

# THE IMPACT OF OPEN BANKING ON THE TRANSFORMATION OF BANKING OPERATIONS

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**Abstract:** *Open banking represents a significant regulatory and technological innovation aimed at increasing competition, improving efficiency, and transforming traditional banking operations. By enabling third-party providers to access banking data through secure Application Programming Interfaces (APIs), with the explicit consent of users, open banking facilitates the development of new financial services and business models. This paper examines the impact of open banking on the transformation of banking operations, with particular emphasis on its implications for competition, cost efficiency, and the role of traditional financial institutions. Special attention is given to the regulatory framework of the European Union, including the Payment Services Directive (PSD2) and its forthcoming reforms (PSD3 and PSR), as well as the process of alignment in Serbia. The research is based on a qualitative methodological approach, including the analysis of relevant literature, regulatory documents, and comparative practices. The findings suggest that open banking contributes to increased market competition, improved allocation of financial resources, and greater availability of innovative financial services. At the same time, it raises important challenges related to data security, regulatory oversight, and the sustainability of traditional banking models..*

**Key words:** *open banking, financial services, competition, APIs, banking transformation*

**JEL classification:** G21, G23, O33

## 1. INTRODUCTION

Just as goods and services have their price, capital likewise has a price, which is expressed in the form of an interest rate. Since the earliest instances of lending money, that is, capital, up to the present

day, the central issue in such transactions has been the level of interest. For the borrower, it is essential that the interest rate be as low as possible, the repayment period as long as possible, and all other terms as favorable as possible—particularly with regard to loan processing costs and various forms of conditionality, whether economic or non-economic, especially political.

For the creditor, it is crucial that the borrower possesses strong creditworthiness, that the risk of loan repayment is minimized to the greatest extent possible, and that reliable collateral is provided. Furthermore, the creditor aims to secure the most favorable (effective) interest rate and, where applicable, ensure compensation for loan processing costs. It is also important that the repayment terms remain consistent with those agreed upon at the time of loan origination, provided that repayment occurs within the stipulated period, while in cases of delay, the applicable penalty interest rate should be clearly defined.

Broadly speaking, there are two main groups of lenders: public and private institutions. Public lenders include states (primarily organized within the Paris Club), international and regional financial institutions, as well as various funds. Private lenders include commercial banks (associated with the London Club), professional investment funds, and corporations that typically extend credit through the sale of equipment. A similar classification applies to borrowers, who may be either public or private entities. Public borrowers generally include states, local government units, and state funds, while private borrowers encompass commercial banks, private capital owners, and individuals.

In a market economy, it is of paramount importance that a highly developed capital market exists, with a reasonable balance between lenders

and borrowers, in order to prevent monopolization. In other words, there must be a sufficient number of both suppliers and demanders of capital.

Recent history indicates that the demand for capital has often exceeded its supply, or at least that such a perception has prevailed in capital markets. As a result, numerous abuses have frequently occurred on the part of international and regional financial institutions, including the International Monetary Fund and the World Bank Group, particularly in the process of loan approval.

It is well known that several Latin American countries declared bankruptcy during the 1980s due to their inability to service debts owed to Bretton Woods financial institutions. This was largely a consequence of unfavorable lending conditions—especially high interest rates—which proved significantly more burdensome during repayment than at the time of borrowing. Similarly, members of the Paris and London Clubs often acted inequitably in such arrangements.

Starting from the fact that proposals put forward by rapidly developing economies—most notably China, Russia, and India—for reforming decision-making rules within Bretton Woods institutions failed to yield results, these countries, with the support of Brazil and South Africa, established an informal economic grouping under the acronym BRICS.

In recent years, however, the transformation of financial markets has increasingly been driven not only by institutional and geopolitical changes, but also by regulatory and technological innovations. One of the most significant developments in this regard is the emergence of open banking. Open banking represents a regulatory and technological framework that enables third-party providers to access banking data, with the explicit consent of users, through secure Application Programming Interfaces (APIs). By allowing controlled data sharing between banks and external service providers, open banking aims to increase competition, foster innovation, and improve the efficiency of financial services. This shift is particularly important in addressing long-standing issues related to limited competition and concentration within the financial sector.

With the aim of reducing the monopoly of Bretton Woods financial institutions—particularly regarding lending conditions, which often involve both economic and political pressures on states—BRICS countries decided, approximately a decade ago, to establish their own development-oriented financial institutions. At the same time, the European Union has, over the past decade, recognized that despite these developments,

genuine competition in capital markets remains insufficient.

In response to these challenges, the European Union introduced regulatory reforms, most notably the Payment Services Directive (PSD2), which requires banks to provide access to customer data to authorized third parties under clearly defined conditions. This regulatory framework has laid the foundation for the implementation of open banking, contributing to the transformation of traditional banking operations and enabling the emergence of new financial service providers, particularly fintech companies.

Against this background, the aim of this paper is to analyze the impact of open banking on the transformation of banking operations, with particular emphasis on its effects on competition, efficiency, and the role of traditional financial institutions.

