companies) [38]. This is especially true as some states are moving towards an "open banking" framework that allows entrepreneurial FinTech firms greater access to customer banking data. Finally, the absence of principles and the improper or unethical use of customer data could lead to a loss of confidence that would cause instability in the financial system.

That is why the international financial architecture needs an appropriate balance between financial innovation and the strengthening of competition and the commitment to free and questionable markets, on the one hand, and an approach to the challenges of financial integrity, consumer protection, and financial stability, on the other side.

From this perspective, the need for the legal and regulatory framework to support the sustainable development of FinTech services and protect financial systems was emphasized in the Bali FinTech Agenda and at the G 20 meetings, especially in Tokyo.

The extent to which regulators will respond to FinTech's activities may be a function of whether current regulatory frameworks cover relevant emerging risks. For example, macro-financial issues related to systemic importance are incorporated into the FSB's policy framework to address important system financial institutions (SIFIs) and strengthen oversight and regulation of shadow banking [38]. While existing regulations cover many of FinTech's activities, the FSB's result of FinTech's regulatory approaches finds that most of the jurisdictions examined have already adopted or intend to take regulatory responses to FinTech. The scope and extent of the planned changes vary substantially, among other things, depending on the size and relevant structure of the internal financial sectors and FinTech - and the flexibility already offered by the existing regulatory framework. Some regulators have recently published publications or proposals on FinTech issues. Several states

have introduced so-called regulatory sandboxes, hubs, or accelerators to promote innovation and improve new FinTech companies' interactions. The policy objectives should be primarily to protect consumers and investors, market integrity, financial inclusion, and encourage innovation or competition. Financial stability has often not been cited as an objective for recent or planned regulatory reforms to FinTech.

The process of adapting the regulatory framework to FinTech progresses, although new questions arise in private law. Surveillance institutions themselves are increasingly exploring FinTech applications. Finally, the impact of FinTech on monetary systems and financial stability is currently limited. Despite the progress made, significant uncertainties remain, and several key issues need to be addressed. Although FinTech applications and companies impact existing financial institutions (e.g., low-income payment services), they do not yet appear to have reached a disruptive critical mass, and agencies are adapting their business models and absorbing the successes of FinTech technologies. However, it is also unclear how competition (or lack thereof) shapes the development of the FinTech sector, although large companies in the technology sector are expected to play an increasingly important role in providing financial services.

Moreover, new, rapidly evolving technologies can quickly and unexpectedly change digital and FinTech models. Indeed, innovation and globalization have brought widespread benefits, both financially and non-financially. It is better to address the negative consequences of these problems than reverse the flow of history [31]. The rapid development of FinTech and its potential effect on the development of the international financial system allows us to place it as a separate element of the international financial architecture. In this context, from our point of view, the structure of the global financial architecture can be represented as follows:

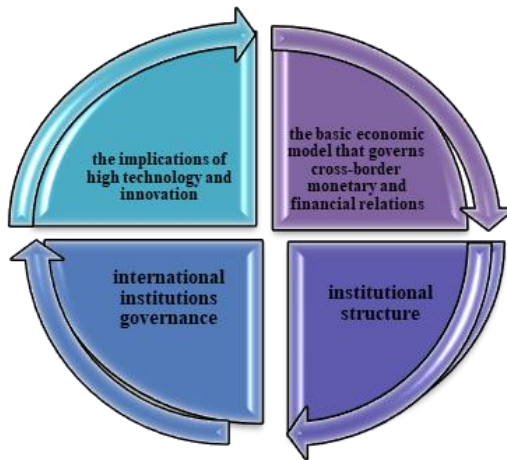


Figure 1.8. The structure of the new international financial architecture
Source: the author.

From the analysis of the mechanism of operation of the international financial architecture, we can see that its similarity with the structure of a software system has been outlined by the fact that it is static in the way the system functionality is decomposed and divided into implementation teams. And the other structures can be seen to focus more on how the components interact with each other during the system's operation to ensure the specified functionality.

The efficiency of international financial architecture's functioning depends mainly on how balanced and interconnected its elements are. Thus, according to systems theory, only by overcoming the deformation of the international financial architecture at all its levels, it is possible to increase the financial system's overall performance. In this regard, maintaining a dynamic balance in the development of the international financial architecture as an integral unit of its structural elements and functions is becoming of crucial importance.

Chapter 2. TRANSPOSITION OF THE NEW INTERNATIONAL FINANCIAL ARCHITECTURE AT THE NATIONAL FINANCIAL SYSTEMS LEVEL

2.1. The links between the international financial architecture and the national financial architecture

Over the last two decades, the international monetary system's challenges have strengthened the international community to adopt global and national approaches to shape international financial architecture, enabling sustainable development at both the international and national levels.

The growing interconnection of national financial systems is a crucial dimension of globalization. Today, virtually every country in the world is tied to the international monetary system. Many individuals, companies, and countries enjoy the benefits of accessing international financial markets to finance their investment and consumption needs. As for investors, even small players in the global market, such as individual investors, can direct their wealth around the world almost as quickly as moving pieces to a chessboard - a privilege they previously enjoyed only the most prominent companies and the wealthiest people. This growing freedom of financial movement has benefited all involved by facilitating trade, improving asset diversification, and expanding available resources for development. However, counterbalancing this greater freedom and opportunity are the inherent dangers of financial markets. National and international financial markets can experience booms and falls. Firms, industries, and even entire countries can get in and out of the "financial vogue," subject to the whims of wasteful and controversial investors. They often behave more like an angry herd than a rational homo - economicus of economic theory. Whole economies can be destroyed as a result of such panics [39]. That is why it was necessary to develop efficient mechanisms to capitalize on these volatile markets and ensure that their vital energy is directed towards productive rather than destructive purposes.

The globalization of economic activity and the increase of potential conflicts in the international monetary system has highlighted the problem of analyzing the current state of financial architecture development internationally and at the national financial systems level.

Within the theory of complex systems, economic development is seen as a process of continuous innovation, which can be analyzed through the prism of the following approaches: institutional, procedural, structural-functional. Considering these three approaches, we will examine the current state of development of the new international financial architecture at the level of national financial systems.

The international financial architecture has gone through several stages in its evolution. To better understand the mechanism of operation of the new international financial architecture at the national financial systems level, a brief analysis of the

contingency of the world economy's large cycles and the development stages of financial globalization is needed. This analysis was determined by the specifics of each of the periods of evolution previously reported, namely:

- The formation of national regulations during the emergence of the premises for the development of globalization processes.
- Developing trends in deregulation and liberalization of national regulations in the context of intensifying financial globalization processes.
- Strengthening supranational regulation and modernizing the international standards of financial institutions' activity, in line with the growing role of national laws at the current stage of financial globalization and the broad cycle of the world economy.

As a criterion for staging the evolution of the global financial architecture, it highlights the dominance of the different levels of regulation of financial relations in the current analysis. This aspect of the research allows the creation of an instrumental and methodological basis for forecasting the directions for further developing the international financial architecture in the context of the globalization of the world economy at the national financial systems level.

The international monetary system's stability requires special attention and ongoing monitoring of several issues, directly influencing the system since the 1970s. To some extent, policymakers can reduce system instability by adopting measures. For more significant and more lasting benefits, the international monetary system must evolve in itself; for this purpose, it is necessary to specify a series of assumptions characteristic of the current system. First, regardless of its limitations, the international monetary system is very open, a positive advance over previous systems. The current system is an essential element of the modern world economy, and the purpose of the system's self-regulation is to improve it, not replace it. Second, a stable international monetary system requires an efficient IMF. Neither trust in private sector institutions nor unilateral official action can replace a multilateral institutional process. Thirdly, it must be understood that no international monetary system will ever be perfect.

Each of these hypotheses is at the limit and does not imply a fundamental change like the current system. The ultimate goal is a gradual, step-by-step improvement so that the monetary system can mitigate shocks and promote sustainable economic growth.

Being a multilateral one, the international monetary system is in continuous tension in a rapidly changing global environment. On the one hand, this process obliges global financial governance to review existing international agreements and, on the other hand, to open the doors, both for global financial institutions and for those at national level, to suit its purposes.

Financial globalization has a multidirectional effect on the level of development of national financial systems, which is manifested on the one hand in the increase of cross-border financial transactions and the emergence of new financial

institutions and, on the other hand in the changing dynamics and mechanisms of financial crises, increasing the use of funds borrowed by financial institutions and taking higher risks. Achieving sustainable development and combating the vulnerabilities of the international monetary system requires a long-term perspective. International and national financial regulations must be aligned with long-term sustainable growth. This requires ongoing cooperation of global financial governance with national monetary financial authorities. The formation of a strategy for developing national financial architecture in a sustainable economy should take these changes into account. As a result, measures have been developed to overcome national financial regulations' fragmentation as an urgent scientific and practical task.

Simultaneously, in response to the international monetary system's outbreaks, the international community must be prepared for action. Reforming the international financial architecture - for example, renewing sovereign debt arrangements, international tax rules, and the multilateral trading system - is a huge task, but not beyond the real possibilities. The question is, what kind of system we will end up with. Instead of withdrawing from multilateral cooperation, collective action needs to be strengthened to address global challenges in support of sustainable development. And in this challenging environment, international approaches must be supported by step at the national level.

Last but not least, the potential of innovation must be exploited to strengthen the financing for development. Half a billion people have gained access to financial services in recent years, primarily due to financial technologies. This has also made viable low-cost, prepaid or paying business models in sectors such as energy and enabled sustainable development progress. Fintech also creates its risks that need to be appropriately managed. And the onset of financial crises has necessitated a rethinking of the regulatory framework's focus to highlight the underlying risks, including from the growth of financial technologies.

As a result, the World Bank is working with member countries on FinTech issues in five key thematic areas [40]:

- Legal and regulatory framework: The Bank of Moldova further examines the existing framework to identify potential reforms that would provide a more conducive environment for technology innovation and adoption while mitigating risks, including support for so-called regulatory sandboxes and other approaches (for example, India, Jordan, Rwanda, Saudi Arabia, Sri Lanka, and Vietnam) and legal and regulatory framework reforms for FinTech (e.g., Colombia, Kenya, Mexico, Peru, and the Philippines).

- Financial infrastructure: in the classical sense, financial infrastructure covers legal and regulatory issues, institutional arrangements, and design. The FinTech context also includes FinTech approaches such as digital identification, faster payments, the application programming interface (API), and the use of alternative data for credit decision making. Examples include applying data and analytics to improve finance (e.g., Ethiopia, Uzbekistan, and Zambia) and the

modernization of financial infrastructure (e.g., Guyana, Lao, Madagascar, Mozambique, Pacific Islands, Pakistan).

- Improving access to trade accounts: trade accounts are a gateway to financial inclusion and broader use of financial services. Under the Universal Financial Access 2020 program, the World Bank supports countries to harness the potential of FinTech to gain universal access to transaction accounts. Examples of interventions include support for the development of interoperability arrangements for mobile and e-money money systems (e.g., Afghanistan, Madagascar, Pakistan); development of acceptance infrastructure (e.g., Mozambique, Sierra Leone); and the digitization of G2P payment services to improve access to payment services for individuals (e.g., Bangladesh, Ethiopia).

- Improve access to finance for individuals and SMEs: This is an essential part of the World Bank's operations in countries where FinTech plays a key role. Examples include the use of API models and support for the adoption of innovative approaches by apex development banks (India); the use of DLT in agricultural value chains to bring more transparency and efficiency, leading to better price-performance for the final farmer (Haiti); the use of platform models for agricultural finance (e.g., Kenya, India, Myanmar, Rwanda, and Tanzania); and crowdfunding and other capital market approaches (e.g., Colombia, Mexico).

- Institutional strengthening: The World Bank supports capacity building for financial and other regulators by supporting the creation of dedicated FinTech units and functions and maintaining internal systems and processes to support the adoption of regtech and supotech solutions. Examples include: capacity building and stimulating dialogue through concentrated round tables (e.g., Bangladesh, Colombia, Georgia, India, Peru, Saudi Arabia); modernizing the regulatory functions of the central bank and the financial sector through the widespread use of technology (e.g., Afghanistan, Burundi, Vietnam); and supporting greater adoption of technology by commercial banks, microfinance institutions and credit unions (e.g., Afghanistan, Mozambique, Sierra Leone)

Next, we will try to analyze the development of national financial systems' architecture through the prism of the theory of complex systems, identifying both the general patterns of formation and their institutional, procedural, and structural-functional characteristics.

If we refer to national financial architecture, then a narrow and a broad interpretation can be adopted. In the narrow interpretation, the national financial architecture includes only those aspects strictly related to the financial sector, while a more comprehensive understanding contains elements associated with the macroeconomic regime. Given the importance of macroeconomic issues in the national economy, a broad interpretation is appropriate. The configuration of the national financial architecture is presented in figure 2.1.

The national financial architecture in the figure below is represented as a totality of three components: financial infrastructure, financial integration, and

Development of the new international financial architecture
at the national financial systems level

relevant components of the macroeconomic regime. Changes associated with the international financial architecture can have a considerable impact on critical areas of national economies. Specifically, changes in the international financial architecture can directly affect the development and stability of the financial sector, the macroeconomic regime, and the process of integration with international capital markets. To be able to manage this process, national authorities must be prepared to make the necessary changes in the global financial architecture.

