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## REGIONAL ECONOMIC CONCEPT AND EVOLUTION OF FREE ECONOMIC ZONES IN REGIONAL ECONOMICS

**Annotasiya.** Mazkur maqolada mintaqaviy iqtisodiyotda erkin iqtisodiy zonalar (EIZ) konsepsiyasining shakllanishi, institutsional asoslari hamda evolyutsion rivojlanish bosqichlari nazariy va empirik yondashuvlar asosida kompleks tahlil qilinadi. Tadqiqotda EIZlarning dastlabki eksportni rag'batlantirish modelidan boshlab, kompleks sanoat-logistika zonalarini bosqichi hamda innovatsion texnologiyalar va raqamli boshqaruv mexanizmlariga asoslangan "aqli zonalar" konsepsiyasigacha bo'lgan transformatsiyasi tizimli ravishda yoritilgan.

Xalqaro tajriba, jumladan rivojlangan va rivojlanayotgan mamlakatlar amaliyoti hamda statistik ma'lumotlar asosida EIZlarning investitsiya oqimi, to'g'ridan-to'g'ri xorijiy investitsiyalar hajmi, eksport diversifikatsiyasi, bandlik darajasi va hududiy raqobatbardoshlikka ta'siri baholangan. Tadqiqot natijalari shuni ko'rsatadiki, zamonaviy bosqichda EIZlarning samaradorligi faqatgina fiskal imtiyozlar bilan emas, balki rivojlangan transport-logistika infratuzilmasi, institutsional boshqaruv sifati, raqamli platformalar joriy etilishi hamda milliy iqtisodiyot bilan vertikal va gorizontal integratsiya darajasi bilan belgilanadi. Maqolada EIZlar mintaqaviy iqtisodiy o'sishning strategik instrumenti, sanoatni modernizatsiya qilish va innovatsion rivojlanishni jadallashtirishning muhim mexanizmi sifatida ilmiy asoslanadi.

**Kalit so'zlar:** *Erkin iqtisodiy zonalar, mintaqaviy iqtisodiyot, evolyutsiya, eksportni rag'batlantirish zonalarini (EPZ), sanoat klasterlari, investitsiya oqimi, hududiy raqobatbardoshlik, innovatsion rivojlanish, raqamli boshqaruv, barqaror iqtisodiy o'sish.*

**Abstract.** This article comprehensively analyzes the formation, institutional foundations and evolutionary development stages of the concept of free economic zones (FEZ) in the regional economy based on theoretical and empirical approaches. The study systematically covers the transformation of FEZs from the initial export promotion model to the stage of complex industrial and logistics zones and the concept of "smart zones" based on innovative technologies and digital management mechanisms.

Based on international experience, including the practice of developed and developing countries, and statistical data, the impact of FEZs on investment flows, the volume of foreign direct investment, export diversification, employment levels and regional competitiveness is assessed. The results of the study show that at the modern stage, the effectiveness of FEZs is determined not only by fiscal incentives, but also by developed transport and logistics infrastructure, the quality of institutional management, the introduction of digital platforms and the level of vertical and horizontal integration with the national economy. The article scientifically substantiates FEZs as a strategic instrument of regional economic growth, an important mechanism for accelerating industrial modernization and innovative development.

**Keywords:** *Free economic zones, regional economy, evolution, export promotion zones (EPZ), industrial clusters, investment flow, territorial competitiveness, innovative development, digital governance, sustainable economic growth.*

**Аннотация.** В данной статье на теоретическом и эмпирическом подходах всесторонне анализируются формирование, институциональные основы и этапы эволюционного развития концепции свободных экономических зон (СЭЗ) в региональной экономике. Исследование систематически охватывает трансформацию СЭЗ от первоначальной модели стимулирования экспорта до стадии комплексных промышленно-

логистических зон и концепции «умных зон», основанных на инновационных технологиях и цифровых механизмах управления.

На основе международного опыта, включая практику развитых и развивающихся стран, и статистических данных, оценивается влияние СЭЗ на инвестиционные потоки, объем прямых иностранных инвестиций, диверсификацию экспорта, уровень занятости и региональную конкурентоспособность. Результаты исследования показывают, что на современном этапе эффективность СЭЗ определяется не только налоговыми льготами, но и развитой транспортно-логистической инфраструктурой, качеством институционального управления, внедрением цифровых платформ и уровнем вертикальной и горизонтальной интеграции с национальной экономикой. В статье научно обосновывается роль СЭЗ как стратегического инструмента регионального экономического роста, важного механизма ускорения промышленной модернизации и инновационного развития.