The research is based on a qualitative methodological approach, combining descriptive and analytical methods, including the analysis of relevant literature, regulatory frameworks, and comparative financial practices in order to assess the impact of open banking on banking operations.

## **2. THE ROOTS OF USURY IN BANKING IN EUROPE AND SERBIA**

Usurious banking may be understood as a sui generis form of banking activity that emerges under conditions of insufficient regulation, particularly in the absence of strict rules governing capital markets and the control of interest rate calculations. To illustrate this phenomenon, three historical examples are considered, drawn from Italy, Germany, and Serbia.

### **2.1. THE FIRST EXAMPLE: ITALY**

It is well established that the roots of modern European banking can be traced to Italy in the early fourteenth century. A key driving force behind this development was the Medici family, whose rise was facilitated by a favorable circumstance: they acted as tax agents for the Vatican, where substantial financial resources were concentrated. Recognizing the opportunity, they began to lend these funds at high interest rates, thereby effectively initiating the establishment of the first banking institutions in Europe more than six centuries ago. In addition to credit operations, they engaged in currency exchange and other financial activities, continuously expanding their financial portfolio. By the late fourteenth and early fifteenth centuries, their annual rate of return exceeded 30% relative to invested capital. Such vast financial power enabled them to attain significant political and social influence: two members of the family became popes (Leo X and

Clement VII), two became queens of France (Catherine and Marie), and three held ducal titles (Florence, Nemours, and Tuscany). Through these positions, they exercised considerable influence over political developments, with intermittent interruptions, until the mid-eighteenth century (Ferguson, 2010).

## **2.2. THE SECOND EXAMPLE: GERMANY**

In mid-nineteenth-century Germany, initiatives were launched to establish rural savings and credit cooperatives as a means of protecting farmers from usurious lending practices. The first agricultural savings and credit cooperatives were founded by the politician and social reformer Friedrich Wilhelm Raiffeisen, who, motivated by philanthropic concerns, distributed flour and bread to impoverished peasants during the famine years of 1847–1848. Seeking a more sustainable solution, he initiated the establishment of the first cooperative in the village of Heddesdorf in 1854. The primary objective of the cooperative was to provide affordable credit to its members, rather than to maximize profit. Loan funds were partly generated from members' savings and partly secured through bank loans granted to the cooperative at significantly lower interest rates than those prevailing on the market. Membership contributions were deliberately kept minimal to ensure broad accessibility. This cooperative model, based on principles of mutuality and solidarity, expanded rapidly: by 1874, it had spread throughout Germany with the establishment of a central credit institution for German cooperatives, and subsequently across many other European countries. Loan security was ensured through the mortgaging of members' land, thereby reducing the risk for lending institutions (Gnjatovic, 2010). A portion of the cooperatives' profits was reinvested in expanding their activities for the benefit of members and the advancement of rural communities.

## **2.3. THE THIRD EXAMPLE: SERBIA**

The Raiffeisen model was introduced in Serbia by Mihailo Avramović (1864–1945), a native of the village of Dubona near Mladenovac. After completing his education at the Commercial School in Belgrade, he worked as a banking clerk in financial institutions in Belgrade and Smederevo. Following study visits to Italy and Germany, he resolved to apply the Raiffeisen cooperative model in Serbia. At the time, farmers in the Smederevo district were among the most indebted in the country due to extremely high interest rates. In response, Avramović established the first agricultural savings and credit cooperative in the village of Vranovo on February 29, 1894. The initiative was inspired by the successful

implementation of the Raiffeisen model in Italy and Austria, demonstrating its applicability in the Serbian context.

The operational principles of Serbian agricultural cooperatives mirrored those in Germany: self-help, joint liability of members, voluntary (unpaid) management, indivisibility of profits and reserve funds, and lending exclusively to members. Initially, funds collected from members were used to provide credit within the cooperative, but were later extended to finance broader purposes, including the purchase of livestock, the establishment of orchards and vineyards, construction of agricultural facilities, land acquisition, and even the payment of taxes.

The first legislative support for such institutions in Serbia was introduced in 1897, when the government allocated 100,000 dinars from the state budget to the Main Agricultural Credit Cooperative, recognizing that cooperatives lacked sufficient internal resources for sustainable operations. This marked the first instance of the National Assembly approving such funding within the state budget. In 1898, Serbia adopted its first Law on Agricultural and Craft Cooperatives, which defined the scope of cooperative activities in accordance with the Raiffeisen model.

Two years later, in 1900, an additional Law on the Support of Agricultural Cooperatives was enacted, providing the central cooperative with non-repayable annual funding of 50,000 dinars.

The final legislative framework governing savings and credit cooperatives and savings institutions in Serbia was the Law on Banks and Other Financial Organizations, adopted in 1993 (Law on Banks, FRY, No. 32/93).