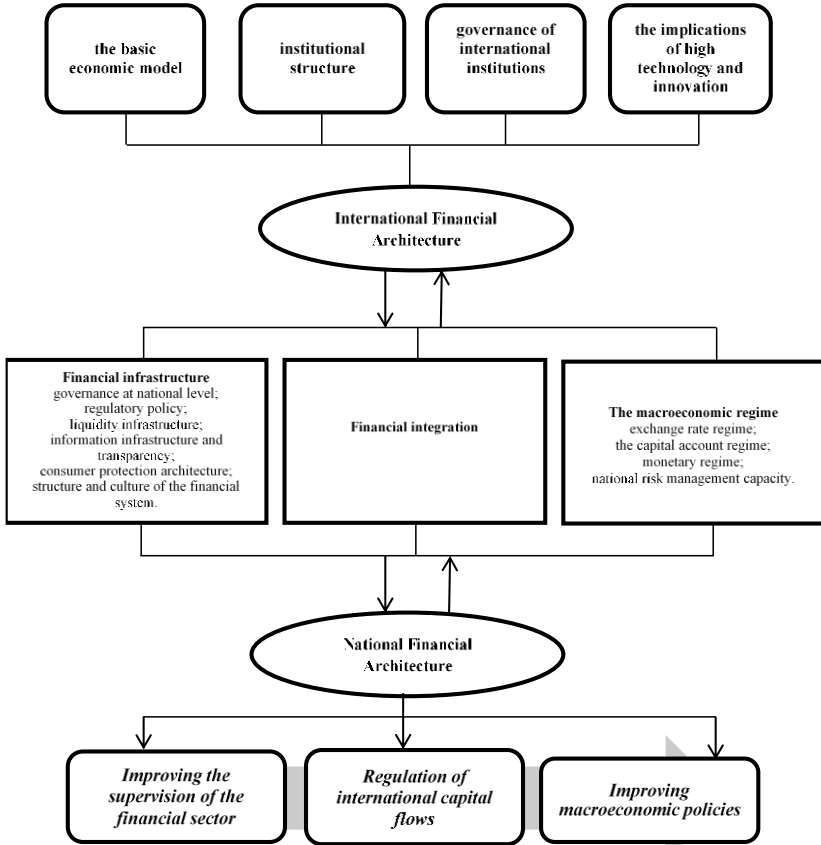


Figure 2.1. The interconnection between the international financial architecture and the national financial architecture

Source: the author.

In this context, the following need to be established (1) The links between the international financial architecture and national financial architecture; (2) how their interactions may affect the structure, conduct, and governance of the internal

financial sector and its relationships with firms and investors; (3) how changes in the international financial architecture and national financial architecture can trigger effects that are transmitted in the structures of the international financial architecture.

How changes in the international financial architecture and national financial architecture can trigger effects that are transmitted in the structures of international financial architecture.

The international financial architecture and the national financial architecture are, first and foremost, a network of institutions. Therefore, the argument that they matter for the financial sector's performance and the macroeconomy implies that institutions are not economically neutral and that transaction costs matter.

Based on the fact that in the correlation between the international financial architecture and the national financial architecture, a large number of elements are involved in order to highlight their interaction, we will try to make a systematization (fig. 2.1).

From the scheme, it can be observed that a more in-depth integration represented by the interactions between the international financial architecture and the national financial architecture is related to the advancement of the global integration process. Recent experience in emerging countries shows that deeper integration with global capital markets can be a valuable tool in encouraging growth and competitiveness. However, the process can be painful and can jeopardize financial and macroeconomic stability. In this context in the literature appeared the term "twin crises" to describe the interdependence between financial and currency crises [41]. As a result, for example, in the case of capital account liberalization, there is a growing need to adopt rules and regulations that allow a country to compete internationally. Financial systems need to adapt to absorb global shocks, and national authorities need to increasingly consider that weak foundations make the economy more vulnerable to global shocks.

If we refer to emerging economy countries, then several factors influence the level of interaction between the international financial architecture and national financial architecture:

- high costs of contract execution and issues related to protecting investors' rights in some countries. Recent research suggests that the legal rules that protect investors matter, that institutions do not adapt well to changes and innovations in the financial sector, and that institutional structure differences are essential in understanding investment patterns and levels [42].

- high volatility is another factor influencing financial development in emerging markets. When the uncertainty is high, it is complicated to describe ex-ante the future states of nature and quantify the risk by distributing the probability (estimated accurately) [43]. Therefore, the forecast cannot have a high probability. Under these conditions, the design and agreement on the terms of the financial contracts will be more difficult, and, as a result, many transactions will not be carried

out. The result is superficial financial markets and a general structure of the financial market, with some parts missing (ie, long-term debt markets, derivatives markets, entire sectors of the stock market economy). Firms and investors cannot adequately hedge, exchange, or mitigate risks because the necessary tools do not exist. Indeed, a critical factor that increases volatility in emerging economies is the difficulty for private agents and decision-makers to use international markets to diversify national risk. This situation is usually exacerbated by the lack of diversification of the productive structure. These emerging economies' characteristics suggest that there may be a channel of feedback between weak financial markets and volatility. Volatility is high because risk cannot be appropriately managed, and superficial financial markets are weak due to high volatility.

At the bottom of the scheme are three quadrilaterals, which present three policy objectives associated with the links and interactions between the international financial architecture and the national financial architecture: improving the supervision of the financial sector; regulation of international capital flows; improving macroeconomic policies. Through their effects on these objectives, the international financial architecture and the national financial architecture impact sustainable growth conditions. The three quadrilaterals are interconnected by lines to draw attention to the interdependence between macroeconomic stability, financial conditions, and deeper integration.

At the bottom of the scheme are three quadrilaterals, which present three policy objectives associated with the links and interactions between the international financial architecture and the national financial architecture: improving the financial sector's supervision and regulation of international capital flows; improving macroeconomic policies. Through their effects on these objectives, the international financial architecture and the national financial architecture impact the conditions for sustainable growth. The three quadrilaterals are interconnected by lines to draw attention to the interdependence between macroeconomic stability, financial conditions, and deeper integration.

They are improving the supervision of the financial sector. Each country must ensure that its financial sector is sustainable and subject to appropriate prudential regulation. As Simon Johnson and James Kwak have noted throughout recent history, prudential regulation has been increasingly underestimated, rejected, and undermined [44]. Based on the belief that financial markets are self-disciplined and inherently stable, many countries have gradually weakened financial activities regulation. The starting point for this change was the repeal of the main provisions of the Glass-Steagall Act of 1933 in 1999, which abolished the legal barrier between commercial banking and more risky activities, such as investment banking and securities trading. The trend, however, was longer, broader and deeper. In the United States, financial deregulation began in the early 1980s, with the phasing out of interest rates that banks could offer on savings accounts and other time deposits. To allow US financial institutions to compete in markets

characterized by innovative instruments, this deregulation - combined with the continued presence of government-guaranteed deposit insurance - has led to encouraging risk-taking that has led to the collapse of the savings lending industry and the implosion of the mortgage lending market in 2007. Similar deregulation policies have been applied in many other countries, most notably Australia since 1973, Japan since 1984, and the United Kingdom through the so-called "big bang", which has deregulated banking institutions in 1986.

The dangers of inadequate prudential regulation became apparent when the credit crunch broke out in the US economy in 1987, but the event was seen as idiosyncratic and without systemic implications. After the outbreak of the East Asian financial crisis of 1997-1998, it became increasingly clear that the interaction of weak supervision and regulation and open financial flows made a deadly cocktail almost sure to explode sooner or later. Financial institutions have been allowed to finance longer-term loans in local currency across the region, with short-term dollar inflows of capital. The ensuing financial and economic crisis was inevitable. In general, inadequate supervision and control of financial risk have been a significant factor in almost all financial crises in the last quarter of a century, since the collapse of savings and loans through the series of emerging market crises that began with the Mexican peso crisis. 1994-1995 and continued until the global financial crisis of 2008-2009. Fortunately, the global crisis has forced a reassessment of deregulation. The passage of the Wall Street Reform and Consumer Protection Act in the United States in 2010 aimed to restore some of the abandoned oversight in 1999. Internationally, expanding the Financial Stability Forum role and converting it into the Council for Financial Stability in 2009 helped identify and disseminate standards for stable financial systems. In some countries, such as Australia and New Zealand, the preference for easy regulation is unclear, but the global trend has changed. The world does not need a return to the stifling controls introduced during the Great Depression and abandoned in the last quarter of the twentieth century. The world needs to adopt prudent standards of capital adequacy, maturity exposure limits and currency mismatches, full reporting of risk exposures, and proper monitoring to ensure that transactions are at the competitive edge. Such measures are promoted by multilateral institutions and should be more encouraged and adopted.

Regulation of international capital flows. The third imperative for stability in the current system is for countries with emerging markets to regulate international capital flow and inflow. There is currently strong evidence that sudden and severe changes in preferences can catch international capital markets off guard. The most common modifications are "sudden shutdowns," in which beneficiary countries consider that the capital inflows they benefit from abruptly cease and are offset by large enough outflows to cause a macro-financial crisis. Preventing such crises requires both reducing inflows and slowing down the flow.

Improving macroeconomic policies. As more and more countries reap the benefits of financing economic growth through capital inflows, avoiding

temptations is becoming increasingly important: not only for the beneficiaries but also for the system's health. This principle means that each country that attracts capital to international markets must ensure that its macroeconomic policies align with the exchange rate policy.

A country with a revalued currency (the most common problem for beneficiaries of massive and constant capital inflows) will be vulnerable to a sudden withdrawal of capital. A country with an undervalued currency will be vulnerable to destabilizing inflationary pressures. More fundamentally, this principle means that states should pursue monetary and fiscal policies stably and transparently to reduce uncertainty and avoid short-term and long-term volatility. Otherwise, they will be vulnerable to sudden changes in market preferences that will undermine any new success.

The crucial role of congruence in policy design, according to Hongying Wang, means that much of the recent analysis of global imbalances is misdirected. Thus, the main cause of China's large current account surplus, for example, is not fundamentally the fact that China manages its exchange rate. Switching to a floating regime is unlikely to solve any problems because - ipso facto - it could induce enough volatility to destabilize the economy with adverse effects on China, other countries, and the system. The main cause of the surplus is that China is pursuing an export-oriented policy regime, contributing to global payment imbalances and provoking political reactions from China's main trading partners. An intensification of China's continued policy reorientation with domestic spending would be much more likely to contribute to mitigating imbalances (by assessing the exchange rate) and financial stability than a move towards greater exchange rate flexibility [45]. A second challenge stems from the lack of consensus on what constitutes a reliable and sustainable set of macroeconomic policies. One of the tremendous apparent successes of the early postwar period was a general agreement (the Keynesian consensus) that governments had a responsibility to ensure high employment along with price stability. By the late 1970s, the track record of fulfilling this responsibility was neither encouraging nor improved, and macroeconomic analysis became increasingly skeptical of its logical basis. As a result, the international consensus has weakened, and macroeconomic policy objectives in many countries have been reduced to price stability and deficit reduction (the new Anglo-Saxon agreement). This recovery has left global growth vulnerable to the vagaries of market expectations. Even the severity of the worldwide recession has failed to renew the consensus on stimulus action, as in some parts (the US government for a while, the Fed more persistent and finally and the ECB) have been enormously resilient in other parts (in primarily the United Kingdom and most northern European capitals) on the contrary. Therefore, the primary way to improve economic policies in the current system has remained the group of twenty (G20). Through its regular ministerial and leadership meetings, the G20 can promote sound policy-making and employment growth. The IMF can also

play a dual supporting role in this effort, providing advice (bilateral and multilateral) and evaluating policy implementation. However, without a more stable and productive consensus on policy objectives, cooperation, and policy advice, the benefits will be limited, as James M. Boughton has noted [46].

Financial infrastructure. The structure and culture of the financial system evolve over the decades and are dependent on various factors, which cannot be changed overnight, only shaped by policies and regulations. Thus, the Glass-Steagall Act of 1933 separated commercial banks, investment banks, securities companies, and US insurance companies, and its repeal by adopting the Gramm-Leach-Bliley Act of 1999 profoundly changed the structure of the financial system. Measures taken to address financial stability concerns vis-à-vis systemically important global banking institutions by requiring capital surcharges, among others, are another example of public intervention that can shape market structures. Therefore, the questions related to the financial system's functioning are of real and practical importance, given the impact of its development on economic growth.

The universal category, which plays a decisive role in shaping the financial system, comprises institutional conditions. These conditions' role is excellent for all countries, regardless of the excellent national financial system's specific architecture. The main fundamental institutional factor that determines the requirements for the development of the financial sector is the level, protecting rights. This common factor has many aspects. Empirical studies show that, to a small extent, the state of the financial system is predetermined by the already established historical type of the judicial and legal system (the best conditions are created by systems based on the principles of Anglo-Saxon law). No less critical is law enforcement's efficiency - that is, a shareholder or a debtor's ability to protect their rights. An essential component of the institutional environment is the quality of corporate governance in the country: the degree of control of owners over management actions, the degree of consideration of the interests of minority shareholders when making decisions that affect their interests, etc.

Several works on the international monetary system's institutional characteristics allow us to identify the relationship between institutional development and economic growth to understand the logic, the primary trend, the principles, and essential economic development elements. The influence of the institutional structure of modern society on economic growth is currently the subject of intense research. In their studies, Asemglu, Johnson and Robinson [47] argue that the fundamental reason for the different levels of functioning of national economies is their institutions' quality. Indeed, the differences in the level of financial development of countries, as some are donors and other beneficiaries of financial globalization, depend mainly on the institutions that have developed in them.

2.2. Methodology for assessing the level of national financial systems development

The financial system is a crucial sector of any economy, which affects the business environment, investment, economic prospects, and social dimensions, including poverty. Vulnerabilities in financial systems often lead to financial crises, economic depression, and fiscal costs. The financial sectors are also crucial for monitoring and comparing time and space (between the economies of different states).

The importance of studying and analyzing the financial system in detail shows that recent research generally accepts that financial development contributes to economic growth. The economic literature on financial growth argues that financial development improves overall productivity and ultimately fosters economic growth through the financial system's inherent functions. The positive impact of financial development is manifested in several directions, among which the following can be mentioned:

- favoring the mobilization of economies;
- reducing the information asymmetry and therefore the efficient allocation of capital;
- improving corporate governance through the exercise of additional monitoring and control;
- transforming the risk in the debtors' monitoring process;
- facilitating economic growth by reducing transaction costs and facilitating the exchange of assets and products, which is done through money and payment services.

Besides, even in a world of perfect capital mobility, domestic savings and investment rates are highly correlated, making domestic savings ratios and domestic financial development very relevant for economic growth [48]. The empirical financial literature is rich in successful examples, but also less positive experiences related to the development of national financial systems.

The general conclusion we can draw from the specialized works is that there is no single success model, although useful lessons can be drawn from the positive experiences and mistakes of other countries.