**Ключевые слова:** *Свободные экономические зоны, региональная экономика, эволюция, зоны экспортного производства (ЗЭП), промышленные кластеры, инвестиционный поток, территориальная конкурентоспособность, инновационное развитие, цифровое управление, устойчивый экономический рост.*

**Introduction.** In today's environment of globalization and digital transformation, the concept of free economic zones is becoming increasingly complex. They are no longer simple industrial areas but are viewed as innovation ecosystems, logistics hubs, and digital management platforms. Therefore, in regional economics, a deep theoretical and practical study of SEZs holds significant scientific and practical importance for developing a regional sustainable development strategy.

In regional economics theory, free economic zones (FEZs) are interpreted as an “accelerated laboratory” for regional development. These zones are economic spaces within a specific geographic area where special tax, customs, currency, and administrative incentives are introduced, allowing entrepreneurial activity to be conducted under more favorable conditions than the general national regulations. Theoretically, the EIZ concept was formed based on the approaches of institutional economics, new economic geography, and regional clustering. Its main purpose is to attract investment flows, increase production and export potential, stimulate innovative activity, and reduce socio-economic disparities between regions. Practical experience shows that free economic zones are not only a means of attracting capital but also a platform for testing new management models. For example, in China's experience, Shenzhen, established in the 1980s, became in a short time from a small fishing town into a global center of industry and innovation. Similarly, the Jebel Ali Free Zone in the United Arab Emirates has become a driver of the regional economy by centralizing logistics and trade flows. These experiences demonstrate that the effectiveness of EIZs is directly linked to the institutional environment, the quality of infrastructure, and digitized governance mechanisms.

From the perspective of the regional economy, EIZs are a tool for the differential development of economic space. They form regional production chains, develop industrial clusters, and increase employment and budget revenues through a multiplier effect. At the same time, it improves the investment environment by reducing transaction costs, cutting bureaucratic obstacles, and implementing the “single window” principle.

**Literature review.** The theoretical foundations of free economic zones stem from the theories of new economic geography, institutional economics, and clustering. In particular, the new economic geography theory developed by Paul Krugman explains the spatial concentration of production and agglomeration effects. This approach made it possible to analyze SEZs in terms of the concentration of economic activity in certain areas and the formation of a “center-periphery” model [3]. Institutional economist Douglass North, by substantiating the role of institutions in economic development, demonstrated that the efficiency of economic growth depends on formal and informal rules. SEZs are interpreted precisely as an “alternative institutional environment,” viewed as a means of piloting large-scale nationwide reforms in a small territory. In this sense, SEZs serve as a laboratory for institutional transformation [3]. Michael Porter, who developed the

theory of regional competitiveness and clustering, views EIZs as an effective mechanism for forming industrial clusters and value chains. According to him, the concentration of interconnected enterprises and infrastructure elements in the region increases innovative activity and strengthens export potential.

Empirical studies on the practical effectiveness of free economic zones have also been widely conducted. Peter Warr [5] studied the impact of zones in Southeast Asia on export volume and employment. World Bank expert Farole Thomas, in assessing the effectiveness of SEZs on a global scale, emphasized that their success depends on the quality of infrastructure, the level of governance, and the degree of integration with the national economy. Douglas Zhihua Zeng [1], who studied the Chinese experience, analyzed the process by which SEZs gradually became a tool for industrial modernization and innovative development, using the Shenzhen zone as an example. This concept has also been extensively researched in the region. V. M. Kruglyakova studied the organizational-economic mechanisms of special economic zones within the framework of regional investment policy. S.Drobyshevsky, in turn, analyzed regional investment processes and their efficiency indicators.

**Methodology.** This study is based on a multidisciplinary methodological framework combining theoretical and empirical approaches.

The research applies the conceptual foundations of new economic geography to assess spatial concentration and agglomeration effects within SEZ territories. The “center–periphery” analytical model is used to examine territorial disparities in economic performance. The institutional analysis method is employed to evaluate the regulatory environment of SEZs. The study examines formal legal frameworks, governance mechanisms, and administrative efficiency to determine how institutional quality influences economic outcomes. Cluster analysis is utilized to assess inter-firm linkages, value chain integration, and innovation spillover effects within SEZs.