This law was repealed by the Law on Banks at the end of 2005 (Law on Banks, No. 107/05), which came into force in 2006. Under the new legal regime, only banks were permitted to engage in deposit-taking and lending activities. In effect, this legislation eliminated the operations of savings and credit cooperatives and savings institutions after more than 108 years of uninterrupted activity. The only savings institution that met the requirements for continued operation was the Postal Savings Bank, given that it possessed a sufficient capital base and enjoyed the support of the state. It should be emphasized that, in contrast to the previous system—where financial resources for agriculture were secured primarily through farmers' mutual solidarity, with limited state assistance—the financial burden of supporting the agricultural sector has since been fully transferred to the state budget of Serbia, currently exceeding one billion euros annually.

While traditional banking systems have long been structured around centralized control over financial data and lending operations, such a model has increasingly been challenged by technological advancements and regulatory reforms. In this context, open banking represents a structural shift that reduces information asymmetry and redistributes control over financial data from banks to users. This transformation not only enhances competition but also enables the entry of new market participants, thereby fundamentally altering the functioning of banking operations.

### **3. THE DEBT CRISIS OF THE 1980s CAUSED BY UNFAVORABLE LOANS FROM THE INTERNATIONAL MONETARY FUND AND THE WORLD BANK**

A sharp increase in the issuance of U.S. dollars—accompanied by a declining level of gold backing—was, during the 1970s and 1980s, channeled through the International Monetary Fund and the World Bank into the provision of loans, thereby deliberately increasing the indebtedness of developing countries. Similar practices were pursued by member states of the Paris Club and by commercial banks associated with the London Club, which further exacerbated conditions by imposing increasingly unfavorable terms in loan repayment agreements. In the context of accelerated globalization, privatization, and deregulation during the 1980s, a debt crisis emerged across Sub-Saharan Africa, South Asia, and Latin America.

As debt levels rose rapidly, developing countries increasingly found themselves unable to meet their repayment obligations on time. This, in turn, led to a deterioration in their credit ratings and an increase in interest rates on new borrowing. Commercial banks gradually withdrew from lending activities, redirecting these countries toward Bretton Woods financial institutions. As a result, the total external debt of developing countries doubled between 1980 and 1988, rising from 659 billion to 1.32 trillion U.S. dollars.

This expansion of lending had initially been supported by an increased supply of capital under highly favorable conditions, including very low—and in some cases even negative—real interest rates. For countries in urgent need of liquidity, this created an opportunity to finance budget deficits through external borrowing.

However, the situation changed abruptly when the United States introduced stringent anti-inflationary measures. Interest rates rose sharply, the U.S. dollar appreciated significantly, and a global recessionary period began. Loan agreements increasingly incorporated inequitable provisions,

leading to a surge in interest rates—from approximately 12% in 1979 to as high as 16% by 1981. As a consequence of these developments, by 1984 debt servicing had reached a critical point at which loan repayments were effectively equivalent to the interest accrued.

Two principal factors contributed to the accumulation of unsustainable debt in developing countries: the strength of the U.S. dollar and elevated interest rates. The first country to declare insolvency was Mexico, which, in August 1982, informed its creditors that it had exhausted its foreign exchange reserves and was no longer able to service its external debt, which had reached approximately 80 billion U.S. dollars. Four years later, in 1986, Brazil also declared default, with an external debt exceeding that of Mexico. In total, approximately 40 countries across Latin America and other regions experienced similar crises.

In retrospect, the debt crisis of the 1980s proved to be even more destructive than the Great Depression of the 1930s, with far-reaching geopolitical implications. It is widely regarded as one of the most severe crises in modern economic history.

From the early 1990s onward—following the collapse of the Eastern Bloc, the dissolution of the Soviet Union, and the fall of the Berlin Wall—the policies of the International Monetary Fund and the World Bank became increasingly stringent and uncompromising. Western developed countries, led by the United States and the European Union, began to exert broader geopolitical influence, including involvement in regional conflicts, which did not bypass the former Yugoslavia. During this period, the country experienced disintegration, accompanied by significant human casualties and substantial economic losses.

At the same time, Francis Fukuyama published his influential work “The End of History and the Last Man”, in which he proclaimed the triumph of neoliberalism and Western liberal democracy over socialism and communism, which he considered unsustainable and inefficient. This perspective was challenged by Samuel P. Huntington, who argued that such a view was fundamentally flawed. In his book “The Clash of Civilizations” and the Remaking of World Order, he contended that global harmony and stability would remain unattainable as long as deep civilizational divisions persist. As an illustrative case, he analyzed the conflict in Bosnia and Herzegovina among Serbs, Bosnians, and Croats during the final decade of the twentieth century.

Huntington’s thesis appeared to gain empirical support in subsequent decades. In February 2022, a major conflict erupted between Ukraine and

Russia, followed several years later by escalating tensions involving the United States and Israel on one side, and Iran on the other.

Recent literature emphasizes that the legacy of debt crises and asymmetries in global financial governance continues to shape contemporary financial systems, reinforcing the need for reforms aimed at increasing transparency, competition, and resilience in financial markets (OECD, 2023). In this context, digital and regulatory innovations such as open banking are increasingly viewed as mechanisms for addressing structural inefficiencies in financial intermediation.