Let's look at the financial system from the perspective of its efficiency. The financial system's efficiency criteria refer to the financial system's ability to perform its functions cost-effectively, i.e., to allow the allocation of limited resources and their use in the most productive way.

By connecting those who invest with those who save, banks play a crucial role in allocating resources, diversifying risks, and reducing information frictions in credit markets. Limited access to credit for individuals and firms hinders investment in human and physical capital, innovation, and increased productivity. In addition to long-term economic growth, empirical evidence also shows that access to finance plays a vital role in shaping individuals' economic disparities [49].

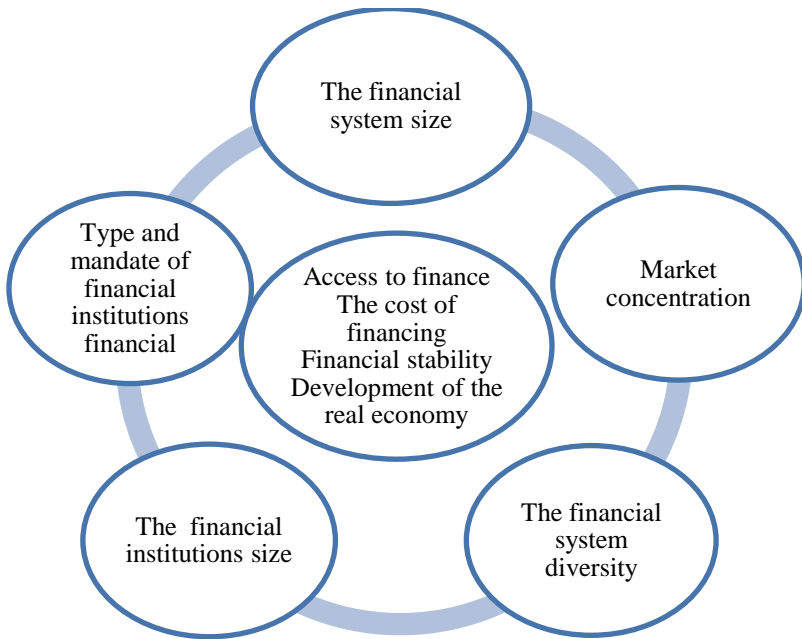


Figure 2.2. Characteristics and results of the financial system

Source: the author.

A banking system that efficiently channels the resources available for productive use is a powerful economic growth mechanism [50]. Moreover, a well-functioning financial system usually reduces the gap between the upper and lower-income distribution levels in developing and emerging economies [51].

It follows that financial development is also due to the characteristics of the financial system. Among the financial system characteristics, we can highlight the following:

- The size of the financial system;
- The type and mandate of financial institutions;
- The size of financial institutions;
- Market concentration;
- The diversity of the financial system.

Among the financial system, results can be named: access to finance, the cost of financing; financial stability; the development of the real economy. The characteristics and results of the financial system are presented in the figure 2.2.

More developed financial systems quantify, pool, and negotiate all transaction risks and encourage savers to invest and compensate based on the extent of the risks involved. Financial institutions in a country are the primary

intermediary circuits between savings and investments. When they are useful, intermediaries allow the mobilization of savings from various sources to involve them in more productive uses, which benefit the investment beneficiaries and the economy. The difficulties related to the transparent links of financial instruments with specific institutions, their diversification, and the complexity of relations indicate the financial system's systemic character. The systemic approach describes and analyzes the financial system in terms of the interdependence between its elements and the impact that these interdependencies have on the performance of the whole system. The term "system" suggests more than many elements that interact and increase the mutual value [52]. A financial system is an ordered set of complementary and coherent elements and subsystems from a systemic perspective. "The elements of a system are called complementary (reciprocal) if the" benefits "increase each other, and their disadvantages or "costs" are reduced reciprocally. A system is consistently called if its complementary elements make the system reach a local optimum, and the optimum it consists of clearly distinct configurations of the values of the components [53].

Complementarity means that economic benefits are maximized if the elements of the financial system are effectively combined. This multiplication of the potential value is achieved through the system's coherence when one part works and depends on the system's other elements. Thus, according to the theory of complex systems, the financial system consists of interdependent elements:

- Firstly: financial markets, namely the existing institutional arrangements and conventions for the issuance and trading of financial instruments;
- Secondly: financial intermediaries who mediate the credit and loan process. They intervene between creditors and debtors and obtain profit for intermediation;
- Third: financial instruments (or assets) created or issued by final borrowers and financial intermediaries to meet the various participants' financial requirements. These instruments may be traded or non-tradable;
- Fourth: financial services are economic services provided by the financial industry, which includes a wide range of companies that manage money;
- Fifth: the financial infrastructure representing the set of institutions that allows the efficient functioning of financial intermediaries. These include payment systems, credit information offices, and collateral registers. In general, the financial infrastructure encompasses the existing legal and regulatory framework for financial sector operations.

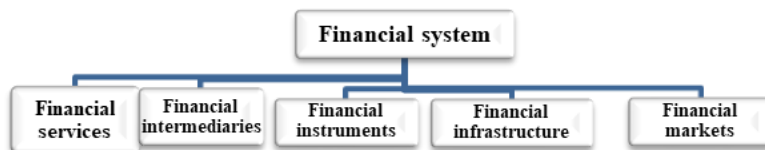


Figure 2.3. Financial system elements

Source: the author.

A fundamental problem in the study of complex systems is their stability property. A financial system can be considered strengthened if it can effectively attract and place funds in the economy, ensure financial risk management, absorb adverse economic shocks, and no financial instability signs [54].

Financial systems have undergone many changes in recent decades due to real economic developments, technological advances, globalization, changes in regulatory paradigms, and the global financial crisis as systems change, in particular in information processing, trading, and interactions between banks and markets, the nature of market failures and the sources of systemic risk change. In this context, it becomes crucial to evaluate and analyze the factors influencing the financial system.

Analyzing and evaluating the factors that influence the state of the financial system in a given country has several aspects. They can be considered an analytical tool - for example, parameters predict the development of the intermediate sector in a country, depending on its characteristics. Another possible approach suggests not a "descriptive" view, but a "normative" one of the problem. In this case, the challenge is to identify those factors that can be influenced by economic policy measures and can therefore be used to accelerate financial development.

One can also study global factors, which explain the intermediate sector's state in market economies or focus on the specific characteristics of emerging economies, which determine their financial development gap by developed countries. All factors can be divided into several groups depending on their nature. To better understand how national financial systems work, we need to understand the factors that influence them. Several factors affect financial development. The first to be identified in the economic literature was macroeconomic factors, such as inflation, GDP per capita, and saving rate. Boyd, Levine, and Smith find empirical evidence that, at low to moderate inflation rates, rising inflation hinders financial development, reducing the value of financing to the private sector [55]. Khan, Abdelhak, and Smith achieve the same result by adding a level for inflation, below which financial development is hampered. Specifically, they show that inflation below 3% and above 6% is at the expense of financial deepening [56]. In terms of wealth, Jaffee and Levonian obtain empirical evidence that both GDP per capita

and savings are significant to explain financial development [57]. More recently, institutional factors have been the key to financial development, especially the legal and regulatory systems. Levine, Loayza, and Beck argue that countries with creditor-friendly legal systems have better functioning financial intermediaries [58]. In the same vein, Black argues that investor protection is essential for developing the securities market [59].

The universal category, which plays a decisive role in shaping the financial system, comprises institutional conditions. These conditions are significant for all countries, regardless of the national financial system's specific architecture. The main fundamental institutional factor, which determines the requirements for the development of the financial sector is the level of protection of investors' rights. This common factor has many aspects. Empirical studies show that, to no small extent, then, is predetermined by the already established historical type of the judicial and legal system (the best conditions are created by systems based on Anglo-Saxon principles law). No less important is law enforcement's efficiency - that is, the ability of a shareholder or a debtor to protect their rights. A critical component of the institutional environment is the quality of corporate governance in the country: the degree of control of owners over management actions, the degree of consideration of the interests of minority shareholders when making decisions that affect their interests, etc.

Conventional approaches to the financial system analysis give a more complex representation of the system's nature and mechanisms. The most famous theoretical concepts show us that seemingly different views complement each other through the system's complex expression. In scientific thinking, critical economic elements' functions act as a popular step towards a deeper explanation of the more in-depth' nature.

The functional approach to the financial system's characteristics presupposes the integrity of the economic entities involved in distributing monetary sources.

The functional and intermediation approaches emphasize the general direction of financial intermediaries' actions for a better allocation of resources, creation, and more extended financing of assets, contributing more to production and economic growth. Another conventional economic thinking flow about the financial system is the institutional approach, which emphasizes not what participants do, but who exercises financial sources' redistribution. The approach provides an exact determination of the critical responsibilities and rights of economic agents designated explicitly for specific functions. It focuses on financial intermediaries such as commercial and investment banks, pension and investment funds, insurance companies, shadow banks, or industrial conglomerates. In the institutional approach, economists focus on the nature and share of institutions in macroeconomic statistics, which contribute most and most effectively to economic growth (or even economic crises). Comparing the sub-sectors of the financial system, researchers analyze the

causes of successes and failures, such as the degree of centralization or competition, transparency and investor protection, openness to foreign financial institutions, or domestic ones' promotion. A widely accepted approach to cross-sectoral comparisons focuses on countries with polar dominance in various institutions, such as the dominant model of German banks and the prevailing market model in the United States. Researchers can also compare such cases as Russia, with the dominance of state-owned commercial banks, China, with a shadow banking sector, Mexico with small banks, and foreign investors' dominance.

The institutional approach highlights the dominant types of financial institutions and many other less visible actors. Jacobsson and Crockett expanded the institutional approach with broader components. "The first component of the system is the financial sector, the set of financial intermediaries (banks, insurance companies, pension funds). The second component comprises markets in which receivables are exchanged (equity and fixed interest guarantees, currencies, contract derivatives.) A third component ensures contractual certainty (financial law, justice and law enforcement, regulators, and sector supervisors). The fifth part of the system includes the release and verification of financial information (credit ratings, accounting, auditing, and financial analysis)" [60].

They further consider much evidence against and in favor of the financial giants' dominance regarding financial institutions as a set of many medium-sized, diversified, and specialized organizations. The subprime mortgage crisis of 2008 and the collapse of several financial giants, generous state-funded financing programs, and the phrase "too big, to fail" underscore the institutional approach's giants' role. Each country's financing system consists of several top giants and hundreds and thousands of recognized financial organizations, competition, and diversity that stimulate progress and better redistribution. The financial system has historically highlighted such a questionable and famous segregation of institutions, such as investment and commercial banks, auditing, and consulting. At least the segregation of five types of listed institutions seems undoubtedly essential, including the prohibition of private banks' decisive influence on the stock exchange or the payment system, the separate operation of audit firms, and credit rating agencies. The logical comparison of the institutional approach and the functional approach, presented by Jacobsson and Crockett's quotations, in turn, based on the opinions of other researchers, demonstrates that both approaches are two sides of the coin. Allen and Gale also characterized the financial system with similar ideas, which coincide with functional and institutional approaches [61].

Financial instruments approach. Increasing the complexity of financial systems and global competition stimulates mergers and acquisitions, building financial conglomerates. They offer a wide range of financial services, products, tools from a group, a brand, an office chair, and an IT platform, benefiting from the scale effect and cross-selling. Traditional commercial banks have begun to offer intermediation services in securities issuance, while investment banks provide

insurance. Thus, the institutional approach, previously known, fails to clarify the roles of financial conglomerates. Economists mention securities instead of investment banks, bank loans instead of commercial banks, financial management of enterprises, and retained income instead of intermediation. Based on the instruments' specific approach, all credit or debit financing forms have been highlighted as the leading artificial and modern investment and economic activity engine.

Financial innovations emphasize the importance of approaching financial instruments. US economic boom of the 1990s was supported by the combination of IT innovations and the old-fashioned balloon; new financial instruments supported the booms of the mid-1980s and 2000s. Commodity and junk bond derivatives were innovative tools in the 1980s; subprime mortgages and CDOs were the catalysts in the 2000s. The absence of any significant new financial instruments in the last ten years, the focus on tighter financial regulation, and the reliance on old-fashioned sovereign bonds seem to be reasons for a weak economic trend. Another controversial instrument, CDS (credit risk swaps) was associated with the deepest point of the crisis in 2008. However, the CDS market was managed by several types of financial intermediaries, including investment banks, structures asset management, insurance companies, and pension funds, and there is no clear link of this instrument with a single type of financial institution.

The systemic approach and the simplicity of the financial system. Scientists, especially philosophers, know the school approach's importance, which simplifies existing knowledge, keeps information-overloaded, and broadens human minds to new ideas. The trend of simplicity, for example, is shared by Klaas Knot, President of De Nederlandsche Bank, who emphasized that the financial sector can be considered one of the most complex areas in the world today. A clear and simple business will help reduce complexity. Banks need to focus again on transforming maturity and lending to the real economy [62]. According to Andy Haldane, head of financial stability at the Bank of England, Banking and financial regulation need to be simplified if another crisis is not to be desired [63]. And Jeffrey Pilcher argues that financial institutions need to make money easy and protect people [64].

The simplicity of the financial system is supported by financial regulation and financial institutions' optimization following the 2008 recession. History has seen several waves of clarity in the financial system caused by structural crises, and in a conventional sense, this indicates that the system no longer drives economic progress. The brightest example is the American financial system in the 1930s, followed by the Great Depression and World War II, when the classical banking sector dominated, with few significant financial services. Overheating of the economy has led to a systemic crisis and reduced the average wealth of households and the demand for expensive and risky financial services in the market. The financial system's role has changed due to the deregulation of outputs (outflows from financial production) and its contribution to the formation of GDP, the maintenance of human time and energy for the real sector's progress.

