

ECONOSCITECH INTEGRATION

ISSUE
8

INTERNATIONAL SCIENTIFIC
ELECTRONIC JOURNAL



**TASHKENT STATE
UNIVERSITY OF ECONOMICS**



**American University
of Technology**

Powered by Arizona State University®

ISSN: 3060-5075



Acceptance of articles

PUBLISHED EVERY MONTHLY



ARTICLE CONTRIBUTORS

**PROFESSORS-TEACHERS, SPECIALISTS
AND SCIENTIFIC RESEARCHERS.**



Google
scholar

OpenAIRE

ISSN

INTERNATIONAL
STANDARD
SERIAL
NUMBER
DENMARK

CONTACT:



+998 94 3540880



<https://econoscitech-integration-journal.uz>



2026

**EDITOR-IN-CHIEF:**

Zufarova Nozima Gulamiddinovna
DSc., Dean of Tourism Faculty, TSUE

DEPUTY EDITOR-IN-CHIEF:

Makhmudov Nosir Makhmudovich
DSc., Prof., Academician

DEPUTY EDITOR-IN-CHIEF:

Suyunov Dilmurod Xolmurodovich
Doctor of Economics (DSc), Professor,

DEPUTY EDITOR-IN-CHIEF:

Allayarov Shamsiddin Amanullayevich
doctor of economics (DSC), professor

RESPONSIBLE SECRETARY:

Otaboyev Axmed Maxsudbek o'g'li
TSUE independent researcher

THE SCIENTIFIC-POPULAR
ELECTRONIC JOURNAL
"ECONOSCITECH-INTEGRATION"
HAS BEEN REGISTERED UNDER
THE NUMBER C-5669651 BY THE
AGENCY FOR INFORMATION AND
MASS COMMUNICATIONS (AOKA)
OF THE REPUBLIC OF UZBEKISTAN,
EFFECTIVE FROM OCTOBER 9, 2024.

In accordance with Resolution No. 384/6 dated April 10, 2026, issued by the Presidium of the Supreme Attestation Commission under the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan, this journal is included in the list of recommended international scientific publications for publishing the primary research findings of doctoral dissertations in the field of Economic Sciences.

Partners: Tashkent State University of Economics / American University of Technology in Tashkent (AUT)

Electronic publication. Issue 8. 374 pages.
Approved for publication in August 2026.

Editorial Board Members:

Sharipov Kongratbay Avezimbetovich,
Doctor of Technical Sciences (DSc), Professor



Teshabayev To'liqin Zakirovich,
Doctor of Economic Sciences (DSc), Professor



Said Irandoust,
Doctor of Chemical Engineering Sciences,
Professor



Abdurakhmanova Gulnora Kalandarovna,
Doctor of Economic Sciences (DSc), Professor



Khudoykulov Sadirdin Karimovich,
Doctor of Economics, (DSc), Professor



Tokunaga Masahiro,
professor, PhD of Economics of the Faculty of
Business and Commerce