#### **4. INEFFICIENT REGULATION OF THE INTERNATIONAL CAPITAL MARKET AND PAYMENT SERVICESE**

The International Monetary Fund, the World Bank, and the World Trade Organization are often perceived as bureaucratic entities; however, they exercise substantial influence over regulatory frameworks governing capital markets. These institutions operate within an intergovernmental structure, frequently acting in alignment with powerful economic and financial interests. It is widely argued that leading actors from Wall Street, along with executives of major global financial conglomerates, play a significant role in shaping the policies of these institutions. In the period following World War II, the United States sustained a substantial portion of its economic growth through debt, extended to the government, foreign entities, and private households. By the end of 2025, total outstanding claims on U.S. credit amounted to approximately 39 trillion U.S. dollars, representing around 130% of its GDP (U.S. Treasury, Federal Reserve).

A comprehensive analysis of contemporary global capital dynamics is provided by the French economist Thomas Piketty in his seminal work “Capital in the Twenty-First Century” (Piketty, 2013). It is often noted that, prior to Piketty, only Karl Marx achieved comparable global impact with a study of capitalism that attained bestseller status. Piketty’s work examines the unrestrained accumulation of capital, the limitations of free markets, the distribution of wealth over three centuries, and the gradual erosion of the European social model.

Over a period of fifteen years, Piketty and his collaborators conducted an extensive empirical analysis based on tax data from more than twenty of the world’s most developed economies, covering a span of three centuries. Their findings suggest a return to levels of wealth inequality characteristic of the nineteenth century, reminiscent of the era depicted by Honoré de Balzac, when wealth was concentrated in the hands

of a small elite, predominantly composed of heirs rather than individuals who attained their status through labor. In this sense, Piketty’s work represents not only an economic study but also a broader political, social, and cultural history.

Piketty argues that it is sufficient to reinvest only a portion of capital income in order to maintain its growth in line with the overall economy. For instance, if the rate of return on capital is 5% annually, while economic growth stands at 1%, it is enough to reinvest one-fifth of capital income to sustain proportional growth, while the remaining four-fifths may be consumed. However, this dynamic necessitates the development of robust institutional mechanisms—social, educational, and fiscal—to prevent excessive capital concentration and the deepening of inequality, which is detrimental from social, political, and economic perspectives.

Greed, as Piketty emphasizes, can further exacerbate these dynamics, as unregulated financial markets enable individuals to obtain disproportionately high returns on capital. Nevertheless, the issue is more complex. It is illusory to assume that market forces and competition alone can resolve such structural imbalances. While markets are effective in many domains, they are inherently incapable of addressing the fundamental disparity between the rate of return on capital and the rate of economic growth. This disparity persists even under conditions of theoretically perfect markets, devoid of corruption, monopolistic power, or irrational behavior. The determinants of capital returns differ fundamentally from those governing economic growth, which is typically driven by productivity and population growth and tends to average between one and two percent annually over the long term, excluding periods of post-crisis recovery. The unusually high growth rates observed in the decades following World War II were historically exceptional rather than structurally sustainable.

Ichak Adizes, one of the leading authorities in management theory, addressed the causes of the global financial crisis in his two-part article “My View of the 2008 Crisis,” (Adizes, 2012), published in October 2008. Drawing on his consulting experience with major banks, he identified two principal causes: the proliferation of “junk” bonds and human greed. According to his observations, even banking professionals often lacked a clear understanding of the scale and complexity of financial market operations. He concluded that capitalism not only encourages but, to some extent, legitimizes greed, while simultaneously penalizing those who fail to conform to profit-maximizing behavior. For

example, a bank employee who refused to sell low-quality mortgage-backed securities could face dismissal due to reduced competitiveness (Adizes, 2012).

Adizes also draws parallels with the New Deal implemented under the influence of John Maynard Keynes during the Great Depression, emphasizing the necessity of strong and competent institutional frameworks in times of systemic crisis.

Additionally, Peter Frankopan, in his work “The New Silk Roads” (Frankopan, 2019), highlights that the adoption rates of modern financial technologies for payments, savings, investments, and lending are significantly higher and faster in India and China than in any other part of the world, including the United States.

This observation suggests that these countries have, in certain respects, surpassed not only global practices but also the regulatory frameworks of the European Union, which Serbia frequently uses as a model.

Finally, it should be noted that in September 2009, the United Nations General Assembly adopted conclusions emphasizing the urgent need for reform of the international monetary and financial system, which had, over previous decades, contributed to recurring global financial crises. The global financial crisis of 2008 was identified as an opportunity to strengthen the role of the United Nations in global economic governance and to prevent the recurrence of such crises, particularly in less developed countries, emerging markets, and among vulnerable populations worldwide.

Recent studies further emphasize that global financial systems remain characterized by regulatory fragmentation, concentration of market power, and insufficient transparency, particularly in cross-border capital flows.

According to the Bank for International Settlements (BIS, 2023), the increasing digitalization of financial services is reshaping traditional regulatory frameworks, highlighting the need for more integrated and adaptive governance mechanisms. In this context, innovations such as open banking and data-sharing frameworks are increasingly recognized as potential tools for improving competition, enhancing financial inclusion, and addressing structural inefficiencies in financial intermediation.