Next, we will focus more on analyzing financial systems from the perspective of institutional and systemic approaches. And this is because, over time, the financial sectors have evolved, and modern financial systems have become multifaceted. As for financial institutions, while banks are usually the largest and most important financial institutions, today and many other types of non-banking financial institutions, such as investment banks, insurance companies, mutual funds, funds pension companies, venture capital firms, have begun to play important roles. Similarly, financial markets have evolved to levels that allow individuals and legal entities to diversify their economies and earn money through stocks, bonds, and foreign exchange markets. The correlation of such financial institutions and markets facilitates the provision of financial services. In turn, efficiency and access to these financial services help shape the growth of economic prosperity.

Financial globalization has grown enormously in the last two decades and is spreading to emerging economies and low-income countries. Simultaneously, the usefulness of financial integration (opening markets to financial flows and exchanges in the field of financial services) is more challenged than the globalization of markets for goods and services. This is mainly because international interconnections can increase exposure to financial crises. The acceleration of economic growth in foreign capital and a better allocation of resources thus oppose the increased exposure to these capital flows whose fluctuations are significant.

According to which poorly integrated and poorly developed financial systems would be much more stable, the reverse reasoning cannot be considered entirely correct. Indeed, underdeveloped financial sectors can pose a risk to the stability, both nationally and internationally. Moreover, less liquid and insufficiently diversified markets cannot offer a wide range of offers to households, businesses, and the state to cover their financing needs.

However, the opening up and development of the financial sectors requires an adaptation of the regulatory framework. As has been observed, the lack of regulation and supervision of financial markets can trigger or aggravate a crisis. Therefore, there is a need to reconcile openness with the development of financial infrastructure and the regulatory framework.

In the modern world, change happens much faster, which has both negative and positive implications. As a result, the world economy, as a whole composed of national economies and non-state entities, and their mutual relations, has undergone fundamental changes. A new model of the world economy has emerged as a holistic, multi structural system of national and transnational institutions, which have become integral elements of a world economy and financial monetary space. The most important thing is understanding how these changes have influenced national economies' development in this context. There is currently no standard definition of development and no single paradigmaticize the best way to juggle development goals, the state and markets' role, and the importance of the

international economy over the domestic one. As previously reported, the basic model that governs the world economy is the so-called market-led. At the level of national financial architecture, the same model influences the development of national economies. The Republic of Moldova and other developing countries have tried to adapt to the conditions of a market-led economy, but which should contain strategies that reflect its facilities, cultures, and institutions. The situation is complicated because developing countries have to face many more new challenges in a complex international landscape in the current world economy, which previously industrialized countries have not encountered. And it must do so in the context of balancing economic, social, and environmental pathways. Some challenges have remained relatively similar, and many of them have been integrated into national development strategies, carried out with international financial institutions' input. However, new challenges have arisen, for which past lessons do not offer exact solutions. These include new global rules and interdependence between countries, unprecedented high mobility booms, pandemic risk, climate change, and environmental degradation. At the same time, new technologies, including digitization, automation, artificial intelligence, and biotechnology, will affect job creation potential, the speed, breadth of the transition to a low-carbon economy, and the ability to adapt to climate change.

To analyze the Republic of Moldova's financial architecture, we will apply the systemic approach. The specifics, as well as the advantages of this approach, have been set out above. A systemic approach aims to catalyze systemic changes that are significant in scale and sustainable and come with an integrated drive for replication and adaptation beyond a development program. Applying this approach requires market subjects to think about their role not as providers of missing services but rather as facilitators who stimulate and enable market players to provide these services by performing market functions more efficiently.

The scope of the analysis of the financial system and the evaluation of its development is quite extensive and, therefore, the structural aspects cannot simply be broken down into autonomous segments that correspond to the existing institutional arrangements. Structural and development issues arise across the range of financial and intermediary markets, including banking, insurance, securities markets, and non-banking intermediation. These often require consideration of factors for which a well-adapted and standardized quantification is not available. Therefore, the challenge is to translate those broad and somewhat abstract concepts into a concrete and practical evaluation methodology.

The proposed methodology begins with assessing the facts, aiming to assess the existing financial services provided (and available) to the national economy - in terms of range, scale, cost coverage, and quality - concerning international practice. Such an assessment should help to identify areas with low systemic performance, which can be further analyzed to diagnose the causes of underperformance compared to realistic targets. To some extent, benchmarking can

be quantified, but quantification should be complemented by qualitative and detailed information in practice. The question that may arise, if the quality or quantity is insufficient, then what caused this deficit? Deficiencies will often be attributed to a wide range of structural, institutional, and political factors.

First, there may be gaps or changes in the financial infrastructure, both in the software infrastructures of legal, information, and regulatory systems, and in the more difficult transactional technological infrastructures, including payment and settlement systems and communications in general.

Second, there may be critical defects or adjustments in regulatory or fiscal policy (including competition policy) whose inadequacy or side effects unintentionally distort or suppress the financial system's functioning to some extent, which is not justified by the policy objectives.

Third, there is a need to dig deeper; there may be broad governance issues at the national level, such as if existing institutional structures impede proper policy making (especially favoring current entrants over new entrants).

Fourth, weaknesses in the financial sector can also be traced to problems with the country's more expansive economic infrastructure, including education, transport, and communications systems. Besides, many developing countries face difficulties because significant financing requires a range of activities that may be inaccessible to small countries, populated as a small number of small customers, small intermediaries, and small organized markets [65].

The diversity of financial systems in different countries implies that several indicators need to be used to analyze modern national financial systems. In such situations, multicriteria analysis (matrix approach) is welcome, which is a structured approach used to determine the general preferences of several alternative options, which lead to the achievement of several objectives. The matrix approach makes it possible to combine the crowd of a financial sector's size, in our case - depth, access, efficiency - with traditional financial subsectors, such as banking, capital markets, etc.

Chapter 3. FINANCIAL SYSTEM ADJUSTMENT IN THE REPUBLIC OF MOLDOVA TO THE NEW INTERNATIONAL FINANCIAL ARCHITECTURE

3.1. The international financial architecture implications on the institutional development of national financial systems

The scientific paradigm's modern tendencies determine the research of the particularities of the global financial architecture's institutional development in the social field. Thus, Douglass North finds that the development of institutional change theory seems to be an essential condition for the further progress of the social sciences in general and the economic sciences in particular. At present, neoclassical theory (as well as other theories in the instruments of the social sciences) cannot give a satisfactory explanation of the differences in the functioning of societies and economies both at a given time and for a certain period. The arguments of the neoclassical theory are not convincing, given that, although its model explains the individual differences in the functioning of economies (for example, in the volume of investments in education, in the rate of saving, etc.), still does not justify why the necessary measures do not succeed, even if they can usually provide a high yield. Moreover, the yield is determined by the institutions [66].

The level of development of the national financial infrastructure is manifested through an adequate legal framework, efficient enforcement mechanisms, availability of information on credit and developed payment systems, consumer protection, human capital development. Care is taken to develop an index of financial infrastructure. Therefore, all financial infrastructure components contribute to stability, depth, efficiency, and access to the financial system. To evaluate the national financial infrastructure is necessary to carry out a benchmarking through a complex indicator. According to a World Bank report [67] a composite indicator could be developed to estimate the financial infrastructure's overall role in all countries, using data available in the World Bank database. The methodology for evaluating the various aspects of the financial infrastructure is also an open field for research [68].

Financial infrastructure is a central part of the national financial architecture. The national financial infrastructure's quality determines the efficiency of intermediation, creditors' ability to assess risk, and borrowers to obtain credit and ensure access to financial products under competitive conditions. For strengthening financial infrastructure, especially in developing countries, however, required time, resources, and, in some cases, political will. Access to financial products and services results from a complex interaction between different financial intermediaries and the existence of a solid legal and regulatory framework.

From the above, it appears that the analysis of the development of the financial infrastructure requires quantification. The evaluation can be performed by measuring the financial infrastructure's individual components and further by deriving a composite indicator - IFI (index of financial infrastructure).

This index will be built according to the methodology proposed by the OECD. According to the OECD guideline [69] a composite index or a synthetic index is a combination of all dimensions, objectives, individual indicators, and variables used. The formal definition of a composite index is the set of properties that underlie its aggregation convention.

To build the composite index are needed: the theoretical framework; data selection; imputation of missing data; multivariate analysis; normalization of indicators; weighting and aggregation of indicators; uncertainty and sensitivity analysis; "Back to data"; links to other variables; presentation and visualization of results [69].

The construction of any composite index must begin with the definition of the indicator. The definition should provide an exact meaning of what is measured by the composite indicator. Thus the index of financial infrastructure.

From a broader perspective, the institutional structure of a system is determined first by how well it responds to objectives; secondly, how effective are leveling conflicts in this system; third, by restrictions on individuals' actions and their associations. The change of institutions in the system, the interconnections between them, according to [70], means the transformation of order in this system. The economy's institutional system's basic framework is the institutional matrix, which includes, to varying degrees, market institutions, and non-market subsystems.

Of course, financial infrastructure, as a fundamental element of the architecture of the international financial system and national financial systems, requires some critical decisions, which include: assigning specific functions to individual financial authorities, establishing coordination mechanisms, specifying approaches, and arrangements to avoid potential conflicts of interest. From this, we can see that financial infrastructure is a multidimensional component, including many components (table 3.1).

Development of the new international financial architecture
at the national financial systems level

Table 3.1. Composition of the financial infrastructure index

Variables	Data description	Category	Source
Government effectiveness	Perceptions of the quality of public services	National governance level	Worldwide Governance Indicators
Shareholder governance index	Index measures shareholders rights in corporate governance by distinguishing three dimensions of good governance: shareholders rights and role in major corporate decisions; governance safeguards protecting shareholders from undue board control and entrenchment; and corporate transparency on ownership stakes, compensation, audits and financial prospects		The Global Competitiveness Report
Regulatory quality	Perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development	Regulatory policy	Worldwide Governance Indicators
The strength of legal rights index	The index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending		Doing business
Financing of SMEs	Access finance for small- and medium-sized enterprises for business operations through the financial sector	Liquidity infrastructure	The Global Competitiveness Report
Depth of credit information index	The index measures rules and practices affecting the coverage, scope and accessibility of credit information available through either a credit bureau or a credit registry	Information infrastructure and transparency	Doing business
Strength of auditing and accounting standards	Quality of accounting systems and standards as part of the financial infrastructure		The Global Competitiveness Report
Strength of minority investor protection index	The level at which the interests of minority shareholders are protected	Consumer protection architecture	The Global Competitiveness Report
Extent of staff training	The level at which companies invest in employee training and development	The structure and culture of the financial system	The Global Competitiveness Report

Source: the author.

IFI was achieved by combining all the variables (table 3.1) of 139 countries in the world during 2014-2018. Another important preliminary step in building the composite index is weighting. To a large extent, the grouping of individual indicators based on their correlation is performed by principal component analysis

Development of the new international financial architecture
at the national financial systems level

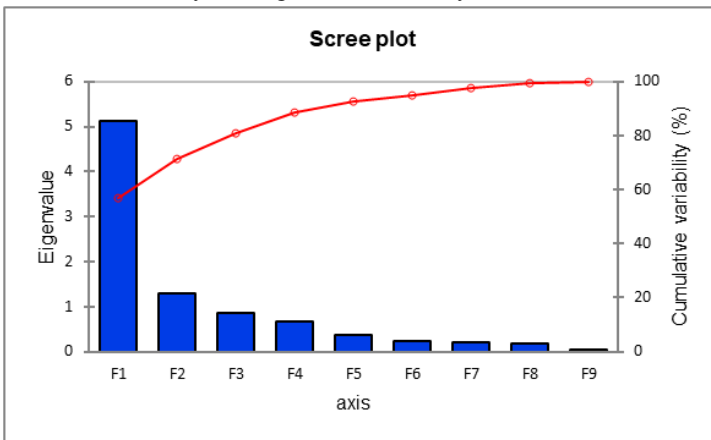
(PCA) or factor analysis (FA). This method can only be applied if there is a correlation between the indicators, which form the composite index. The first step in the analysis is to determine the correlation structure of the data.

Table 3.2. Correlation matrix (Pearson)

Variables	The strength of legal rights index	Shareholder governance index	Regulatory quality	Government effectiveness	Financing of SMEs	Depth of credit information index	Strength of auditing and accounting	Strength Of Minority Investor	Extent of staff training
The strength of legal rights index	1	0.257	0.292	0.168	0.148	0.156	0.174	0.366	0.159
Shareholder governance index	0.257	1	0.500	0.498	0.305	0.412	0.361	0.752	0.309
Regulatory quality	0.292	0.500	1	0.934	0.672	0.327	0.758	0.612	0.704
Government effectiveness	0.168	0.498	0.934	1	0.733	0.374	0.796	0.586	0.758
Financing of SMEs	0.148	0.305	0.672	0.733	1	0.351	0.786	0.449	0.789
Depth of credit information index	0.156	0.412	0.327	0.374	0.351	1	0.436	0.475	0.323
Strength of auditing and accounting standards	0.174	0.361	0.758	0.796	0.786	0.436	1	0.520	0.780
Strength Of Minority Investor Protection Index	0.366	0.752	0.612	0.586	0.449	0.475	0.520	1	0.471
Extent of staff training	0.159	0.309	0.704	0.758	0.789	0.323	0.780	0.471	1

Source: Research data (2020).

Analyzing the correlation matrix of IFI elements, we can see that the maximum correlation of 0.934 is recorded between regulatory quality and government effectiveness. Next, several latent factors must be determined, which is fewer than the composite index indicators. These selected factors must have the associated eigenvalues greater than unity, contribute individually to the overall variation by more than 10%, and cumulatively to the global variation by more than 60%.



*Figure 3.1. Eigenvalues of IFI data set
Source: Research data (2020).*

Development of the new international financial architecture
at the national financial systems level

If we look at the figure 3.1, we notice that the conditions described above correspond to 5 factors. The next step is rotation, the purpose of which is to obtain a more straightforward structure.

