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# INTEGRATION OF THE FINANCIAL MARKET SECTORS: FACTORS, RISKS AND MANAGEMENT APPROACHES

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## ABSTRACT

*The article examines the problem of the integration of the financial market sectors. An important feature of modern economic dynamics is the tendency to integrate the monetary, credit, currency, stock, and insurance sectors and to form a unified national financial market. The integration of the financial market sectors is the result of financial globalization development, accompanied by an intensification of cash flows, active innovation, a growing need for efficient financial instruments, and a need for risk-hedging, along with an accelerating interaction of international and national financial systems. This fact determines the existence of demand in the economy for a variety of funding sources and financial instruments. As a result, the volume of operations in all sectors of the financial market is rapidly growing. Its role as a mechanism of accumulation and redistribution of financial resources is increasing. The emergence of financial products offered simultaneously in several segments of the financial market is becoming the global trend. Moreover, the processes occurring in the world financial market affect the Russian financial market, stipulating the main directions of its development. In this context, the objective of this study is to develop a conceptual model of integration of the financial market sectors. The effectiveness of this model requires maximizing the positive impact of financial system integration with the national economy while minimizing the negative consequences associated with systemic risk.*

**Key words:** World Financial Market, Credit Market, Insurance Market, Foreign Exchange Market, Stock Market, Integration of the Financial Market Sectors, National Financial System.

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## 1. INTRODUCTION

The financial market is the most complex element of a modern market economy. It largely reflects the development trends of the real sector, while at the same time, it has a strong influence on the real sector during the redistribution of financial resources and fluctuations in interest rates [1]. Basically, a financial market of any level (national, regional, international and the world) serves as a trading platform for various financial products and services – currencies, foreign exchange securities, international investments, foreign loans, international insurance products, as well as derivative financial instruments (derivatives).

The modern functioning stage of the world financial market is characterized by the presence of global imbalances in the international monetary and financial system, which together have become the main destabilizing factor for the further development of national financial markets. Today, there are three groups of systemic global imbalances in the current international monetary and financial system: 1) imbalance between the countries of savings and the countries of consumption (investment); 2) global imbalance of external financing; 3) the contradiction between the global nature of the financial market and its modern institutions and, mainly, the national level of its regulation [2]. The three blocks of contemporary global imbalances in the international monetary and financial system due to their interrelation and interdependence constitute a single set of problems that require global supranational monitoring, control and reform of the entire modern international monetary and financial system.

At the same time, the integration of the financial market sectors, resulting in the intensification and rationalization of the intersectoral distribution of monetary resources, allows achieving a synergistic effect in this critical area of the economy, as well as resolving the imbalances. However, the integration of the financial market sectors, inadequate to the existing macroeconomic conditions, leads to the emergence of a systemic risk of the market functioning.

## 2. METHODS

The financial market, formed in the modern economy, is a unified functioning mechanism of its monetary, credit, currency, stock, and insurance segments and is determined by the shared trading objects, the interdependence of market institutions, the interaction among the dynamics of price indexes, the authorities' regulation, and the unified patterns of supply and demand generation for financial assets [3]. The credit market provides the fund market with resources for underwriting and operations, while at the same time these two markets compete for investments. The foreign exchange market provides the stock market with payment instruments, while the stock market instruments allow for the movement of exchange rates. The insurance market provides insurance of currency risks. The insurance market serves as a “donor” to the credit market since it accumulates and allocates temporarily free funds in the banking system, while at the same time it ensures credit risks. The credit market “pumps” the currency market with liquidity; however, the exchange rate has significant impact on interest rates. The insurance market provides an asset securitization to the stock market, while the structured products are traded in the stock market. It

is worth noticing that the economic nature and intensity of interrelations is not universal for the whole world, varying from one financial system to another.

The basis for the economic and mathematical modeling of the financial market is the study of conditions for its qualitative growth, that is, an increase in the monetary volume of the financial market, which is predetermined by the growth of the real sector of economy, i.e., by creation of the value added [4].

The economic-mathematical model of the liquidity of a financial market with  $n$  sectors has the form:

$$\frac{dM}{dt} = \frac{dA_1}{dt} \dots + \frac{dA_n}{dt} \rightarrow \max \quad (1)$$
$$\left\{ \begin{array}{l} \frac{\partial A_n}{\partial t} > 0 \\ \frac{\partial A_n}{\partial t} \leq \frac{\partial M}{\partial t} \end{array} \right\}$$

where  $M$  is the volume of transactions in the financial market in general,

$n$  is the number of the financial market sectors,

$A_n$  is the volume of transactions in the  $n$ -th sector of the financial market,

$d$  is the first derivative,

$\partial$  is the second derivative.