Debasis Das,
professor Department of Computer Science



Nitin Goje,
professor and Program Lead - Computer Science



Nargizakhon Shamshieva
Doctor of Economic Sciences, Professor



Rakhmonov Norim Razzakovich,
Doctor of Economic Sciences (DSc), Professor

Bayxonov Bahodirjon Tursunbayevich
Doctor of Science (DSc), Professor



Shomurodov Ravshan Tursunkulovich,
PhD, Associate Professor



Boymuratov Abduraxmat Djumayevich
Doctor of Philosophy (PhD) in Economics



Sharopova Nafosat Radjabovna
DSc, Associate Professor



Sultanova Kamila Mukhtorali Kizi
Master of Science

CONTENTS

EMPIRICAL ASSESSMENT OF INTERNAL AND EXTERNAL FACTORS AFFECTING THE COMPETITIVENESS OF THE FOOD INDUSTRY IN UZBEKISTAN	10
Urolova Sevara Bekhzod qizi	
INTEGRAL MANAGEMENT MODELS FOR IMPROVING THE CIRCULAR ECONOMY SYSTEM IN AGRICULTURE	16
Nazirova Zulfina Salimovna	
IMPROVING THE FINANCING MECHANISM OF LOCALIZATION IN THE METRO INDUSTRY AND ITS SCENARIO-BASED ASSESSMENT	21
Mansurov Khamrokul Ilkhomovich	
THEORETICAL FOUNDATIONS OF TEACHING METHODS IN HIGHER EDUCATION INSTITUTIONS.....	28
Berdiyeva Nilufar Axatovna	
INTERNATIONAL EXPERIENCE IN ROAD SECTOR FINANCING AND ROAD ASSET MANAGEMENT: IMPLICATIONS FOR SUSTAINABLE INFRASTRUCTURE DEVELOPMENT IN UZBEKISTAN.....	34
Feruz Shokirov	
ECONOMIC OPPORTUNITIES FOR POVERTY REDUCTION THROUGH SERVICE SECTOR DEVELOPMENT.....	42
Saparov Murod Irgashovich	
DIGITAL-INTEGRATION MODEL OF GREEN LENDING: INSTITUTIONAL GROUNDING IN COMMERCIAL BANK PRACTICE	46
Melikuzieva Dilrabo Mukhitdinovna	
CURRENT STATE OF ECONOMIC COOPERATION IN THE NAMANGAN REGION: LESSONS FROM INTERNATIONAL EXPERIENCE.....	52
Sattarov Ravshan Alimovich	
MODERN LEVELS OF INNOVATIVE DIGITAL BANKING SERVICES IN COMMERCIAL BANKS.....	60
D. M. Kallibekov	
EFFECTIVENESS OF USING AUTOMATED MANAGEMENT SYSTEMS IN RESOURCE CAPACITY MANAGEMENT IN TEXTILE INDUSTRY ENTERPRISES.....	64
Makhammadieva Izhobat Abdiganieva	
TEXTILE INDUSTRY PRODUCTION CAPACITY GROWTH FORECAST	75
Joraqulov Javakhir Asomiddin's Son	
FORECASTING THE MECHANISM FOR ASSESSING INVESTMENTS ATTRACTED TO SMALL BUSINESS ENTITIES IN THE ANDIJAN REGION THROUGH 2030	80
Jo'rayeva Moxinur Axmadjon qizi	
IMPROVEMENT OF PERSONAL MANAGEMENT IN TEXTILE INDUSTRY ENTERPRISES BASED ON CHOICE OF ORGANIZATION MODELS.....	88
Djumaniyazova Jamila Davronovna	
THE ROLE OF THE INTERNAL CONTROL SYSTEM IN RISK MANAGEMENT OF SMALL BUSINESS ENTERPRISES.....	93
Umarov Azizjon	