These developments suggest a gradual transition from traditional, institution-centered financial systems toward more open, data-driven, and platform-based financial ecosystems.

## **5. ESTABLISHMENT OF ASIAN DEVELOPMENT FINANCIAL INSTITUTIONS AS A COUNTERPART TO THE BRETTON WOODS INSTITUTIONS**

### **5.1. ASIAN INFRASTRUCTURE INVESTMENT BANK (AIIB)**

The five countries—Brazil, Russia, India, China, and the Republic of South Africa (BRICS)—have experienced accelerated economic growth and currently account for approximately 25% of global GDP, around 42% of the world’s population, and roughly 25% of global foreign direct investment. This development created a need for the establishment of a powerful development financial institution.

The Asian Infrastructure Investment Bank was established in 2016 by 57 founding members (37 regional and 20 non-regional), with its headquarters in Beijing. It is a well-known fact that China held approximately 4,000 billion U.S. dollars in foreign exchange reserves in 2014, which served as a key instrument for maintaining the stability of its domestic currency—the renminbi. In the same year, China initiated the proposal for the establishment of the AIIB.

The main reasons for the creation of the AIIB included the inadequate level of China’s influence within international financial institutions such as the International Monetary Fund and the World Bank, as well as its limited influence within the regional Asian Development Bank, which was considered disproportionate to its economic strength.

It should be noted that China’s GDP ranked second globally in 2025, according to estimates by Focus Economics. The United States ranked first ten states: with approximately 30.4 trillion USD, while China followed with approximately 19.6 trillion USD.

Against this backdrop, it became necessary to establish a new development bank that would reduce the monopoly of the World Bank and the IMF, institutions in which the United States has exerted significant political influence and through which it has pursued its economic interests by extending credit to developing countries. In this sense, the AIIB represents an alternative to the Bretton Woods institutions, which for more than 75 years have effectively maintained control over the international financial system, largely supported by the dominance of the U.S. dollar. Through its dominant influence as the largest shareholder, China’s renminbi is expected to achieve a higher degree of international convertibility, in line with its economic weight in the global economy. As of 1 August 2022, the

Chinese renminbi accounted for 12.28% of the IMF Special Drawing Rights (SDR) currency basket. However, this remains disproportionate to China's economic position. The U.S. dollar remains dominant at 43.38%, followed by the euro at 29.31%, the Japanese yen at 7.59%, and the British pound at 7.44%.

At the same time, China, as the largest holder of U.S. Treasury securities, has reduced significant capital inflows to the U.S. federal budget, creating challenges for the United States, which has become increasingly dependent on new buyers of its debt instruments. Russia had undertaken similar steps earlier, reducing its holdings of U.S. government bonds in favor of increasing gold reserves. Concurrently, China has redirected its surplus dollar holdings into investments through the AIIB, the BRICS Development Bank, and the "Belt and Road Initiative."

The authorized capital of the Bank amounts to 100 billion U.S. dollars, divided into one million shares with a nominal value of 100,000 U.S. dollars each, in accordance with the provisions of its Articles of Agreement.

Within the initial capital structure, China is the largest shareholder (29.78%), followed by India (8.37%) and Russia (6.54%). It is noteworthy that among the 103 member states (including 57 founding members and 21 prospective members), several major European economies are included, such as Germany, France, the United Kingdom, Switzerland, Italy, the Netherlands, and Spain. This expansion was not well received by the United States and Japan, which are not members of the Bank, as it represents a major competitor to the Bretton Woods institutions under U.S. influence. With the inclusion of major European economies, the AIIB has effectively attained the status of a global financial institution. Its members represent approximately 79% of the world's population and more than 65% of global GDP.

The Bank, its President, officers, and staff are prohibited from interfering in the political affairs of any member state, and their decisions shall not be influenced by the political character of such members. Only economic considerations shall be relevant in their decision-making processes. Such considerations shall be assessed impartially in order to achieve the purposes and functions of the Bank.

The Republic of Serbia became a member of the Bank in August 2019. This marked a significant diversification of funding sources for major infrastructure projects in Serbia, alongside European Bretton Woods institutions, under highly favorable conditions, reflecting strong cooperation between Serbia and China. Serbia is also part of

the "Belt and Road Initiative," including financing of the "Silk Road" corridor from Asia through the Middle East to Europe, which provides additional opportunities for strengthening cooperation between Serbia and Asia. In 2018 alone, Chinese foreign direct investment accounted for approximately 20% of total inflows, while Asian investment accounted for approximately 25%. These include investments in RTB Bor and the Smederevo steel plant.

Although institutions such as the Asian Infrastructure Investment Bank primarily focus on large-scale infrastructure financing, their emergence reflects broader transformations in global financial architecture. In recent years, these changes have increasingly been accompanied by the digitalization of financial services and the development of data-driven financial ecosystems. In this context, regulatory innovations such as open banking represent a complementary dimension of financial system transformation, aimed at enhancing transparency, competition, and efficiency in financial markets.