The economic meaning of the economic-mathematical model optimization (1) is to consider the maximum volume of transactions per unit of time as an indicator of aggregate market liquidity. In its turn, it is determined by the amount of liquidity of its specific sectors.

The restrictions are:

1) the non-zero value of an increased rate of liquidity in one of the financial market sectors (which is formalized as the first time derivative ( $\partial A_n / \partial t > 0$ )). This implies a steady growth in each sector.

2) the total financial market liquidity excess of the growth rate over the rate of liquidity growth in its  $n$ -th sector ( $\partial A_n / \partial t \leq \partial M / \partial t$ ) (which is formalized in the form of the second derivative). This implies a steady growth of the financial market through transactions among the sectors during their integration [5].

The economic essence of the integration of financial market sectors is determined by the value of this process for macroeconomic stability. This process provides:

1. transformation of savings into a variety of financial assets;
2. improving the efficiency of distribution of the value added between the real and financial sectors;
3. risk minimization;
4. formation of a trend towards a single rate of return on financial assets;
5. speculative profit-making;
6. increased profitability of invested capital through the use of positive changes in the financial markets of specific countries.

Integration of the financial market sectors necessitates the development of a new approach to their classification [6].

### 3. RESULTS AND DISCUSSION

The key sectors of the financial market include monetary, credit, stock, currency, and insurance ones. In today's economy, these sectors develop interconnectedly. These sectors strongly interact with each other, which results in their integration into a single financial market. Therefore, there is an objective need to consider the basic prerequisites and consequences of such integration, to identify ways to minimize its negative effects.

The integration of the financial market sectors is influenced by the national and global *factors*. In general, the system of factors is shown in Table 1.

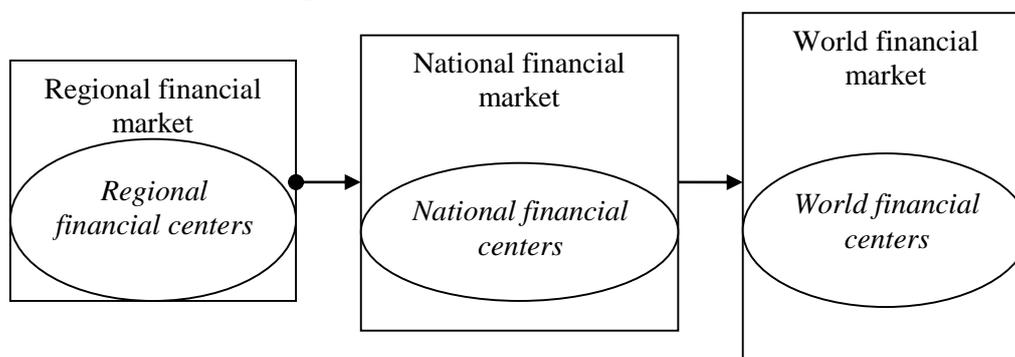
**Table 1.** National and global factors of the financial market sectors' integration

| National factors                                  | Global factors                                     |
|---|--|
| Financial risk hedging                            | Formation of international financial conglomerates |
| Diversification of investor activities            | Expansion of intermediaries                        |
| Expansion of investment sources                   | Use of financial innovations                       |
| Mega-regulator activity                           | Growth of international liquidity                  |
| Profitability alignment for different instruments | "Hot money" flow                                   |
| Increase in the number of financial instruments   | Financial methods to improve the competitiveness   |

These factors result in an increasingly clear trend in financial market development associated with the formation of a cascade network model of its functioning.

*The cascade network model of the financial market functioning* is a potential form of its organization, in which changes in the individual segments are synchronized. Financial centers play the most important role in this synchronization since they provide greater integration among all sectors of the financial market in a stronger manifestation of integration factors of the financial market sectors [7].

The cascading nature of the financial market functioning is because the liquidity flows are becoming more intensive from small regional to the largest national financial centers. This leads to increased integration among the financial market sectors. If a small regional financial center can be sufficiently closed due to objective reasons for development, due to which the relationship among certain market segments will be of great importance, then for a large national financial center, overcoming restrictions on the development of all market sectors is a condition for its rapid growth. In turn, the development of all financial market segments in the financial center determines the degree of integration among its branches. The cascade network model of the financial market is shown in Figure 1.



**Figure 1.** Cascade network model of the financial market

The allocation of a cascade network model of the financial market functioning allows revealing the relationship between the integration trend of its sectors, on the one hand, and the evolutionary development of financial markets, on the other hand. This results in dependence, where individual interdependencies among financial market sectors emerging at the national level accumulate with the increasing market capacity. This leads to the formation of an integrated development model, in which the integration of the financial market sectors is the main feature of the large financial systems' functioning.