SPATIAL ECONOMETRIC MODELING IN THE MASS APPRAISAL OF REAL ESTATE: A GEOGRAPHICALLY WEIGHTED REGRESSION APPROACH (THE CASE OF TERMEZ CITY)	102
Khushvaktov Jasur Shukhrat ugli	
НАПРАВЛЕНИЯ РАЗВИТИЯ РЫНКА ЭЛЕКТРОТЕХНИЧЕСКОГО ОБОРУДОВАНИЯ В УЗБЕКИСТАНЕ	110
Джураев Муротжон Сотиволдиевич	
SCIENTIFIC AND PRACTICAL FOUNDATIONS FOR ASSESSING AND IMPROVING THE EFFECTIVENESS OF INTERNAL AUDIT IN COMMERCIAL BANKS	120
Yuldashev Xurshidbek Mamirjonovich	
ECONOMIC EFFICIENCY OF IMPLEMENTING ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN BEEKEEPING AND FORECAST INDICATORS FOR 2026–2030	130
Farmanov Jonibek Ziyadullaevich	
ENSURING SUSTAINABLE ECONOMIC DEVELOPMENT THROUGH THE DIVERSIFICATION OF THE SECTORAL STRUCTURE OF FIXED CAPITAL INVESTMENTS IN A REGION (THE CASE OF KHOREZM REGION)	137
Sultanova Aziza Bahtiyor qizi	
PROSPECTS FOR THE DEVELOPMENT OF ENTREPRENEURIAL ENTITIES PRODUCING FOOD PRODUCTS IN TASHKENT REGION	146
Abdulxamidova Nodira Abdura	
DYNAMIC PERFORMANCE OPTIMIZATION AND WEAR REDUCTION OF THE CAM SYSTEM IN CARDAN COUPLINGS FOR METRO ROLLING STOCK TRACTION DRIVES	153
Asamitdin Fayzullaev	
Ziyevutdin Fayzullaev	
RECOGNISED BUT NOT MEASURED: THE SUSTAINABLE DEVELOPMENT GOALS AND THE PERFORMANCE FRAMEWORK OF UZBEKISTAN'S STRATEGY-2030 (PRESIDENTIAL DECREE UP-21 OF 2026)	160
Salakhutdinova Yulduz Golibovna	
ANALYSIS OF PRODUCTION EFFICIENCY IN CONSTRUCTION MATERIALS MANUFACTURING ENTERPRISES: EVIDENCE FROM ANDIJAN REGION	168
Toshpulatov Asronbek Mutalibovich	
THE IMPACT OF FREE TRADE AGREEMENTS ON UZBEKISTAN'S TEXTILE INDUSTRY: A PANEL DATA ANALYSIS, 2017–2023	176
Jurabek Toshbekov	
Navik Istikomah	
A.B. Bobojonov	
HUMAN-AI SYNERGY IN STRATEGIC DECISIONMAKING OF ENTERPRISES IN UZBEKISTAN	182
Abdullaeva Odinakhon	
ANALYSIS OF THE CURRENT STATE OF ENTREPRENEURIAL ACTIVITY IN UZBEKISTAN'S TOURISM SECTOR	186
Yuldashev Bekzodjon Sherzodjon ugli	
A COMPREHENSIVE SYSTEM OF CRITERIA FOR ASSESSING THE FACTORS AFFECTING THE EFFECTIVENESS OF INTERNAL AUDIT IN PRIVATE HIGHER EDUCATION INSTITUTIONS	190
Turmanqulov Norpo'lat Sa'dullayevich	
DESIGNING A THREE-LEVEL KPI FRAMEWORK FOR RANKING-ORIENTED UNIVERSITY GOVERNANCE: INTEGRATING DIGITAL MONITORING AND RESOURCE OPTIMIZATION	197
Mukhlisa Mamajonova	
ВЛИЯНИЕ IFRS 18 НА ПРЕДСТАВЛЕНИЕ КОНСОЛИДИРОВАННОЙ ФИНАНСОВОЙ ОТЧЁТНОСТИ: СРАВНИТЕЛЬНЫЙ АНАЛИЗ С IAS 1	208
Шамсиева Нозима Шермат кизи	