## **5.2. NEW DEVELOPMENT BANK OF BRICS (NDB)**

The idea of establishing the New Development Bank originated at the BRICS summit in New Delhi in 2012. At the 2014 summit in Brazil, the Agreement on the Establishment of the NDB was signed, with its headquarters located in Shanghai, China. In 2015, the first President of the Bank was appointed, and the institution formally commenced operations.

Both the Asian Infrastructure Investment Bank and the NDB are not attractive exclusively to BRICS member states, but also to other developing countries that have had negative experiences with structural adjustment and austerity programs imposed by the International Monetary Fund and the World Bank. During periods of financial crisis, such countries would not be solely dependent on these institutions, which has contributed to growing interest among a number of states in joining BRICS.

The initial subscribed capital of the Bank amounted to 50 billion U.S. dollars, divided into one million shares with a nominal value of 100,000 U.S. dollars each. The capital was initially equally distributed among founding members, with each member holding one vote and no member possessing veto power. In this respect, the NDB differs significantly from the IMF and the World Bank, where voting rights are weighted according to capital contributions, thereby granting greater influence to major shareholders. This structure enables BRICS to provide alternative sources of financing not only to its members but also to other

countries seeking sustainable growth and development.

The Contingent Reserve Arrangement (CRA) is a separate financial mechanism established by BRICS member states, with an initial fund of 100 billion U.S. dollars. In coordination with the NDB and the CRA—which became operational in 2016—conditions were created for the development of a functional multipolar financial system.

Public regional financial institutions are particularly suitable for long-term investments, such as renewable energy and environmental projects, which are typically less attractive to the private sector due to long capital repayment periods. In 2018, the NDB received an AA+ credit rating from S&P Global Ratings and Fitch Ratings, enabling it to offer a broad range of financial products to both public and private sector clients, which is essential for its operational effectiveness.

Unlike the AIIB, the establishment of the NDB was not opposed by the United States.

The Bank has signed cooperation agreements with numerous international financial institutions, including the World Bank, the AIIB, the China Development Bank, the Asian Development Bank, the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD), and various other regional development banks.

In 2023, an initiative was launched within BRICS to introduce a common settlement currency, aimed at reducing the dominance of the U.S. dollar in global financial markets. The conflict in Ukraine has further increased the strategic distance between BRICS countries and the West.

Notably, India, Brazil, South Africa, and China have not imposed sanctions on Russia. The Bank has also received international credit ratings of “AA+” from Fitch Ratings and S&P Global Ratings, which has enabled it to attract long-term financing in both international and domestic capital markets.

These institutions (AIIB and NDB) are not only attractive to BRICS countries but also to other developing economies that have experienced adverse effects from austerity and structural adjustment programs imposed by the IMF and the World Bank. In times of crisis, such countries would not be exclusively dependent on these global financial institutions—neither economically nor politically—particularly given high interest rates, which contributed to debt distress and defaults in the 1980s.

## **6. EUROPEAN UNION MEASURES FOR THE PROTECTION OF FINANCIAL SERVICES CONSUMERS**

### **6.1. DIRECTIVE ON UNFAIR TERMS IN CONSUMER CONTRACTS**

Given the increasing prevalence of high interest rates and unfavorable borrowing conditions applied by banks and other financial institutions, the European Union adopted in April 1993 the Directive on Unfair Terms in Consumer Contracts. The objective of the Directive was to ensure that each contractual party, when entering into a credit agreement, is fully aware in advance of the total amount of debt and the conditions under which it is to be repaid.

The Directive applies to all types of consumer contracts, including financial services. Contractual terms that have not been individually negotiated are considered unfair if, contrary to the requirement of good faith, they cause a significant imbalance in the rights and obligations of the parties to the detriment of the consumer.

A prominent example from recent practice concerns housing loan agreements that were disbursed in local currency but indexed to the Swiss franc at the time of repayment. When borrowers observed that their loan instalments had increased substantially—sometimes even more than threefold—during the repayment period in Serbia and several other countries, legal proceedings were initiated before the European Court of Justice on the basis of the aforementioned Directive. The lawsuits were filed by affected borrowers from Romania, but similar cases also arose in other countries, including Serbia.

The European Court of Justice ruled that certain contractual clauses were “unfair” due to insufficient information provided by banks to borrowers at the time of contract conclusion. The Court noted that funds were disbursed in domestic currency, while repayment was required in a foreign currency, thereby creating an imbalance in contractual obligations. This constituted a breach of the principle of contractual equilibrium, which was undermined by inadequate disclosure and asymmetry of information between banks and consumers.

In relation to the provisions of the EU Directive, as well as national civil codes in Serbia and Romania, it is generally established that the debtor is obliged to repay the borrowed amount in the same currency in which the loan was originally disbursed. In both Serbia and Romania, borrowers typically receive income in domestic currency, while loans were contracted in Swiss francs. As a result, foreign exchange risk was entirely

transferred to borrowers, creating an additional financial burden imposed through unilateral banking policies. This imbalance led to the classification of such contractual terms as unfair.