The integration development of the financial market sectors results in *integration risks* [8]. The growing relationship among specific sectors enhances opportunities for diversifying the activities of the market participants through cross-sectoral operations. In the period preceding the global financial and economic crisis in 2008-2009, this circumstance led to the illusion of relatively extensive opportunities for minimizing financial risks. This triggered the widespread use of borrowed resources in operations with financial assets, which subsequently became a contributing factor to a further increase in the risks of financial markets' functioning. However, insufficient integration of the financial market sectors, albeit it reduces the possibility of conducting intersectoral operations, prevents optimization of operations profitability considering the risks and reduces the liquidity of financial instruments. Thus, it is necessary to distinguish the risks of a high degree of integration of the financial market sectors and the risks of the low degree of integration of the financial market sectors (Table 2).

**Table 2.** Risks of the financial market sectors integration

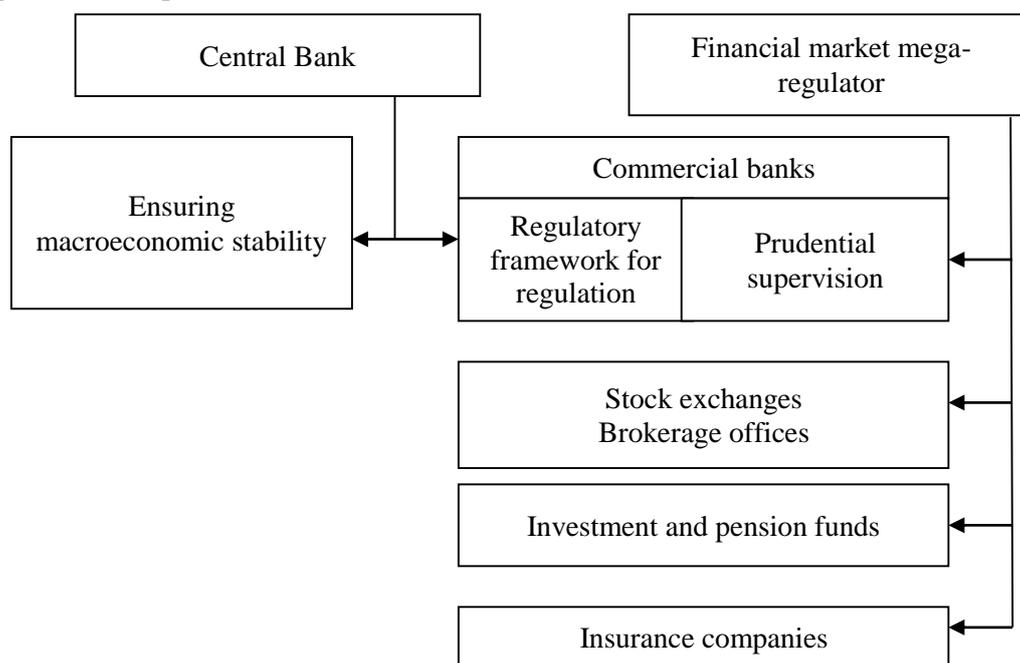
| Risks associated with excessive integration                           | Risks associated with lack of integration       |
|---|---|
| risk of cyclical fluctuation  | risk of a high speculative activity             |
| risk of a systemic crisis   | risk of manipulation                            |
| liquidity risk  | risk of low controllability of specific sectors |
| risk of excessive concentration of transactions with financial assets | risk of insufficient capital inflows            |
| risk of excessive volatility  | risk of information asymmetry                   |
| risk of changes in prices for underlying assets                       |   |

The listed factors and risks of integration of the financial market sectors, as well as the emerging cascade network model of the financial market, allow identifying several *approaches to financial market regulation*. According to the authors, these include the differentiated, mega-regulator and sector-product approaches.