INNOVATIVE MECHANISMS FOR IMPROVING THE ENVIRONMENTAL MANAGEMENT SYSTEM AT ENTERPRISES.....	218
Uralova Sojida Anvar qizi	
IMPROVEMENT OF ECONOMIC MECHANISMS IN THE ORGANIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY SERVICES.....	225
Rajaboyev Shahboz Shodi o'g'li	
IMPROVEMENT OF INTERNAL CONTROL ASSESSMENT QUESTIONNAIRE IN COMMUNICATION ENTERPRISES INVENTORY AUDIT BASED ON HAS 240 AND HAS 315 REQUIREMENTS.....	233
Jamilov Jushqin Jonon ugli	
IMPROVING DIGITAL TRANSFORMATION MECHANISMS IN THE STRATEGIC MANAGEMENT OF MODERN PAYMENT SYSTEMS.....	239
Iskandarov Xurshid Iskandarovich	
INNOVATIVE DETERMINANTS OF POVERTY: AN ECONOMETRIC ANALYSIS BASED ON REGIONAL PANEL DATA	246
Amrullayev Dadaxon	
ECONOMIC MECHANISMS FOR STIMULATING ENTERPRISES' DEMAND FOR TECHNOLOGY UNDER INDUSTRY 4.0 CONDITIONS.....	251
Erkayev Akrom Normukhammadovich	
IMPROVING THE ORGANIZATIONAL AND ECONOMIC MECHANISM OF FAMILY BUSINESS MANAGEMENT THROUGH INNOVATIVE APPROACHES: THE CASE OF ANDIJAN REGION.....	258
Sultonov Bobirmirzo Mavlonjon o'g'li	
THE EFFICIENCY OF MARKETING COMMUNICATIONS IN LIGHT INDUSTRY ENTERPRISES IN 2023–2025: EVIDENCE FROM THE TEXTILE SECTOR OF THE BUKHARA REGION.....	266
Mukhsinov Bekzod Tokhirovich	
ENSURING TRANSPARENCY IN FOREIGN TRADE: ADVANTAGES OF PUBLICLY DISCLOSING THE PRICES OF FOREIGN TRADE-RELATED SERVICES IN THE “SINGLE WINDOW” CUSTOMS INFORMATION SYSTEM.....	279
Muzafarov Azimjon Ashraf ugli	
THE SELF-EMPLOYMENT SYSTEM IN UZBEKISTAN AND ITS ROLE IN POVERTY REDUCTION	282
Zakirov Mir Timur Zokir ugli	
PERFORMANCE IMPROVEMENT MECHANISMS FOR ACADEMIC STAFF IN HIGHER EDUCATION.....	289
Sultonboyeva Munira Bahodirovna	
Sultanova Kamila Mukhtorali kizi	
ECONOMETRIC ASSESSMENT OF THE SOCIO-ECONOMIC DETERMINANTS OF GROSS REGIONAL PRODUCT PER CAPITA IN UZBEKISTAN	298
Fayziyeva Nargiza Rabimovna	
IMPROVING THE METHODOLOGY OF FINANCIAL ANALYSIS BASED ON THE INDICATORS OF THE STATEMENT OF FINANCIAL POSITION OF BUSINESS ENTITIES	305
Berdieva Marjona Shavkat kizi	
BUDGETING IN SANATORIUM AND HEALTH RESORT ORGANIZATIONS: FINANCIAL PLANNING AND COST MANAGEMENT	312
Tilabov Shohrukh Bahriddin o'g'li	
PRINCIPLES AND ORGANIZATIONAL AND ECONOMIC MECHANISMS FOR THE DEVELOPMENT OF GREEN SERVICES IN UZBEKISTAN	318
Y.M.Khalikov	
ANALYSIS OF SECTOR EFFICIENCY BASED ON THE DEVELOPMENT OF VEGETABLE CROP SEED PRODUCTION	325
Faxriddinov Abdulhakim Ziyaiddinovich	

USING THE OPPORTUNITIES OF THE PLATFORM ECONOMY TO DEVELOP THE ACTIVITIES OF SMALL BUSINESS ENTITIES ON DIGITAL PLATFORMS.....	332
Tursunxoʻjayeva Gulnoza Jamoliddin qizi	
METHODOLOGICAL APPROACHES TO IMPROVING THE EFFICIENCY OF DIGITAL SERVICES FOR BUSINESS ENTITIES.....	340
Yusupova Dilbar Mirabidovna	
DIGITALIZATION IN THE RETAIL BANKING SYSTEM: CUSTOMER ENGAGEMENT AND THE LEVEL OF FINANCIAL PRODUCT USAGE IN THE ASIAN REGION.....	345
Maxsadaliyeva Maftuna Toxir qizi	
DEVELOPMENT TRENDS AND ECONOMIC CHARACTERISTICS OF THE MEDICAL SERVICES MARKET.....	350
Urokov Firdavs Ortikniyoz ugli	
THE U.S. PRIVATE EQUITY MARKET MODEL: KEY DRIVERS AND IMPLICATIONS FOR UZBEKISTAN.....	356
Fayziyev Umurqul Shuxratovich	
Tulaganova Rukhshona Farrukh qizi	
CONCEPTUAL FRAMEWORK FOR IMPROVING ACCOUNTING SYSTEMS IN NON-STATE HIGHER EDUCATION INSTITUTIONS.....	366
Kholikova Durdona Bunyodjon kizi	
ANALYSIS OF TAX REVENUE LOSSES DUE TO THE SHADOW ECONOMY: THE CASE OF UZBEKISTAN AND FOREIGN COUNTRIES.....	375
Abdullayev Shavkat Nasriddinovich	
DIRECTIONS FOR IMPROVING THE INTERNAL CONTROL AND AUDIT SYSTEM IN AN ENTERPRISE.....	381
Karamatova Noiba Husnitdinovna	
MATHEMATICAL MODELLING OF DATA ANALYSIS IN COMBATING THE SHADOW ECONOMY.....	389
Bobojonov Azimjon Akmal ugli	
THE ECONOMIC ESSENCE, CONTENT, AND CLASSIFICATION OF RETAIL TRADE AND MARKETING STRATEGIES.....	395
Ahmedov Shohjahon	
METHODOLOGICAL APPROACHES TO THE ECONOMIC ASSESSMENT AND FORECASTING OF REGIONAL DEVELOPMENT.....	400
Yormonqulova Nargiza	