Member States of the European Union, including Serbia, were required to transpose Directive 93/13/EEC into their national legislation, although this obligation was not fully implemented in all cases.

In order to compensate for damages suffered by borrowers in Serbia, a special law (*lex specialis*) was adopted, providing compensation of approximately 100 million euros, while the remaining losses were partially covered by banks. This legislation implemented the decision of the European Court of Justice in accordance with Directive 93/13/EEC on unfair terms in consumer contracts. The law further provided for the conversion of the remaining debt into euros and regulated other aspects of loan repayment.

## **6.2. ESTABLISHMENT OF EUROPEAN SUPERVISORY AUTHORITIES FOR FINANCIAL SERVICES**

Several years after the conclusion of the global financial crisis of 2008, which originated in the United States and other developed Western economies, the European Union adopted a series of new regulations and established new institutions for the supervision of all providers of financial services. Given that citizens represent the largest consumers of gross domestic product in any economy, particular emphasis was placed on the protection of natural persons as users of financial services. At the same time, legal entities and financial institutions were also indirectly protected, with the broader objective of maintaining the overall stability of the financial system.

In the process of adopting extensive regulatory measures, priority was given to the establishment of key supervisory authorities, including:

- the European Banking Authority (EBA),
- the European Systemic Risk Board (ESRB),
- the European Securities and Markets Authority (ESMA),
- the European Insurance and Occupational Pensions Authority (EIOPA).

Each of these supervisory bodies was established through specific regulations or directives, and a separate association of financial services consumers was also formed.

Undoubtedly, the most significant supervisory authority is the banking supervisory body responsible for the oversight of credit institutions, established in 2011. Its mandate is to supervise the

entire banking sector across the European Union in order to ensure the effective functioning and stability of the market for all types of banking products. The headquarters of this institution is located in Paris, France.

The remaining supervisory agencies are responsible for the regulation and oversight of other financial service providers.

Although Serbia was obliged to fully incorporate the relevant European Union legislation on the protection of financial services consumers into its domestic legal framework, this process has not yet been fully completed. A specific Law on the Protection of Users of Financial Services has been adopted; however, the corresponding supervisory agencies envisaged by EU standards have not been established. The most significant provision of this law is the possibility for clients to request a moratorium on loan repayment under justified circumstances, such as during the COVID-19 pandemic.

## **6.3. INTRODUCTION OF THE EFFECTIVE INTEREST RATE IN THE EUROPEAN UNION**

In order to curb the tendency of banks to set interest rates on loans according to their own profit-maximizing preferences, the European Union adopted in October 2023 an amended Directive on Consumer Credit, introducing additional protection for users of financial services. The provisions of this Directive have been incorporated into national legislation, including the Law on Payment Services, with the aim of strengthening consumer protection in credit agreements and preventing the application of excessively high effective interest rates.

The effective interest rate (EIR) is defined as a discount rate that, on an annual basis, equalizes the present value of all cash inflows with the present value of all cash outflows arising from the use of financial services, insofar as these cash flows are known at the time the rate is calculated.

In calculating the EIR, the following assumptions are applied:

- that the contracting parties will fully comply with the agreement until its expiration;
- that each party will regularly fulfill its obligations within the agreed deadlines; and
- that the nominal interest rate and all associated costs will remain unchanged throughout the duration of the contract.

Commercial banks and financial leasing service providers are required to comply with regulations issued by the National Bank of Serbia (NBS)

concerning a standardized method for calculating the effective interest rate, in order to enable comparability of similar financial products offered by different providers. Accordingly, the NBS has issued a decision prescribing the conditions, methodology, and standardized forms for the calculation and disclosure of the EIR, which are provided to clients. This regulation has been applicable since 1 September 2025.

The EIR thus becomes comparable across different loan offers from various banks. For this reason, when applying for a loan, borrowers are advised to request information on the effective interest rate in order to select the bank offering the most favorable conditions. Prior to this, applicants must determine the desired loan amount and repayment period, after which comparable offers can be obtained from multiple banks.

In order to reduce the burden on housing loan borrowers, the NBS adopted at the end of 2024 a Decision on Temporary Measures, which limited and reduced interest rates on housing loans. These measures were subsequently incorporated into a new legal act on the protection of financial services users. However, the decision remained in force for a limited period and was repealed by a new NBS decision, effective 1 July 2025.

#### **6.4. ADOPTION OF THE EU DIRECTIVE ON THE INTRODUCTION OF OPEN BANKING**

Following the conclusion of European Union policymakers that competition in the financial services sector was insufficient, the EU adopted a set of regulations requiring banks to open access to their customer databases to third-party providers that meet prescribed regulatory conditions, with the aim of introducing open banking.

Open banking enables various firms to access data held by banks through the use of Application Programming Interfaces (APIs), which are standardized technological protocols allowing the automated transfer of data between banking software systems and the applications of third-party service providers.