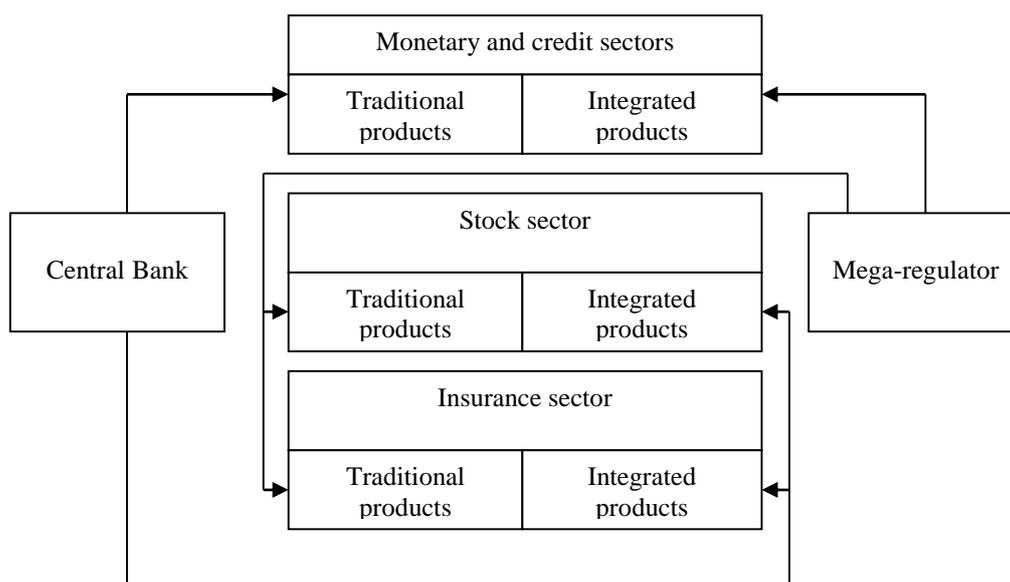
*The differentiated financial market regulation scheme* is based on the distinction among regulatory powers by sectors. It is based on the control of a specialized regulator for a particular market segment. In this case, the regulation of each segment is carried out by a specific regulator. This scheme is typical for financial systems with a low degree of integration of the financial market sectors, because they do not use integrated financial products, do not synchronize the activities of economic agents in different segments. In this case, the key regulatory authority is the central bank, which has direct impact on the money market and the inflationary trends in commodity markets [9].

*The mega-regulator approach* is based on the use of a single regulatory body of the financial market. The central bank retains the function of regulating the money market as a key segment of the financial system, while prudential supervision is transferred to the mega-regulator – a specialized state structure [10]. The creation of the mega-regulator promotes the formation of legal bases for operations with financial products arising from financial innovations, as well as the regulation of activities of financial groups and conglomerates. The mega-regulator's areas of

responsibility and the scope of authority include the following segments of the financial market: credit (prudential supervision of commercial banks), insurance, fund-investment ones (Figure 2).



**Figure 2.** Unified scheme of the financial market mega-regulator functioning



**Figure 3.** Financial market regulation based of the sector-product approach

*The sector-product approach* combines features of the differentiated and mega-regulative approaches. It implies that the central bank controls the traditional segment of the financial market and additionally, together with the mega-regulator, participates in regulation and supervision of transactions with integrated financial products, including components previously attributed to products of other sectors of the financial market (Figure 3). It is important to note that the use of sector-product approach does not necessarily imply the creation of a mega-regulator.

The sector-product approach basically involves a simultaneous integration of the financial market with the regulatory instruments while preserving the distinction among the regulators.

Control over specific sectors may be exercised by traditional regulators or by the central bank and the mega-regulator. An important two-pronged objective – to ensure the stability of financial institutions with simultaneous safety guarantees for the investment made by investors in this segment of the market – can be solved within the sector-product approach [11].

The sector-product approach is the most promising form of regulation in the context of a cascade network model formation for the functioning of the financial market [12]. This approach provides a systematic regulation, since it integrates the existing approaches. It allows the regulators not to follow the development of the market, but to anticipate the direction of its evolution.

#### 4. CONCLUSION

Thus, this article focuses on the features of the integration of the financial market sectors at the national and global levels in the framework of imbalances formed in the international monetary and financial system. The authors identify the factors of the national and global nature affecting the integration of the financial market sectors. The study allowed a conclusion on the formation of a modern cascade network model of the financial market functioning.

The cascading nature of the financial market functioning is determined by the fact that liquidity flows from small regional to the largest national financial centers are becoming more intensive. In all this, the most important role in such synchronization belongs to financial centers. The authors note that the cascading nature of the financial market is associated with an increase in the degree of integration of its sectors, while its network nature is predetermined by separate dependencies among the segments of the national and regional financial markets that form an integrated system of relationships.

The analysis has predetermined the approaches, which can be used for regulation of the financial market: differentiated, mega-regulatory and sector-based ones. The study provides a description for each of them, analyzes their effectiveness in the modern conditions.

The main conclusion of the study is that in the context of integration of the financial market sectors leading to the formation of a cascade network model for the functioning of the financial market, the sector-product approach provides the greatest potential. This approach involves adaptation of the financial market regulation to the increase in the degree of its sectors' integration. As part of its application, along with the integration of the financial market sectors, an integration of the regulatory instruments takes place while preserving the distinctions among the regulators. This approach ensures the systematic organization of regulation, allows regulators not to adhere to the market development, but to anticipate the course of its evolution.

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