METHODOLOGICAL APPROACHES TO THE ECONOMIC ASSESSMENT AND FORECASTING OF REGIONAL DEVELOPMENT

Yormonqulova Nargiza
Tashkent State University of Economics

Abstract. This article examines methodological approaches to the economic assessment and forecasting of regional development and analyzes their potential application to the regions of Uzbekistan. In the course of the study, a comprehensive system of indicators was developed to assess the level of regional economic development. This system includes key socio-economic indicators such as gross regional product, industrial production, investment in fixed capital, household income, employment levels, and foreign trade indicators. The study employs statistical and comparative analysis, economic-mathematical modeling, and forecasting methods. The socio-economic development indicators of Uzbekistan's regions were analyzed, revealing notable differences in their levels of economic development. In addition, econometric forecasting methods were applied to assess the dynamics of regional economic development and identify future growth trends. The results indicate considerable variation in the level of economic development across the country's regions, highlighting the importance of further improving regional economic policy. Based on the findings, scientific recommendations were developed to enhance the system of regional economic development management and forecasting.

Keywords: regional development, economic assessment, regional economy, forecasting, economic indicators, gross regional product, investment, economic modeling, regional disparities, regions of Uzbekistan.

Аннотация. В данной статье рассматриваются методологические подходы к экономической оценке и прогнозированию регионального развития, а также анализируются возможности их применения на примере регионов Узбекистана. В ходе исследования была разработана комплексная система показателей для оценки уровня регионального экономического развития. Данная система включает ключевые социально-экономические показатели, такие как валовой региональный продукт, промышленное производство, инвестиции в основной капитал, доходы населения, уровень занятости и показатели внешней торговли. В исследовании применяются методы статистического и сравнительного анализа, экономико-математического моделирования и прогнозирования. Проанализированы показатели социально-экономического развития регионов Узбекистана, на основе которых определены различия в уровнях их экономического развития. Кроме того, для оценки динамики регионального экономического развития и определения перспективных тенденций роста применены эконометрические методы прогнозирования. Результаты исследования свидетельствуют о наличии различий в уровнях экономического развития регионов страны, что подчёркивает важность дальнейшего совершенствования региональной экономической политики. На основе полученных результатов разработаны научные рекомендации по совершенствованию системы управления и прогнозирования регионального экономического развития.

Ключевые слова: региональное развитие, экономическая оценка, региональная экономика, прогнозирование, экономические показатели, валовой региональный продукт, инвестиции, экономическое моделирование, региональные различия, регионы Узбекистана.

INTRODUCTION

In the context of globalization, achieving sustainable economic development increasingly depends on balanced regional development. Regions differ considerably in terms of economic potential, natural resources, demographic characteristics, and the level of infrastructure development. Therefore, the scientific assessment of regional development and the forecasting of its future trends have become important areas of contemporary economic research.

The assessment of regional economic development plays a significant role in shaping national economic policy, reducing regional disparities, and ensuring the efficient use of available resources. Particularly in developing countries, narrowing socio-economic differences among regions is regarded as one of the important conditions for achieving sustainable economic growth.

In recent years, the Republic of Uzbekistan has implemented a number of reforms aimed at accelerating regional development, increasing economic activity, and promoting more balanced socio-economic growth across regions. At the same time, the application of modern methodological approaches to the assessment and forecasting of regional socio-economic development remains an important area for further scientific research.

The main objective of this study is to examine methodological approaches to the economic assessment and forecasting of regional development and to analyze their application using the regions of Uzbekistan as an example. In this context, a system of indicators for evaluating regional development was developed, and the main trends in the socio-economic development of the regions were analyzed.

LITERATURE REVIEW

The assessment and forecasting of regional development have become important areas of research in contemporary economic science. Numerous studies have examined the theoretical, methodological, and applied aspects of regional economic development.

The theoretical foundations of regional economic analysis were developed by Walter Isard, one of the founders of regional science. His research emphasized the importance of spatial analysis, economic modeling, and the distribution of economic activity across regions.