In order to implement this innovation, the European Union adopted the Payment Services Directives PSD1 and PSD2. The underlying objective of this regulatory framework is to increase competition in financial services and reduce costs for consumers, particularly in areas such as credit interest rates and overdraft charges, which in some banks represent a significant share of total revenue. At the same time, it aims to improve the efficiency of financial resource allocation by enabling better utilization of funds

held in bank accounts, which often generate low or negligible returns for customers.

The legal framework for digital payments within the European Union is defined by several key regulatory instruments:

- the Payment Services Directive (PSD1) of 2007,
- its revised version PSD2 adopted in 2015,
- the Single Euro Payments Area Regulation (SEPA) of 2012, covering payments up to 50,000 euros ,
- the Cross-Border Payments Regulation (CBPR2) of 2019,
- the proposed Payment Services Regulation (PSR),
- and the forthcoming third Payment Services Directive (PSD3).

These new regulatory measures represent a response to the rapid growth of digital payments, increasingly complex forms of financial fraud, and identified shortcomings in the practical application of existing rules.

The proposed legislative package aims to reform the existing system in order to enhance consumer protection, improve the prevention of online fraud, eliminate hidden costs through greater transparency of fees, and harmonize rules for participants in the EU single market. A significant part of the new rules will be introduced through the Payment Services Regulation (PSR), which will be directly applicable in all Member States, thereby reducing divergences in national implementation.

PSD3 and PSR significantly strengthen fraud prevention mechanisms:

- Payment service providers (banks and other institutions) will bear expanded liability for compensating users in cases of fraud, provided that adequate preventive measures were not taken.
- Mandatory verification of the consistency between the recipient's name and IBAN is introduced prior to payment execution.
- In cases of so-called "spoofing" fraud (impersonation of banks or payment service providers), users are entitled to reimbursement under defined conditions.
- Users must be clearly and transparently informed in advance of all fees, including currency conversion costs and ATM withdrawal charges, regardless of the ATM operator.

Open banking is further enhanced (building on PSD2):

- Technical and legal barriers for open banking service providers are being removed.

- Users are granted greater control over who accesses their data and for what purposes, including enhanced consent management mechanisms.

More uniform application of rules across the EU is ensured:

- The PSR will be directly applicable in all Member States, ensuring greater legal certainty and regulatory consistency.

- PSD3 will remain a directive and will regulate licensing, supervision, and organizational requirements for payment institutions, including a clearer legal status for electronic money institutions.

Access to cash is also strengthened:

Retail establishments are enabled to provide cash withdrawal services without requiring a purchase, particularly in rural and remote areas.

As a result of these reforms, PSD3 and PSR will ultimately replace PSD2 after a transitional period. Existing service providers will be required to adapt their licenses, update internal policies, and align operational procedures with the new regulatory framework. Full implementation is expected by mid-2026 or, at the latest, by early 2027.

## **7. ADAPTATION OF SERBIAN LEGISLATION TO EU REGULATIONS ON OPEN BANKING**

In Serbia, payment services are regulated by the Law on Payment Services (Law on Payment Services, 2014), which was most recently amended in 2024 in order to achieve alignment with the EU Payment Services Directive PSD2. The amendments are scheduled to be applied as of 6 May 2025.

This legal framework introduces several key innovations, including:

- Open banking, which enables access to payment account data and the initiation of payments by third-party providers (open banking), through standardized Application Programming Interfaces (APIs);
- Two new categories of payment services, including Payment Initiation Services (PIS) and Account Information Services (AIS);
- Enhanced requirements regarding transparency, security, and the development of competition in the payment services market.

Despite these reforms, Serbia is still in the process of full practical implementation of PSD2-aligned rules within the financial market. At the same time, the European Union is in the process of replacing PSD2 with a new regulatory framework consisting of PSD3 and the Payment Services Regulation (PSR), which is expected to be fully implemented by the beginning of 2027.

## **CONCLUSION**

The analysis presented in this paper highlights the long-term structural challenges of the global financial system, particularly those related to interest rate formation, unequal access to capital, and the concentration of financial power within major international institutions. Historical developments, including the emergence of usurious lending practices, the debt crises of the 1980s, and the dominance of Bretton Woods institutions, demonstrate the persistent imbalance between lenders and borrowers, often to the detriment of developing economies.

The establishment of alternative financial institutions, such as those initiated by BRICS countries, reflects ongoing efforts to reshape the global financial architecture and reduce dependency on traditional sources of financing. At the same time, these developments point to a broader need for more efficient, transparent, and inclusive financial systems.

In this context, regulatory reforms in the European Union represent an important step toward strengthening consumer protection and enhancing market competition. In particular, the introduction of open banking through the Payment Services Directive (PSD2), and its further development through PSD3 and the Payment Services Regulation, marks a significant shift in the functioning of financial markets. By enabling secure data sharing and increasing the role of third-party providers, open banking contributes to greater transparency, improved efficiency, and the development of innovative financial services.

The alignment of Serbia's regulatory framework with European Union standards further confirms the relevance of these transformations and their broader applicability beyond the EU. Overall, the findings suggest that the future of banking lies in the transition from closed, institution-centered

models toward more open, data-driven, and competitive financial ecosystems, in which regulatory innovation plays a central role.

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