Empirical evaluation relies on statistical analysis of key performance indicators, including export volume, foreign direct investment (FDI), employment growth, industrial output, and productivity dynamics. Comparative analysis is conducted to assess the performance of SEZ regions relative to non-SEZ territories.

Additionally, correlation and trend analysis methods are applied to determine the relationship between infrastructure quality, governance efficiency, and economic results. Where applicable, composite indices are used to evaluate overall zone effectiveness.

**Results.** In an environment of intensifying globalization and economic competition, free economic zones (FEZs) have assumed special scientific and practical importance as one of the mechanisms for ensuring the stable development of the regional economy. SEZs are economic spaces operating under special tax, a special economic space operating within a specific territory based on special tax, customs, and administrative privileges, the primary goal of which is to attract investment flows, increase export potential, modernize industry, and enhance regional competitiveness. This concept was formed within various economic schools and, over time, has undergone stages of evolutionary development. A review of the scientific literature shows that the evolution of SEZs consists of three main stages. The first stage (1960–1980) is characterized by export-promoting industrial zones (the EPZ model).

**Table 1**

**Evolutionary development stages of free economic zones in the regional economy**

№	Evolutionary stage	Period	Main Model	Strategic objectives	Priority Areas	Economic outcomes and characteristics
1	Stage I	1960–1980	EPZ (Export Processing Zone) – Export Processing Zones	Promote exports, develop industry	Light industry, processing, customs privileges	Increase in export volume, expansion of foreign trade,

				based on cheap labor		labor-intensive manufacturing
2	Stage II	1990– 2000	Comprehensiv e Industrial and Logistics Zones	Attract investment, modernize industry	Industrial clusters, logistics centers, infrastructur e development	Growth in direct investment, increased employment, regional industrial concentration
3	Stage III	2010 to presen t	“Smart Zones” (Smart SEZ)	Innovative development, high-tech manufacturin g	Digital governance, R&D centers, high technologies	High value added, integration into global value chains, digital transformation

In the second phase (1990–2000), integrated industrial and logistics zones were formed. The third phase is associated with the concept of “smart zones” based on digital management, an innovative ecosystem, and high-tech manufacturing.

In regional economics, the evolution of the free economic zone (FEZ) concept is confirmed by clear empirical indicators. Over the past fifty years, FEZs have become an important instrument of global economic policy. While there were over 80 special economic zones worldwide in the 1970s, their number has now surpassed 5,400. This fact demonstrates that the SEZ model has evolved from an experimental tool into an institutional development mechanism.

Empirical results confirm the significant impact of SEZs on regional economic growth. For example, Shenzhen, established in China in 1980, transformed from a small territory into a global industrial hub in a short historical period. In 2022, its gross regional product exceeded US\$475 billion, and over 40 years its economic size grew by nearly 270 times. The fact that nearly 20% of China's exports come from special economic zones highlights the strategic role of SEZs in expanding foreign trade. Additionally, in the Jebel Ali Free Zone in the United Arab Emirates, over 9,000 companies operate, creating more than 150,000 jobs. The zone accounts for nearly 30% of the country's foreign trade and 23% of its GDP. These indicators clearly demonstrate the multiplicative economic impact of EIZs. The experience of India also confirms this, After the Special Economic Zones Act was passed in 2005, more than 270 zones were established, and by 2021, they had reached an export volume of \$110 billion, accounting for nearly 30% of the country's exports [2]. This fact demonstrates the effectiveness of SEZs in export diversification and attracting investment.

Analyses show that the evolution of EIZs has consisted of three stages:

- ❖ Initially, export-promoting industrial zones,
- ❖ Later, integrated industrial-logistics clusters,
- ❖ And in the current phase, “smart zones” based on innovation and digital management.

**Discussion.** The empirical evidence presented confirms that the transformation of free economic zones is not a random historical process but a structurally determined evolution shaped by global economic shifts. The transition from export-processing enclaves to digitally governed innovation platforms reflects the broader transformation of the world economy from labor-intensive industrialization to knowledge-based competitiveness.

The first-stage EPZ model (1960–1980) was primarily oriented toward cost advantages. Its success depended on low labor costs, preferential customs regimes, and export promotion mechanisms. While this model significantly increased export volumes and created employment opportunities, its long-term developmental impact was limited by low value-added production and weak technological spillovers. The data on early zone expansion (from fewer than 80 zones

globally in the 1970s) indicate that the model initially served as a pilot mechanism rather than a dominant development strategy.