The theory of new economic geography proposed by Paul Krugman made a significant contribution to explaining regional economic disparities. According to this theory, the spatial concentration of economic activity is influenced by factors such as transportation costs, market size, and economies of scale.

Another important contribution was made by Michael Porter through the development of cluster theory. According to this concept, the formation of industrial clusters within regions can contribute to higher productivity, stronger innovation activity, and enhanced regional competitiveness.

Recent studies increasingly apply comprehensive indicator systems to assess regional socio-economic development. Such methodologies typically include indicators related to income, labor markets, business activity, environmental conditions, social development, and financial performance.

Modern research also emphasizes the importance of econometric models and scenario analysis in forecasting regional development. These approaches include regression analysis, index methods, integral indicators, and scenario-based forecasting, including optimistic, baseline, and pessimistic scenarios.

In addition, economic modeling and simulation tools are widely used to assess regional development potential and support strategic planning at the regional level.

Walter Isard is widely recognized as one of the founders of regional science, a field that examines the spatial dimensions of economic activity. His work emphasized that economic processes such as production, trade, migration, and infrastructure development should be analyzed within a spatial and regional context.

In his influential works *Location and Space Economy* (1956) and *Methods of Regional Analysis* (1960), Isard introduced systematic analytical tools for studying regional economic systems. These studies integrated spatial analysis, economic modeling, and industrial location theory.

Isard proposed several key ideas:

- economic activity is unevenly distributed across regions;
- transportation costs significantly influence the location of industries;
- regional economic development depends on intersectoral linkages.

To analyze these relationships, Isard applied input-output models, which describe interactions among different sectors of the economy.

His methodological framework includes (Figure 1):

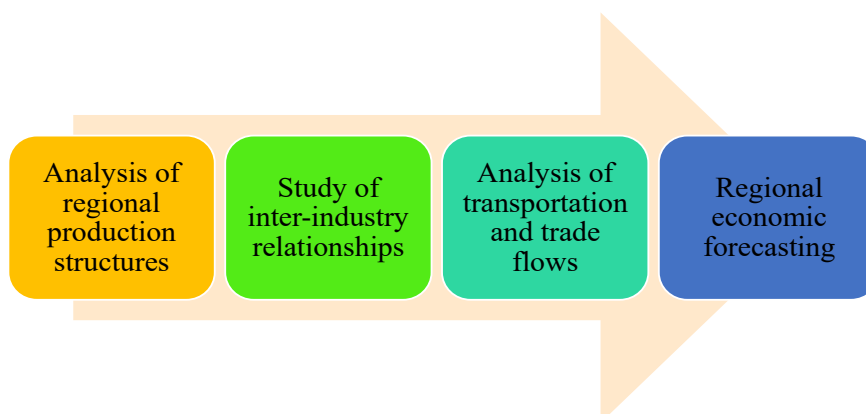


Figure 1. Methodological Framework for the Economic Assessment and Forecasting of Regional Development¹

¹ Author's development based on the literature review

Paul Krugman developed the New Economic Geography theory, which explains why economic activities tend to concentrate in particular geographic locations.

According to Krugman:

- firms and industries tend to cluster in specific regions;
- lower transportation costs can encourage economic concentration;
- economies of scale contribute to the formation of major economic centers.

This theory explains the emergence of core–periphery structures within regional economies. Core regions become centers of production, innovation, investment, and market activity, while peripheral regions tend to develop at a different pace. Krugman's approach is widely used to analyze regional disparities, spatial concentration, and patterns of regional economic development.

Michael Porter introduced cluster theory, which argues that economic development is often supported by geographically concentrated groups of interconnected firms, suppliers, service providers, institutions, and related organizations.

Clusters typically include (Figure 2):

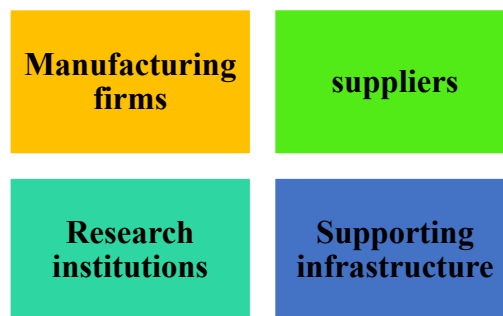


Figure 2. Key Components of an Economic Cluster According to Porter's Theory²

The advantages of clusters include:

- faster innovation processes;
- stronger knowledge exchange;
- higher competitiveness;
- accelerated regional economic growth.