Table 3.3. Contribution of the variables

Factor loadings:	Squared cosines of the variables:									
	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5
The strength of legal rights index	0.325	0.529	0.723	0.297	0.010	0.106	0.280	0.522	0.088	0.000
Shareholder governance index	0.630	0.575	-0.225	-0.355	-0.116	0.397	0.330	0.051	0.126	0.013
Regulatory quality	0.895	-0.089	0.146	-0.188	0.325	0.802	0.008	0.021	0.035	0.106
Government effectiveness	0.914	-0.182	0.015	-0.170	0.261	0.835	0.033	0.000	0.029	0.068
Financing of SMEs	0.819	-0.356	0.042	0.125	-0.277	0.670	0.127	0.002	0.016	0.077
Depth of credit information index	0.542	0.309	-0.497	0.582	0.141	0.294	0.096	0.247	0.339	0.020
Strength of auditing and accounting standards	0.874	-0.272	-0.004	0.122	-0.002	0.763	0.074	0.000	0.015	0.000
Strength Of Minority Investor Protection Index	0.761	0.480	-0.087	-0.167	-0.169	0.579	0.230	0.008	0.028	0.028
Extent of staff trening	0.830	-0.352	0.080	0.064	-0.216	0.688	0.124	0.006	0.004	0.047

Source: Research data (2020).

Finally, the weights in the matrix of factor loadings after rotation must be determined. The IFI dataset consists of five intermediate composites (Table 3.3). The first component comprises shareholder governance index - 0.397; regulatory quality -0.802; government effectiveness - 0.835; financing of SMEs -0. 670; strength of auditing and accounting standards -0.763; the strength of minority investor protection index -0.579; the extent of staff training -0.688. The third and fourth are formed only by an intermediate composite, respectively, the strength of legal rights index and depth of credit information index -0.522. The second and fifth compounds are not relevant.

It is clear from the matrix of post-rotation factor tasks that there is no single relevant financial infrastructure component. Even if some components such as government effectiveness and regulatory quality are essential for the financial infrastructure, they are not the only catalysts for results (figure 3. 2)

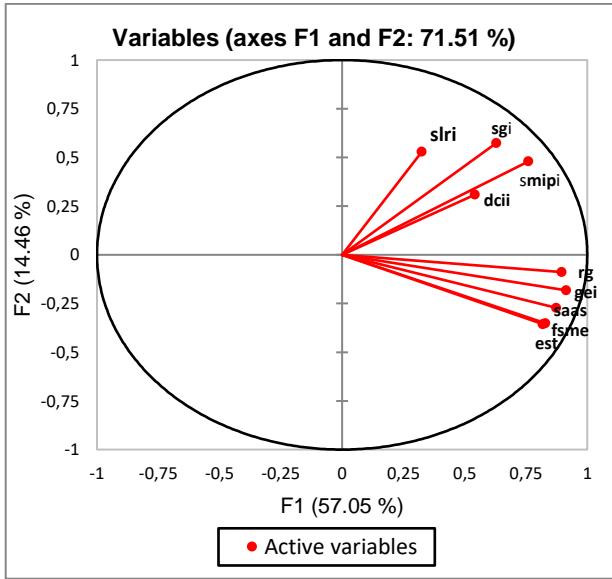


Figure 3.2. Active variables
Source: Research data (2020).

The next step we will take is significant, namely normalization. This step is necessary because individual indicators have different intervals and thus cannot be directly comparable. In the case of the IFI composite index, the Min-Max method was used. The IFI index represents the rankings in quintiles of a simple average of indices of the components of the financial infrastructure and varies on the scale from 1 to 10.

$$V_{ic1} = \frac{V_{ic0} - \min_i}{\max_i - \min_i} \times 10 \quad (3.1)$$

where:

V_{ic1} - the recalculated value of indicator i for country c ;

V_{ic0} - initial value of indicator i for country c ;

\min^i - the lowest possible value of the indicator;

\max^i - the highest possible value of the indicator i .

If a higher value indicates a lower performance on efficiency, normalization is achieved by formula 2

$$V_{ic1} = 1 - \frac{V_{ic0} - \min_i}{\max_i - \min_i} \times 10 \quad (3.2)$$

The respective V^{ic} indicators are: governance efficiency, shareholder governance index, quality of regulation, the strength of legal rights index, the strength of audit and reporting standards, financing of SMEs, depth of credit information, protection of minority shareholders' interests, level of staff training. After all, indicators are reduced to a full scale (between 0 and 10), the value of the country's financial infrastructure index (IFI^c) is determined as the average of the nine indicators, with equal weight:

$$IFI_c = \frac{\sum_{i=1}^9 V_{ic1}}{9} \quad (3.3)$$

Where IFI^c - the financial infrastructure index for the country c .

The value of the indicator IFI^c can indicate an overview of the financial infrastructure in separate countries (appendix 1) and groups of classified countries, according to the World Bank's methodology by income.

To see the IFI trend over five years, we would use CAGR (Compound Annual Growth Rate). Its value allows us to estimate the growth rate of any parameter. The main advantages of the CAGR are its ease of use and versatility of the approach. It allows us to compare any investment objects, regardless of their nature, the form of activity, and technology for achieving financial results. This indicator's value tells us that over five years, IFI practically has non changed with a more pronounced trend in Low-Income Countries.

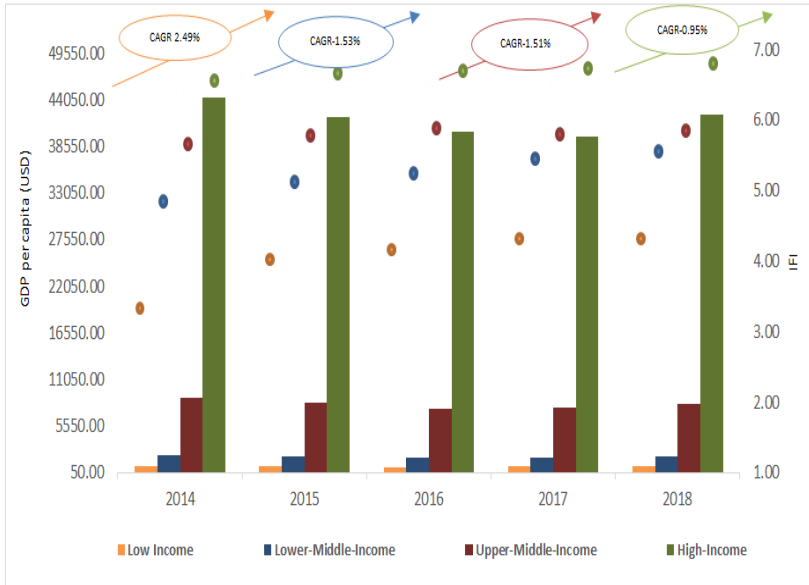
Table 3.4. Index of financial infrastructure in groups of countries by income level

Groups of countries classification by income level	2014	2015	2016	2017	2018	CAGR'5Y9 (%)
Low-Income	3.48	3.55	3.63	3.75	3.72	1.34
Lower-Middle-Income	4.69	4.80	4.89	5.02	5.13	1.82
Upper-Middle-Income	5.32	5.36	5.52	5.44	5.48	0.59
High-Income	6.39	6.44	6.45	6.49	6.52	0.39

Source: the author.

Figure 3.3. shows a direct correlation between countries' income levels and the financial infrastructure index's value. Simultaneously, it is observed that, as in the case of IFI , CAGR'5Y on the GDP per capita indicator has changed insignificantly.

Development of the new international financial architecture at the national financial systems level



*Figure 3.3. Interdependence between IFI and GDP per capita
Source: the author.*

3.2. Financial architecture development of the Republic of Moldova

The International Financial Architecture includes arrangements and actions aimed at strengthening institutions globally to ensure stability and facilitate financial integration and national financial systems. In the World Bank report [71] to presents two critical components of the IFA initiative: crisis prevention and crisis mitigation and resolution. Crisis prevention policies included "developing and implementing international standards and good practices" on the one hand and "deepening and expanding surveillance and enhancing capacity building" on the other. The World Bank and the IMF have used two key tools to achieve these goals:

- firstly, the Financial Sector Assessment Program (FSAP) identified the strengths and weaknesses of the financial sectors at national level;
- secondly, the Reports on Standards and Codes (ROSC) initiative strengthened the sustainability and transparency of institutions, markets, and financial system policies. ROSC assesses the compliance of national architectural institutions with international standards in 12 areas, including corporate governance, accounting and auditing, insolvency and creditor rights, banking regulation, insurance and securities markets, payment and settlement systems, money laundering and terrorist financing; and transparency of data, fiscal, monetary and financial policies [71].

Development of the new international financial architecture at the national financial systems level

Following the global financial crisis of 2007-2008, the FSAP program was revised, and changes were introduced [72]. The changes focused on systemic risks, improved analysis capabilities to assess vulnerabilities and resilience, and improved the quality of financial sector stability assessment (FSSA) reports at the country level. For developing and emerging economies as our country's economy, FSAP implements two broad components, one assessing financial stability and the other evaluating financial development. Indicators of financial stability include the sustainability of banks and other financial institutions and the quality of supervision of banks, insurance, and capital markets against international standards and decision-makers and financial networks' ability to respond to adverse shocks. Financial development indicators include the quality of the legal framework and financial infrastructure in promoting the financial sector that serves all population segments [73].

To evaluate the Republic of Moldova's financial architecture, we will try to identify the main links between it and the international financial architecture. These links influence both the financial structure and the macroeconomic evolution of our country.

The analysis of the Republic of Moldova's financial architecture following international financial architecture involves assessing the impact of the four elements of the international financial architecture. Figure 2.1 shows that the first element is the basic model for international financial monetary activity. And as mentioned in the previous paragraphs, an essential aspect of the market-led model is economic flexibility because only an economy with a flexible structure can quickly adapt to the needs of the time and achieve faster development.

A component of economic flexibility can be considered the level of economic openness. In 2019, according to the Index of Economic Freedom, the Republic of Moldova ranked 97th (96th place - Burkina Faso; 98th place - Russia), with a score of 59.1, placing itself in the category of mostly unfree countries.

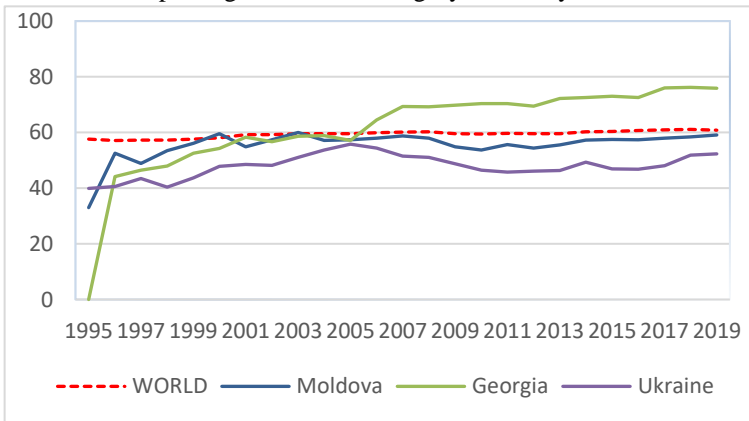


Figure 3.4. Index of Economic Freedom evolution in the Eastern Partnership countries
Source: [74].

Development of the new international financial architecture
at the national financial systems level

The Republic of Moldova ranks 40th among the 44 countries in Europe, and its overall score is below regional and global averages. In the figure below, we can see the evolution of this score in the Republic of Moldova compared to other countries in the region, in particular, the Eastern Partnership countries, signatories of the Association Agreements with the European Union (Republic of Moldova, Georgia, Ukraine).

From the figure 3.4., we can see that the most favorable value of the Index of Economic Freedom is Georgia, which is higher than the world average.

The table below also shows the scores of the economic freedom index components, which offer that Georgia is well above the other two countries in the Eastern Partnership, ranking 16th between Estonia and Luxembourg; in contrast, Ukraine ranks 146th and is located between the Gambia and Argentina.

Table 3.5. Index of Economic Freedom components, in the Eastern Partnership countries, 2019

Index components	Republic of Moldova	Georgia	Ukraine
Rule of law			
Property rights	55.2	65.9	43.9
Government integrity	25.4	58.5	29.6
Judicial effectiveness	29.6	54.6	31.5
Regulatory efficiency			
Business freedom	67.0	85.8	66.1
Labor freedom	39.0	76.6	46.7
Monetary freedom	73.5	76.0	58.6
Government size			
Government spending	59.1	73.6	49.6
Tax burden	85.4	87.1	81.8
Fiscal health	92.0	93.9	82.6
Open markets			
Trade freedom	78.0	88.6	75.0
Investment freedom	55.0	80.0	35.0
Financial freedom	50.0	70.0	30.0

Source: [74].

Institutions of the international financial architecture, in turn, influence the internal financial intermediation of developing countries through several channels:

- Adopting the recommendations of the Basel Committee as a guide for the reform of banking regulations and supervision.
- WTO negotiations on financial services.
- Pressure from international institutions such as the IMF and the World Bank to promote liberalization.

If we refer to the first channel, we must mention that the Basel Committee's basic principles for effective banking supervision are international standards for bank supervision. They are a benchmark for sound supervisory practices and are used by the IMF and the World Bank in the context of the FSAP to assess the effectiveness of banking supervision. First published in September 1997, the Basel Principles were revised in October 2006 and September 2012 to reflect the main lessons learned from the financial crisis and the developments in banking supervision.

The provisions of the Basel III Agreement primarily form the basis of Community directives, regulations, and recommendations, which are to be transposed into the national legislation of the Eastern Partnership countries by their agreements with the European Union and the European Atomic Energy Community and their Member States.

Following the WTO Agreement on Financial Services, our country and the other two Eastern Partnership countries have made commitments that can be considered generous.

At the same time, the Republic of Moldova, under the impact of international institutions such as the IMF and the World Bank, which promotes liberalization, is making efforts to coordinate the macroeconomy and achieve a deeper integration of financial markets. It should be mentioned that during the development of the national economy, the IMF has permanently supported the Republic of Moldova. Since joining the IMF, the Republic of Moldova has benefited from the following agreements with the IMF to support the authorities' economic adjustment programs, namely: Compensatory and Exceptional Financing Mechanism (CCFF), Structural Reform Financing Mechanism (STF), Stand-by Agreements (SBA), The Extended Financing Mechanisms (EFF) and the Poverty Reduction and Growth Mechanisms (PRGF) - since 2009 called the Extended Credit Mechanisms (ECF). Annually, the IMF provides consultations to the Republic of Moldova in economic and financial policy, under the provisions of Article IV of the IMF Statute, which regulates the cooperation relations between member countries and the IMF [75].