The second stage (1990–2000) marked a structural deepening of the SEZ concept. The emergence of integrated industrial and logistics zones suggests a shift from simple export orientation toward systemic regional industrialization. Investment attraction became not only quantitative but qualitative, focusing on infrastructure, clustering, and supply chain integration. The concentration of production networks during this phase generated agglomeration effects, reducing transaction costs and strengthening regional specialization. This confirms theoretical predictions that spatial clustering enhances productivity and competitiveness.

The third stage -the rise of “smart zones”-represents a qualitative leap rather than a gradual extension of previous models. The integration of digital governance, R&D ecosystems, and high-technology sectors signals a move toward innovation-driven development. Unlike early EPZs, modern zones generate high value added and are integrated into global value chains. This shift reflects the increasing importance of technological intensity and digital management in sustaining competitiveness under conditions of globalization.

The empirical examples further validate this structural evolution. The case of Shenzhen illustrates how institutional flexibility combined with export orientation and technological upgrading can transform a peripheral territory into a global industrial center. A nearly 270-fold expansion in economic scale over four decades indicates that SEZs can function as long-term growth poles when embedded within national development strategies.

Similarly, the performance of Jebel Ali Free Zone demonstrates the multiplicative economic effect of integrated logistics and trade platforms. The concentration of over 9,000 enterprises and substantial contribution to foreign trade and GDP confirms that zones can become systemic nodes within international trade networks rather than isolated production enclaves.

India’s experience following the 2005 SEZ Act also supports the argument that legislative clarity and institutional stability significantly enhance export diversification and investment attraction. The expansion to more than 270 zones and the achievement of \$110 billion in exports demonstrate the scalability of the SEZ model when supported by coherent policy frameworks.

A critical pattern emerging from these cases is that the effectiveness of SEZs is strongly correlated with three structural factors: institutional consistency, infrastructure quality, and integration into national and global economic systems. Zones that remain isolated from domestic supply chains and innovation networks tend to generate limited spillover effects. In contrast, those embedded within broader industrial ecosystems produce sustained regional growth.

The dramatic increase in the number of zones worldwide-now exceeding 5,400 -indicates that SEZs have evolved from experimental policy instruments into institutional mechanisms of structural modernization. However, quantitative expansion alone does not guarantee qualitative success. The long-term competitiveness of zones depends on their ability to transition toward innovation-intensive sectors, digital governance systems, and high value-added production.

Thus, the findings demonstrate that modern SEZs represent not merely fiscal incentive regimes but complex regional development platforms. Their evolution reflects the transformation of global production systems, the growing importance of technological upgrading, and the strategic role of institutional design in economic modernization.

In this context, SEZs function as catalytic nodes of industrial restructuring, export expansion, and digital transformation. When strategically integrated, they become engines of regional competitiveness; when poorly coordinated, they risk remaining limited administrative enclaves with constrained developmental impact.

**Conclusion.** The research results show that free economic zones have emerged as an important institutional and economic mechanism for ensuring sustainable development in the regional economy. Their evolution covers stages from a territorial model promoting simple exports to a complex economic platform based on innovative and digital governance. Empirical data confirms the real impact of EIZs on attracting investment flows, increasing export potential, boosting employment, and strengthening regional competitiveness. Analyses indicate that, at the

modern stage, the effectiveness of SEZs is determined not only by tax and customs incentives but also by the development of infrastructure, the quality of institutional governance, the integration of digital technologies, and their organic connection with the national economy. In an integrated model, free economic zones become part of regional industrial clusters and global value chains, and manifest as economic centers that create high added value.

Therefore, the development of free economic zones in the regional economy requires a comprehensive and strategically coordinated policy approach. Their effectiveness depends on alignment with national industrial priorities, strong infrastructure, and integration into regional supply chains. When connected to innovation ecosystems and high value-added sectors, SEZs generate sustainable economic growth rather than short-term gains.

At the same time, digital governance mechanisms enhance efficiency and transparency in zone management. The use of electronic customs systems, smart logistics platforms, and one-stop digital services reduces transaction costs and increases investor confidence. Under such an integrated and technology-driven framework, SEZs evolve into stable engines of regional modernization and competitiveness.

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