Cluster theory is widely applied in regional development strategies and industrial policy, as it provides a framework for understanding how geographically concentrated networks of firms and institutions can strengthen productivity, innovation, and regional competitiveness.

Roberto Camagni introduced the concept of territorial capital, which refers to the combination of economic, social, institutional, and cultural resources available within a region. According to Camagni, regional development depends on several interrelated factors, including:

- economic capital;
- human capital;
- social capital;
- innovation capacity;
- institutional environment.

This approach emphasizes that regional competitiveness is determined not only by traditional economic factors but also by knowledge, networks, institutional quality, and effective governance.

Harry Richardson made an important contribution to regional economic analysis through the development and application of forecasting models and econometric methods. His research emphasized the significance of:

- investment flows;
- employment levels;
- regional production output.

Richardson applied econometric modeling and statistical analysis to forecast regional economic growth and examine differences in economic development across regions.

² Author's development based on the literature review

RESEARCH METHODOLOGY

This study employs several complementary research methods to assess and forecast regional economic development. The methodological framework is based on a systematic approach, statistical analysis, comparative analysis, and economic-mathematical modeling.

In the process of assessing regional development, the main socio-economic indicators of the regions of Uzbekistan were analyzed. These indicators include gross regional product, industrial output, investment in fixed capital, household income, employment levels, and foreign trade indicators. The selected indicators provide a comprehensive basis for evaluating the level and dynamics of regional economic development.

Statistical and comparative methods were used to examine changes in regional development indicators over time and to identify differences among regions. In addition, economic-mathematical modeling methods were applied to determine the relationships among key regional economic indicators and to support the forecasting of future development trends.

ANALYSIS AND RESULTS

The economic assessment of regional development plays an important role in contemporary economic research and policy formulation. Identifying differences in development levels across regions enables policymakers to design more effective development strategies, allocate resources efficiently, and promote balanced territorial development. In many empirical studies, regional development is assessed using macroeconomic indicators such as gross regional product (GRP), investment volume, employment levels, per capita income, and innovation activity.

Gross Regional Product is widely regarded as one of the key indicators for evaluating regional economic performance. It reflects the overall economic output of a particular region and enables researchers to compare the economic potential of different territories. However, reliance on GRP alone does not provide a comprehensive picture of regional development. Therefore, modern research increasingly emphasizes the use of multidimensional assessment systems that incorporate economic, social, infrastructural, and investment-related indicators.

Regional development analysis generally involves grouping indicators into several categories. The first group includes economic indicators that reflect production capacity and economic growth dynamics. These indicators include GRP growth rates, industrial output, and capital investment. The second group consists of social indicators such as employment levels, household income, poverty rates, and living standards. The third group includes infrastructure and investment indicators that reflect the degree of economic modernization, investment activity, and technological development within a region.

The integration of these indicators enables a more comprehensive assessment of regional development and helps identify areas that require additional attention in regional economic policy.

In regional economic studies, development indicators are typically classified into several main groups, each reflecting a specific dimension of regional socio-economic performance (Table 1).

Table 1
Classification of Key Regional Socio-economic Development Indicators³

Indicator Group	Key Indicators	Description
Economic indicators	GRP, industrial production, investment	reflect economic productivity and growth
Social indicators	employment, income level, poverty rate	measure living standards and social stability
Demographic indicators	population growth, migration	reflect demographic potential
Innovation indicators	R&D expenditure, technological innovation	measure modernization and competitiveness

Studies show that regional development is influenced not only by economic growth but also by social and institutional factors. For example, regions with strong human capital, well-developed infrastructure, and effective institutions tend to demonstrate higher levels of economic growth and competitiveness.

Investment activity is another important determinant of regional economic development. Regions that attract higher levels of domestic and foreign investment typically experience faster economic growth due to increased production capacity, technological modernization, and the expansion of business activity. By contrast, regions

³ Author's development based on the literature review

with relatively lower investment inflows may demonstrate more moderate growth rates and fewer opportunities for employment expansion.