Likewise, international institutions' governance has direct implications on the Republic of Moldova's national financial architecture. As mentioned in the previous paragraphs, the agenda of post-crisis policy reforms coordinated by the FSB.

And the latest element of FinTech's international financial architecture is making inroads not only globally but also nationally, leading to changes in the way financial transactions are conducted. And in our country, little by little, FinTech began to feel especially in the field of mobile payments. At the end of 2018, 6 payment service providers were registered in the Republic of Moldova, with a share of 4.3% in the Other Financial Corporations sector.

The financial system of the Republic of Moldova is dominated by the banking sector, the other segments of the national financial system being, according to the size of assets, far below the performance of the banking sector.

Development of the new international financial architecture at the national financial systems level

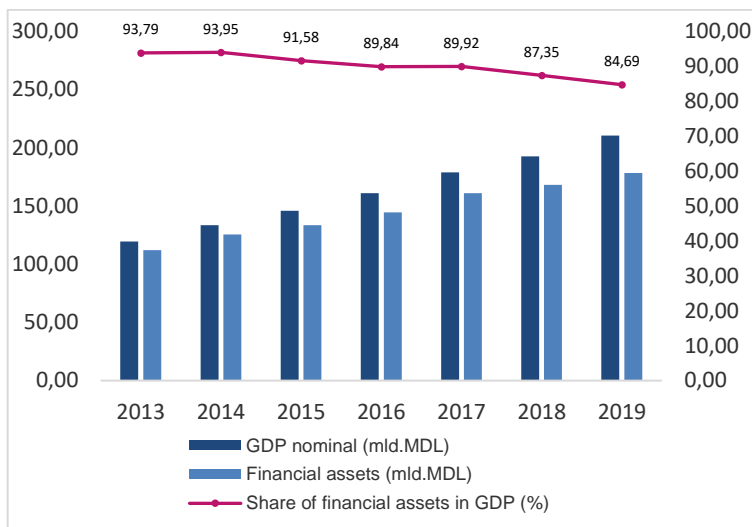


Figure 3.5. Evolution of financial assets in the Republic of Moldova
Source: [76]; own calculations.

The financial system of the Republic of Moldova is dominated by the banking sector, the other segments of the national financial system being, according to the size of the assets, far below the performance of the banking sector (figure 3.6).

Commercial banks account for a significant share of the Moldovan financial system, except for the central bank, accounting for 50.85% of financial corporations' total assets (47% of GDP). Out of the total of 11 commercial banks, with total assets of 90.59 billion lei, four internally controlled banks and seven foreign-controlled banks represent 55% and 45% of the banking sector's total assets, respectively [77].

The configuration of the Republic of Moldova's financial architecture must correspond on the one hand to the objectives of the international monetary system, and on the other hand, to lead to the development of the national financial system.

Next, we will refer to the elements of the Republic of Moldova's financial architecture and their level of development.

Development of the new international financial architecture at the national financial systems level

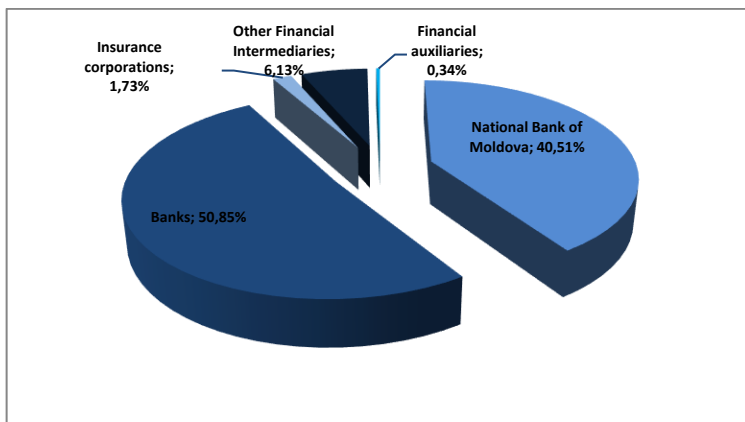


Figure 3.6. The structure of the moldovan financial system
Source: [77] [78]; own calculations.

In the last ten years, the reforms introduced in the components of the first element of our country's national financial architecture - financial infrastructure - have been radical and have affected all its aspects.

These reforms were mainly carried out following the signing of the Association Agreement with the European Union [79]. The financial sector and its components are addressed directly in the following structural compartments of the AA:

- Chapter 9 Financial services (TITLE IV “Economic and other sectoral cooperation”);
- Sub-section 6 “Financial services” (Section 5 “Regulatory framework”, Chapter 6 “Establishment, trade in services and electronic commerce”, TITLE V “Trade and trade-related matters”);
- Chapter 7 “Current payments and movement of capital” (TITLE V “Trade and trade-related matters”).

Association objectives between the Republic of Moldova and the European Union aimed at achieving the implementation of AA with an impact on the financial sector are [79]:

- to promote political association and economic integration between the Parties based on common values and close links, including by increasing the Republic of Moldova's participation in EU policies, programmes and agencies;
- to strengthen the framework for enhanced political dialogue in all areas of mutual interest, providing for the development of close political relations between the Parties;
- to contribute to the strengthening of democracy and to political, economic and institutional stability in the Republic of Moldova;
- to promote, preserve and strengthen peace and stability in the regional and international dimensions, including through joining efforts to eliminate sources of

tension, enhancing border security, promoting cross-border cooperation and good neighbourly relations;

- to support the efforts of the Republic of Moldova to develop its economic potential via international cooperation, also through the approximation of its legislation to that of the EU;

- to establish conditions for enhanced economic and trade relations leading towards the Republic of Moldova's gradual integration in the EU internal market as stipulated in this Agreement, including by setting up a Deep and Comprehensive Free Trade Area, which will provide for far-reaching regulatory approximation and market access liberalisation, in compliance with the rights and obligations arising out of WTO membership and the transparent application of those rights and obligations.

Chapter 9, "Financial services" of Title IV, sets out the objectives of cooperation in the field of financial services:

- supporting the process of adapting financial services regulation to the needs of an open market economy;

- ensuring effective and adequate protection of investors and other consumers of financial services;

- ensuring the stability and integrity of the financial system of the Republic of Moldova in its entirety;

- promoting cooperation between different actors of the financial system, including regulators and supervisors;

- ensuring independent and effective supervision.

A well-established national financial architecture that can ensure financial institutions' stability requires several preconditions that must be met. These include: sustainable macroeconomic policies; well-established framework for formulating financial stability policy; well-developed public infrastructure; a clear framework for crisis management, recovery, and resolution; an adequate level of systemic protection (or public safety) and effective market discipline.

A well-developed public infrastructure would require key architectural elements, such as a business law system; well-defined international accounting principles and rules; an efficient and independent judiciary; competent and experienced professionals; well-regulated payment systems; credit bureaus; and the availability of fundamental economic, financial and social data and information.

The institutional configuration of the Republic of Moldova's financial architecture must correspond on the one hand to the objectives of the international monetary system, and on the other hand, to lead to the development of the national financial system. According to the basic objectives of the international financial architecture, the necessary arrangements aim to optimize crisis prevention systems and remediation in financial crisis management. An effective surveillance regime is needed to increase the results of the new requirements. As mentioned in the previous paragraph, effective supervision involves the assignment of specific

functions to individual institutions. In international practice, there are several supervision models, the choice of which depends on several factors.

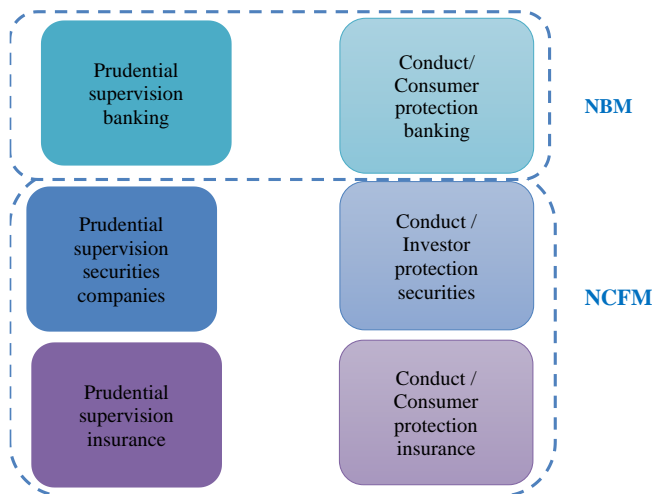


Figure 3.7. Financial system supervisory model in the Republic of Moldova.

Source: developed by the author on the basis: [80].

Regarding the financial supervision arrangements, we can consider that the Republic of Moldova's financial supervision model is an unusual hybrid called the Two Agency model. In the Republic of Moldova, this currently adopted system could be seen as a derivative of the partially integrated model with two supervisors: one agency is responsible for prudential supervision of the banking sector (National Bank of Moldova), and another agency (National Commission for Financial Markets) is responsible for the insurance sector and companies securities and markets (figure 3.7). In its classic version: one agency is responsible for the banking and insurance sectors' prudential supervision, and another agency is responsible for securities companies and markets.

The central role in the institutional structure of any national financial architecture is given to central banks. As a result of the financial crisis, two essential functions for the financial sector have been added to central banks: macro-prudential policy and resolution.

The NBM performs traditional central bank functions, including protecting the banking system's sustainability through licensing and regulating banks [81]. The role and functions of the NBM are stipulated in the NBM law, which empowers the NBM to regulate and supervise banks. The NBM regulates and supervises mainly banks, while CNFP is responsible for regulating non-banking financial institutions. The NBM regulates commercial banks and foreign exchange offices, and payment service providers, including electronic money corporations.

CNFP regulates other non-banking financial institutions, including insurance companies, microfinance institutions, Savings and Loan Associations (both depository and non-depository), brokers and agents, securities dealers, and stock exchanges. The law regulating non-bank lending organizations (microfinance institutions and leasing companies) in Moldova was adopted in October 2018 [82].

Modern finance is "legally built," [83] so a well-developed legal framework is needed to function financial markets and institutions efficiently.

The most important stylized facts of contemporary finance, both internationally and nationally, are the following: first, the fact that financial assets are legally built; secondly, this law contributes to financial instability; thirdly, there is a strict order of means of payment, which means that finances are essentially hierarchical; and fourth, the fact that the binding nature of legal and contractual commitments tends to be inversely correlated with the hierarchy of finances: the right tends to be mandatory at the periphery and relatively more resilient at the top of the financial system [84].

Financial systems' stability and resilience depend on the legal environment's ability to support contractual agreements used by markets and institutions to promote trade and decision-making by economic agents and prevent harmful practices such as fraud, collusion, and corruption. A sound legal infrastructure would include various laws that promote growth by mobilizing economies and turning it into productive capital [85].

The relative state of the legal and regulatory environment can be assessed using *Worldwide Governance Indicators*, calculated by the World Bank [86].

1. Government Effectiveness (GE) – capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

2. Regulatory Quality (RQ) – capturing perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. (c) The respect of citizens and the state for the institutions that govern economic and social interactions among them:

3. Rule of Law (RL) – capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

4. Control of Corruption (CC) – capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

The figure 3.8 shows a positive correlation between the level of financial development and the quality of national legal systems: the higher the value of governance indicators, the higher the level of financial development of countries, and vice versa.

Development of the new international financial architecture at the national financial systems level

Institutional reforms generally have a positive effect on financial development, but the scale may vary depending on economic development.



Figure 3.8. Worldwide Governance Indicators in the Eastern Partnership countries, 2018
Source: [86].

Suppose we refer to the efficiency of government. In that case, we can see that in terms of perceptions on the quality of public services and its degree of independence from political pressures, the Republic of Moldova is ranked among the other two countries. The value of 35.58 points out of 100 (Georgia - 74.04; Ukraine - 38.46). The quality of regulation indicator places our country in 2018 over Ukraine (44.23), with a value of 51.95, but far from Georgia (83.17). The rule of law indicator that quantifies the perceptions on the level in which agents trust and respect the company's rules, in the Republic of Moldova in 2018 was 37.02 points, in Ukraine 24.04, and Georgia 76.44.

Moreover, another important indicator that is part of the governance indicators is the control of corruption. Corruption is a significant obstacle to any

country and the economic progress of the Republic of Moldova, implicitly the development of the financial system.

The corruption control indicator registered 25.96 in 2018 in our country, in Ukraine 18.27, and Georgia 76.44 points.

The conclusion is that the national financial sectors' insufficient development is largely explained by the state of the legal and regulatory environment. Thus, high-income countries have the value of these indicators substantially higher than low-income countries. If we compare countries

In this regard, structural reforms must play a central role. At the same time, it should be noted that it is unlikely that a developing country, such as the Republic of Moldova, will manage legal and regulatory issues on its own. Thus, the support and conditionality of international institutions and countries with full democracy are crucial for the success of our country's reforms.

Simultaneously, the Republic of Moldova's public administration authorities must demonstrate a visible commitment in the fight against corruption and bring to justice those found guilty of corruption and theft of public resources.

In collaboration with development partners and external donors, it is also necessary to examine the best options for managing returned funds, taking into account the public's essential signaling effects.

Long-term vulnerabilities in financial sector ownership, governance, and supervision need to be addressed. The banking sector's situation needs to be normalized to allow increased credit flows to the private sector. To protect the banking sector from strong and deeply rooted personal and group interests, effective supervisory and regulatory safeguards must be implemented and strictly enforced [87].

In a well-functioning financial system, supervisors and regulators act on behalf of society as a whole and protect the interests of the various stakeholders and ensure the financial system's stability as a whole [88]. In such a system, the regulatory and supervisory framework must apply rules and laws, the protection of property rights, the stability of the financial sector, consumer protection, and the fairness and efficiency of markets [89]. That is why regulating the financial system of developing countries is a critical issue in developing financial systems.

Suppose we refer to the Republic of Moldova. In that case, it should be mentioned that the regulatory reforms in the financial system are in a continuous process since the signing of the Association Agreement.

The normative framework. Following the banking crisis in 2014-2015, some issues were identified that would need to be reviewed or redefined, based on the latest successful international experiences and aligning with the regulatory framework of the European Union.

Therefore, during 2015-2018, several updates were made to the regulatory framework in force, and some organizational structures within the National Bank of Moldova were adjusted.

The major challenge was to initiate the transition from Basel I directly to Basel III. In this context, we note the approval of a new law regulating banks' activity in the Republic of Moldova - the Law on the activity of banks, which through its content, establishes the supervisory framework in the Republic of Moldova to be one by the principles established by BASEL III.

The Law was developed within the Twinning project, carried out with the support of the European Union and experts from the National Bank of Romania and the National Bank of the Netherlands. It should be noted that this partially transposes the provisions Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms [90] and Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 [91].

In addition to establishing comprehensive criteria for capital requirements, a legislative approach will be used to regulate prudential treatment for various risks, such as credit risk, market risk, or operational risk, to calculate risk-weighted exposures, whereas previously only credit risk was used. Thus, based on the mentioned Law and the normative framework deriving from it, the NBM will apply for institutions' supervision, the Supervisory Review and Evaluation Process (SREP). This evaluation procedure will be continuous and will aggregate the findings related to the supervisory activity that is performed by the NBM in order to obtain an intricate image. Among other things, the analysis carried out according to SREP procedures will include but will not be limited to evaluating and understanding the banks' business model, examining the bank's management framework, implementing and managing internal control procedures, correlating the level of capital adequacy available, the bank's risk profile (including the sufficiency of available capital to meet the risks to which the bank is exposed), the identification of the bank's exposure to liquidity risk (including the hedging of these risks from own sources).

Suppose we analyze the changes that resulted from the implementation of the BASEL III framework in a complex way. In that case, we can firmly say that the impact is on both the reporting entities and the supervisor (NBM). Thus, following an international supervision framework, updated to the international financial markets' requirements and calibrated for application in the Republic of Moldova is rather an alignment with the requirements applied in the European space and which will contribute to the qualitative development of the banking sector in Moldova the most transparent and prudent approaches to the sustainable development of the banking sector.

Although a normative framework aligned to best practices is a sustainable strategic approach, it is essential to assess the Republic of Moldova's progress in transposing Community regulations in the financial-banking field into national

legislation. To this end, the analysis below follows the following logic: the EU act is brought into line with the national regulatory act transposing it, highlighting the essential provisions of national regulation and identifying the potential effects of its implementation.

A novelty in addressing the prudential requirements for the level of a bank's funds is the approval of the regulation on banks' capital buffers (approved by the Decision of the Executive Committee of the NBM no. 110 of May 24, 2018). This regulation introduces some shock absorbers' definition and characteristics, with the capital conservation shock absorber, the bank-specific countercyclical capital shock absorber, and the shock absorber specific to each systemically important company (O-SII) in the Republic of Moldova and the systemic risk shock absorber.

The capital buffer is intended to form a capital reserve in "quiet" periods (periods of recession). In order to maintain the capital conservation buffer (equal to no more than 2.5% of the total amount of the bank's risk exposure), banks shall hold basic Tier 1 own fund in addition to the basic Tier 1 own fund maintained to complies with the own funds' requirement provided in the normative acts of the National Bank of Moldova related to own funds and capital requirements. This shock absorber applies to all banks in the Republic of Moldova.

The bank-specific *countercyclical capital buffer* aims to increase the banking sector's resilience to potential losses induced by excessive credit growth and is constituted in periods of excessive credit growth as a supplement to the capital conservation buffer and can be established in the phase contraction for loss absorption. Depending on the economic evolution, it is set between 0% and 2.5% of the risk exposures' total value with a step calibration of 0.25%. The bank-specific countercyclical capital buffer rate will be established separately for the Republic of Moldova for its application by banks.

O-SII shock absorber - is applicable only to systemically important companies in the Republic of Moldova that are identified according to clear requirements set out in the regulation. The National Bank of Moldova may require every O-SII company in the Republic of Moldova to maintain an O-SII buffer of up to 2% of the total amount of risk exposure. If it is applied concomitantly with the systemic risk buffer, only one, the higher one, is applied.

Systemic risk buffer - applicable to prevent and reduce long-term non-cyclical systemic risk or macroprudential risk, in the sense of risk of disruption of the financial system that can generate significant negative consequences for the financial system and the real economy of the Republic of Moldova. This shock absorber shall apply to all banks, at least 1% in size based on the exposures to which the systemic risk buffer is applied.

We consider it necessary to state that in November 2018, the European Banking Authority qualified assessed the confidentiality regime applied by the National Bank of Moldova for the banking system, and as a result included the National Bank of Moldova in the list of supervisory authorities within non-member

countries EU Member States, whose confidentiality regimes can be considered equivalent to those applied in EU countries.

This assessment will allow the National Bank of Moldova to initiate the process of accession to the Cooperation Agreement between the European Banking Authority and the supervisory authorities of the countries of Central and South-Eastern Europe (known as the Vienna Initiative).

The normative alignment with the regulatory framework of the banking system implies the continuous adjustment of the structure and competencies of the supervisor. Thus, in order to ensure a good application of the supervision of the banking sector, in the period 2015-2018 the organizational structure of the National Bank of Moldova had several qualitative and quantitative transformations, which delimited and strengthened the supervisory and regulatory role, which is meant to make more efficient the approach by potential external and internal investors in the process of making the decision to enter the banking market of investments and / or participations in the capital of existing banks, or to start new businesses in this field. At the same time, the subdivision responsible for financial stability was created, as well as the subdivision related to the banking resolution (responsible also for the liquidation process of the banks whose licenses were withdrawn by the National Bank of Moldova).

Of course, for the Republic of Moldova the evaluation of the effectiveness of regulatory policies and supervisory actions is still complicated, because the regulatory framework of the financial system, in accordance with the Association Agreement with the EU, has not yet been fully implemented.

CONCLUSIONS

The efficiency of the international financial architecture's functioning depends mostly on how balanced and interconnected its elements are and the development of national financial systems. By overcoming the distortion of the international financial architecture's institutional structure, it is possible to increase its operation's overall efficiency. In this regard, the issue of maintaining the dynamic balance in the development of the international financial architecture as an integral unit of its structural elements and functions is of particular importance. Reducing the likelihood of making the wrong decisions is only possible if certain principles are used to develop the international financial architecture, which is formulated and could serve as a long-term guideline for its improvement.

From the analysis of the particularities of the modern international financial architecture's institutional development, we can conclude that there are institutional premises for forming a new paradigm in globalization. The results of the previous stages (both positive and negative) are saved and reproduced in the later ones in adopting the institutional innovations. At the same time, institutional selection occurs - the selection of rules and regulations that best correspond to the new stage of evolution tasks.

As an integral part of the international financial system, the financial system is in a constant process of change, evolution, and other transformations. As a criterion for the development of the financial system, taking into account the impact of the globalization of the world economy, it is necessary to take into account the changes that have occurred in the following institutional constraints:

- the value of the transaction costs of the international financial architecture
- the almost complete nature of the information on the functioning of financial markets and national financial systems;
- the implementation of the principles and methods of operation of the international financial architecture in a single reproduction process.

In the conditions of globalization of the international financial system, the national financial system, naturally, requires the search for forms of interaction and directions that would correspond to the international requirements, adapted to the national specifics.

Increasing the efficiency of the financial system in the face of globalization is inextricably linked to the regulatory system and its operational efficiency, which depends on the objectives and tasks that must result from the long-term financial strategy.

In this context, a unique role must be given to national financial systems and their financial infrastructure as primary elements. Furthermore, because in the modern economy, one of the essential tools in determining the efficiency of a system is benchmarking, we have built a composite IFI index, which allows to compare the infrastructures of the world's national financial systems states. This methodology is fundamental, especially for developing countries, because it allows them to determine the potential areas to capitalize.

REFERENCES

1. Fischer, S. (1998). *Reforming world finance: lessons from a crisis*. IMF Survey, Special Supplement. Washington, D.C.: International Monetary Fund.
2. Camdessus, M. (1998). Presentation of the fifty-third annual report. By the Chairman of the Executive Board and Managing Director of the International Monetary Fund. In: *Summary Proceedings of the Fifty-Third Annual Meeting of the Board of Governors*. Washington, D.C.: International Monetary Fund. 20-31.
3. Jones, W. Clinton takes the lead on new financial architecture executive. In: *Executive intelligence review*, vol. 25, N 38, September 25, 1998. Retrieved from http://www.larouchepub.com/eiw/public/1998/eirv25n38-19980925/eirv25n38-19980925_004-c>4.
4. Brown, G. (1998a). A New Global Financial Architecture. In: *The Wall Street Journal Europe*, October.
5. Brown, G. (1999). Building a Strong World Financial System. In: *The Wall Street Journal Europe*, April.
6. Brown, G. (1998). Britain's Chancellor on Today's World. In: *The Wall Street Journal Europe*, December.
7. Brown, G. (1998). Governor of the Fund and Alternate Governor of the Bank for the United Kingdom, at the Joint Annual Discussion. Press Release, 54.
8. Eichengreen, B. (2009). *Toward a New International Financial Architecture*. Washington, D.C.: Peterson Institute for International Economics.
9. Germain, R. (2002). Reforming the international financial architecture the new political agenda. In: *Global Governance: critical perspectives*, eds. Rorden Wilkinson and Stephen Hughes, pp. 17-35.
10. Шмелев, В. (2010). О реформе мировой финансовой архитектуры. In: *Финансы*. N. 8, с. 11.
11. Вовченко, Н. (2006). *Институциональные преобразования финансовой системы России в условиях глобализации*. Ростов-на-Дону: РГЭУ РИНХ.
12. Моисеев, А. (2006). *Международные финансовые организации. Правовые аспекты деятельности*. Москва: Омега, 293 с. 96. с.
13. Soros, G. (2000). *Open Society. Reforming Global Capitalism*. New York, Public Affairs, 400 p.
14. World Bank. (2005). *International Financial Architecture: A Progress Report Information*. Note by World Bank Staff, July 12.
15. Crockett, A. (2009). Reforming the Global Financial Architecture. In: *Asia and the Global Financial Crisis*. Conference sponsored by the Federal Reserve Bank of San Francisco, Santa Barbara, Oct 18-20. p.191-201.
16. Hopkinson, N. (2000). Managing the Global Economy: Prospects for a New Financial Architecture and Economic Recovery. In: *The Brown Journal of World Affairs*, Vol. 7, No. 2, Summer/Fall, pp. 129-140.

17. Cartapanis, A., Herland, M. (2002). The Reconstruction of the International Financial Architecture: Keynes' Revenge? In: *Review of International Political Economy*, Vol. 9, N. 2, May, pp. 257-283.
18. Eichengreen, B. (2008). Reforming the International Financial Architecture after Ten Years: The View from Emerging Markets. Prepared for the meeting of the Tokyo Club, Tokyo, Japan, 11-12 November.
19. Goldstein, M. (1997). *The Case for an International Banking Standard*. Washington, D.C.: Peterson Institute for International Economics. 128 p.
20. Saccomanni, F. (2008). *Managing international financial stability*. Edited text of remarks by Mr. Fabrizio Saccomanni, Director General of the Bank of Italy, at a meeting at the Peterson Institute for International Economics, Washington DC, 11 December.
21. Goldstein, M. (1999). *Safeguarding Prosperity in a Global Financial System. The Future International Financial Architecture*. (Goldstein Report), Washington DC: Institute for International Economics, 7 October.
22. Adams, T.D. (2006). The IMF: back to basics. In: *E.M. Truman, Reforming the IMF for the 21st Century*, special report, Washington, DC: Institute for International Economics, 19 April. pp. 133-138.
23. Truman, E.M. (2006). Overview on IMF Reform. In: *E.M. Truman, Reforming the IMF for the 21st Century*, special report, Washington, DC: Institute for International Economics, 19 Aprilie. pp. 30-42.
24. Major, A. (2012). Neoliberalism and the new international financial architecture. In: *Review of International Political Economy*, Vol. 19, N. 1, Jan. pp. 536-561.
25. Cartapanis, A. (2001). La nouvelle architecture financiere internationale AFRI, Volume II. Retrieved from <<http://www.afri-ct.org/wp-content/uploads/2006/03/cartap.pdf>>.
26. Jospin, L. (2000). Discours du Premier Ministre lors de l'ouverture de la conférence européenne sur le développement de la Banque Mondiale et du Conseil d'Analyse Economique, Paris, 26 juin. Retrieved from <<http://www.vie-publique.fr/cdp/texte/003001639.html>>
27. Flandreau, M. (1999). Leçons d'architecture. În: *Economie Internationale*, La revue du CEPII, no 78, 2e trimestre.
28. Cambridge dictionary. Retrieved from <<https://dictionary.cambridge.org/dictionary/english/architecture>>
29. Bertleff, J., Zăgan, L., Butică, D., Oneață, C. *Misiunile arhitectului*. Retrieved from <https://www.oar.archi/download/public/misiunile_arhitectului_web_pdf_1462749114.pdf>
30. Bass, L., Clements, P., Kazman, R. *Software Architecture in Practice*, 3rd Edition. Boston: Addison Wesley, 2012, 640 p.

31. Crockett, A. (2010). What Have We Learned in the Past 50 Years about the International Financial Architecture? In: *Reserve Bank of Australia 50th Anniversary Symposium*, Sydney: Reserve bank of Australia. pp. 77-85.
32. North, D. (1996). *Institutions, institutional change and economic performance*. Cambridge: Cambridge university press. 164 p.
33. Galvin, J & Others. (2018). Synergy and disruption: Ten trends shaping fintech. In: *Global Banking Practice*, December. McKinsey.
34. The Bali FinTech Agenda. Retrieved from <<https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/10/11/pp101118-bali-FinTech-agenda>>.
35. Financial Stability Implications from FinTech. Retrieved from <<http://www.fsb.org/wp-content/uploads/R270617.pdf>>.
36. New consortium to tackle the problem of risky FinTech innovations In: *American Banker*, 06.03.2018. Retrieved from <<https://www.americanbanker.com/news/new-wef-consortium-aims-to-tackle-the-problem-of-risky-FinTech-innovations>>
37. The Appropriate Use of Customer Data in Financial Services. In: *White Paper*, September 2018. Retrieved from <http://www3.weforum.org/docs/WP_Roadmap_Appropriate_Use_Customer_Data.pdf>
38. Bhargava, V. (2006). Global issues global citizens: an introduction to key development challenges. *World Bank Publications*. Washington, D.C.: The World Bank, 7194, June.
39. FinTech: the experience so far. In: *IMF policy paper*, June 2019. Retrieved from <<https://www.imf.org/en/publications/search?series=Policy+Papers>>.
40. Kaminsky, G., Reinhart, C. (1999). The Twin Crises: The Causes of Banking and Balance-of-Payments Problems. In: *American Economic Review*, Vol. 89, No. 3, June. pp.473-500.
41. Carlin, W. Mayer, C. Finance, investment and growth. Retrieved from Disponibil: <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.196.2493&rep=rep1&type=pdf>>.
42. Kimbal, R. (2000). Failures in risk management. In: *New England Economic Review* (January/February). pp.3-12.
43. Johnson, S., Kwak, J. (2010). *13 Bankers: The Wall Street Takeover and the Next Financial Meltdown*. New York: Pantheon Books. 336 p
44. Wang, H. (2014). China's Long March Toward Economic Rebalancing. In: *CIGI Policy Brief*, No. 38 (April). Waterloo, Ontario: Centre for International Governance Innovation.
45. Boughton, J.M. (2014). Stabilizing International Finance: Can the System Be Saved? In: *Essays on International Finance*, volume 2 (September). Waterloo, Ontario: Centre for International Governance Innovation.

46. Acemoglu, D., Robinson, J. (2010). The Role of Institutions in Growth and Development. In: *Review of Economics and Institutions*, Vol. 1 – No. 2, Fall.
47. Fanelli, J., Medhora, R. (2001). The Emerging International Financial Architecture and Its Implications for Domestic Financial Architecture. In: *Domestic Finance and Global Capital in Latin America Conference, Federal Reserve Bank of Atlanta*.
48. Čihák, M., Demirgüç-Kunt, A., Feyen E., Levine, R. (2010). Financial Development in 205 economies, 1960 to 2010. In: *Working Paper*, 18946.
49. Levine, R. (2005). Finance and growth: Theory, evidence, and mechanisms. In: *The Handbook of Economic Growth*. Amsterdam: North Holland.
50. Beck, T. (2008). Bank competition and financial stability: friends or foe? In: *World Bank Policy Research Working Paper*, 4656, June.
51. Schmidt, R.H., Tyrell, M. (2003). What constitutes a financial system in general and the German financial system in particular? In: *Working Paper Series: Finance & Accounting*, № 111, Johann Wolfgang Goethe-Universitaet Frankfurt am Main.
52. Schmidt, R.H. (1999). *Differences Between Financial Systems in European Countries: Consequences for EMU*. Retrieved from <<https://core.ac.uk/download/pdf/14503800.pdf>>.
53. Schinasi, G. (2005). *Safeguarding financial stability: theory and practice*. Washington, D.C.: International Monetary Fund.
54. Boyd, J., Levine, R., Smith, B. (2000). The Impact of Inflation on Financial Sector Performance. In: *Journal of Monetary Economics*.
55. Khan, Mohsin S., Senhadji, A., Smith, B. (2001). Inflation and Financial Depth. In: *International Monetary Fund, Working Paper*, N. 44.
56. Jaffee, D., Levonian, M. (2001). The Structure of Banking Systems In Developed and Transition Economies. In: *European financial management*, vol. 7. N. 2. p.161-181.
57. Levine, R, Loayza, N., Beck, T. (1999). Financial Intermediation and Growth: Causality and Causes. In: *Central Bank of Chile, paper*, N. 56.
58. Black, B S. (2000). *The Core Institutions that Support Strong Securities Markets*. In: *Business Lawyer*, vol. 55, 1565-1607.
59. Jacobsson, P., Crockett, A. (2011). *What financial system for the 21st century?* Basel, June 26.
60. Allen, F., Gale, D. (2001). *Comparing Financial Systems*. Massachusetts: MITPress. 521 p.
61. Knot, K. (2013). Simplicity in the financial sector. In: *at the 20th Risk Minds Global Risk Regulation Summit, Amsterdam*, 2 December.
62. Haldane, A. (2012). Tails of the unexpected. In: *The Credit Crisis Five Years On: Unpacking the Crisis*, conference held at the University of Edinburgh Business School, 8-9 June.

63. Pilcher J. (2015). The Simplicity Revolution in Banking. In: *The Financial Brand*.
64. Bossone, B., Honohan, P., Long, M. (2001). Policy for Small Financial Systems. In: *Financial Sector Policy for Developing Countries*. New York: Oxford University Press. pp. 95–128.
65. North, D. (1996). *Institutions, institutional change and economic performance*. Cambridge: Cambridge university press.
66. Miller, M., Mylenko, N. and Sankaranarayanan, S. (2009). *Financial Infrastructure Report. Building Access Through Transparent and Stable Financial Systems*. Washington, D.C.: The World Bank.
67. Rafailov, D. (2018). Measuring the development of financial infrastructure. Varna: Union of Scientists. In: *Economic Sciences Series. 7 (2):13-23*
68. OECD guide. (2008). *Handbook on Constructing Composite Indicators. Methodology and user guide*. Paris: Cedex.
69. World Bank. International Financial Architecture: A Progress Report. In: World Bank, Washington DC., 2005. Retrieved from < <http://www.worldbank.org/ifa/IFA%20progress%20report%202005.pdf> >
70. World Bank. *International Financial Architecture: A Progress Report*. In: World Bank, Washington DC., 2005. Retrieved from < <http://www.worldbank.org/ifa/IFA%20progress%20report%202005.pdf> >
71. Review of the Financial Sector Assessment Program—Further Adaptation to the Post-Crisis Era, International Monetary Fund, Washington DC., 2014. Retrieved from < <http://www.imf.org/external/pp/longres.aspx?id=4893> >
72. Factsheet, The Financial Sector Assessment Program (FSAP), September 21, 2015. [online]. Disponibil: < <http://www.imf.org/external/np/exr/facts/fsap.htm> >
73. 2019. INDEX OF ECONOMIC FREEDOM. Retrieved from < <https://www.heritage.org/index/> >
74. Relația Republicii Moldova cu Fondul Monetar Internațional (FMI). Retrieved from < <http://www.bnm.md/ro/content/relatia-republicii-moldova-cu-fondul-monetar-international-fmi> >
75. Biroul Național de Statistică. Retrieved from < <https://statistica.gov.md/category.php?l=ro&idc=191> >
76. BNM. Retrieved from < <https://www.bnm.md/bdi/pages/reports/drsb/DRSB1.xhtml?id=0&lang=ro> >
77. CNPF. Retrieved from < <https://www.cnpf.md/ro/publicatiile-cnpf-6302.html> >
78. Association Agreement between the European Union and the European Atomic Energy Community and their Member States, of the one part, and the Republic of Moldova, of the other part. Retrieved from < https://eur-lex.europa.eu/legal-content/en/ALL/?uri=uriserv%3A0J.L_.2014.260.01.0004.01.ENG >
79. Calvo, D., Crisanto, J.C., Hohl, S., Gutiérrez, P.G. (2018). Financial supervisory architecture: what has changed after the crisis? In: *FSI Insights on policy implementation*, No 8, aprilie. 36 p.

80. Legea cu privire la Banca Națională a Moldovei nr. 548-XIII din 21.07.1995
Republicat: Monitorul Oficial al R. Moldova nr.297-300 art.544 din 30.10.2015
81. Legea cu privire la organizațiile de creditare nebancară nr. 1 din 16.03.2018
Publicat: 30.03.2018 în Monitorul Oficial Nr. 108-112 art Nr: 200 Data
intrării in vigoare: 01.10.2018
82. Pistor, K. (2013). A legal theory of finance. In: *Journal of Comparative
Economics*, 41. pp. 315-330.
83. Moskow, M. (2002). Financial Infrastructure in Emerging Economies. In:
Journal of Financial Intermediation, 11, 2002. pp.354-361. ISSN: 1042-9573
84. Kaufmann, D, Kraay, A., Mastruzzi, M. (2010). The Worldwide Governance
Indicators Methodology and Analytical Issues. In: Policy Research Working
Paper 5430. Retrieved from < <https://www.heritage.org/index/>>
85. Worldwide Governance Indicators. Retrieved from
< <https://info.worldbank.org/governance/wgi/>>
86. Secieru, A., Lopotenco, V., Pârțachi, I., Veveriță, I., Mija, S. *Impactul
adaptării sistemului financiar din Republica Moldova la standardele Uniunii
Europene*. Chișinău: ASEM, 2020. 198p.
87. Pistor, K., Xu, Ch. (2003). Incomplete Law, In: *Columbia Law and
Economics Working Paper*, No. 204, 2003.
88. Llewellyn, D. (2006). Institutional Structure of Financial Regulation and
Supervision. In: *The Basic Issues*, Paper presented at the World Bank Seminar,
Aligning Supervisory Structures to Country Needs, Washington DC, 6-7 June.
89. Directive 2013/36/eu of the European Parliament and of the Council of
26 June 2013. Retrieved from <<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:176:0338:0436:En:PDF>>
90. Regulation (EU) No 575/2013 of the European Parliament and of the Council
of 26 June 2013 on prudential requirements for credit institutions and
investment firms Retrieved from <<https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex%3A32013R0575>>.

Development of the new international financial architecture
at the national financial systems level

Appendix

Appendix 1. Index of financial infrastructure by countries, 2018

Countries	IFI	Countries	IFI
Albania	5.74	Kyrgyz Republic	5.15
Algeria	2.94	Lao PDR	4.30
Angola	2.52	Latvia	6.82
Argentina	5.33	Lebanon	4.45
Armenia	5.54	Lesotho	4.03
Australia	7.60	Lithuania	6.70
Austria	7.14	Luxembourg	5.81
Azerbaijan	6.06	Madagascar	4.03
Bahrain	5.61	Malawi	5.39
Bangladesh	3.85	Malaysia	7.44
Barbados	4.37	Mali	3.57
Belgium	6.69	Malta	5.98
Benin	3.60	Mauritania	3.12
Bolivia	4.47	Mauritius	6.54
Bosnia and Herzegovina	4.98	Mexico	6.24
Botswana	5.71	Moldova	5.59
Brazil	5.33	Mongolia	5.59
Brunei Darussalam	5.78	Montenegro	6.06
Bulgaria	6.00	Morocco	5.38
Burkina Faso	3.54	Mozambique	3.23
Burundi	2.83	Namibia	5.57
Cabo Verde	4.10	Nepal	4.54
Cambodia	4.97	Netherlands	7.01
Cameroon	4.29	New Zealand	8.27
Canada	7.81	Nicaragua	4.21
Chad	2.73	Nigeria	5.61
Chile	6.30	North Macedonia	6.21
China	5.81	Norway	7.39
Colombia	6.52	Oman	5.28
Congo, Dem. Rep.	2.78	Pakistan	5.30
Costa Rica	6.04	Panama	6.09
Côte d'Ivoire	4.86	Paraguay	4.52
Croatia	5.64	Peru	5.87
Cyprus	6.20	Philippines	5.15

Development of the new international financial architecture
at the national financial systems level

Czech Republic	6.65	Poland	6.41
Denmark	7.31	Portugal	5.80
Dominican Republic	4.97	Qatar	5.39
Ecuador	4.76	Romania	5.89
Egypt, Arab Rep.	5.47	Russian Federation	5.82
El Salvador	5.29	Rwanda	6.44
Estonia	6.75	Saudi Arabia	6.18
Ethiopia	3.04	Senegal	4.04
Finland	7.26	Serbia	5.61
France	6.57	Seychelles	4.74
Gabon	2.82	Singapore	8.06
Gambia, The	3.63	Slovak Republic	6.37
Georgia	6.89	Slovenia	6.10
Germany	7.35	South Africa	6.07
Ghana	5.22	Spain	6.52
Greece	5.19	Sri Lanka	5.17
Guatemala	5.44	Sweden	7.32
Guinea	3.94	Switzerland	7.37
Haiti	1.76	Tajikistan	4.47
Honduras	5.50	Tanzania	4.95
Hong Kong SAR, China	7.95	Thailand	6.47
Hungary	6.05	Trinidad and Tobago	5.62
Iceland	6.94	Tunisia	5.00
India	6.83	Turkey	6.15
Indonesia	6.37	Uganda	5.18
Iran, Islamic Rep.	4.05	Ukraine	5.52
Ireland	7.03	United Arab Emirates	7.18
Israel	7.07	United Kingdom	7.42
Italy	5.38	United States	7.89
Jamaica	6.39	Uruguay	5.45
Japan	6.67	Venezuela, RB	3.33
Jordan	5.18	Vietnam	5.57
Kazakhstan	6.20	Yemen, Rep.	1.95
Kenya	6.38	Zambia	5.53
Korea, Rep.	6.82	Zimbabwe	4.56
Kuwait	5.08	world average	5.56

Source: the author.



RS Global

LOPOTENCO VIORICA

**DEVELOPMENT OF THE NEW INTERNATIONAL
FINANCIAL ARCHITECTURE AT THE NATIONAL
FINANCIAL SYSTEMS LEVEL**

Monograph

Passed for printing 07.01.2021. Appearance 12.01.2021.

Typeface Times New Roman.

Circulation 300 copies.

RS Global Sp. z O.O., Warsaw, Poland, 2021

Numer KRS: 0000672864

REGON: 367026200

NIP: 5213776394



RS Global

**DEVELOPMENT
OF THE NEW INTERNATIONAL
FINANCIAL ARCHITECTURE
AT THE NATIONAL
FINANCIAL SYSTEMS LEVEL**

Publisher:

RS Global

Dolna 17, Warsaw,

Poland 00-773

<https://monographs.rsglobal.pl/>

Tel: +48 226 0 227 03

Email: monographs@rsglobal.pl