Innovation activity also plays an important role in regional economic growth. Regions with strong research institutions, technological clusters, and higher levels of innovation expenditure generally achieve greater productivity and stronger economic performance.

One of the central issues in regional economics is the existence of differences in economic development across regions. In many countries, regional development varies because of differences in natural resource endowments, industrial specialization, infrastructure development, human capital, and investment flows.

Researchers often classify regions into three main groups according to their level of development (Table 2):

Table 2
Classification of Regions by Level of Economic Development⁴

Region Type	Characteristics
Developed regions	high GRP, diversified economy, developed infrastructure
Moderately developed regions	average economic growth and industrial activity
Less developed regions	low economic output, weak infrastructure

Developed regions usually benefit from strong industrial bases, advanced infrastructure, and high levels of investment. Such regions often function as centers of economic growth and attract skilled labor, capital, and technological resources.

By contrast, less developed regions may face structural constraints such as limited industrial capacity, lower levels of investment, and less developed infrastructure. These factors can contribute to persistent differences in regional development levels.

Regional disparities may also stimulate migration flows from less developed regions toward economically stronger territories. This process can reinforce existing imbalances by concentrating economic activity, investment, and human capital in already developed areas.

Forecasting regional economic development is an essential component of strategic economic planning. Forecasting methods enable researchers and policymakers to anticipate future economic trends, assess potential risks, and identify opportunities for regional growth.

Several methodological approaches are commonly applied in regional development forecasting:

- econometric modeling;
- trend analysis;
- scenario forecasting;
- spatial economic modeling.

Econometric models allow researchers to analyze relationships among key economic variables, such as investment, employment, and production output. By estimating these relationships, economists can forecast future patterns of economic growth across different regions.

Scenario forecasting is another widely used approach. Under this method, researchers develop several alternative development scenarios based on different assumptions regarding future economic conditions (Table 3).

Table 3
Methodological Scenarios for Regional Economic Forecasting⁵

Scenario	Description
Optimistic scenario	rapid economic growth and high investment
Baseline scenario	continuation of existing economic trends
Pessimistic scenario	economic slowdown and reduced investment

Forecasting results generally indicate that regions with higher levels of investment, stronger innovation capacity, and more developed infrastructure tend to achieve higher rates of economic growth.

⁴ Author's development based on the literature review

⁵ Author's development based on the literature review

Methodological approaches to assessing and forecasting regional development are not limited to quantitative measurement; they also provide a basis for understanding the economic geography of a country, identifying differences among regions, and highlighting opportunities for more inclusive growth. Gross Regional Product (GRP) plays a central role in this process, as it reflects the economic capacity, production volume, and contribution of the service sector within each region.

In Uzbekistan, GRP dynamics for the period 2021–2025 make it possible to identify regions demonstrating relatively rapid economic progress as well as those developing at a more moderate pace. This makes GRP analysis an important tool for shaping regional economic policy, allocating resources efficiently, and supporting more balanced territorial development. Thus, GRP serves not only as an indicator of economic growth but also as an analytical instrument for strengthening regional stability and promoting social and economic balance (Table 4).

Table 4

Dynamics and Forecast of Gross Regional Product (GRP) by Regions of Uzbekistan (2021–2025, in billion soums)⁶

Regions	2021	2022	2023	2024	2025
Republic of Uzbekistan	861170.8	1041878	1261806	1535432	1849650
Republic of Karakalpakstan	30697.7	36667.6	40805.2	46299.8	54076.9
Andijan region	50817.3	65233.4	80337.5	93026.3	107717.6
Bukhara region	44628.2	53714.9	63693.4	73434.1	86608.1
Jizzakh region	26338.6	31274.3	38570.3	43545.9	52956.7
Kashkadarya region	51181.1	59822.3	71425	83950	98783.4
Navoi region	69162.2	78668.2	93651.5	130439.5	167964.6
Namangan region	41993.6	50668.2	61074.9	71869.1	85419
Samarkand region	61599.3	71714.9	86313.3	103882.7	121489.5
Surkhandarya region	34694.1	40789.7	49208.9	56553.9	66186.5
Syrdarya region	17318.2	20746.6	24873	28655.5	35794.4
Tashkent region	94668.7	105520	124087.1	151251.8	180177.4
Fergana region	58406.3	68370.1	81573.3	93605.7	111305.3
Khorezm region	30907.3	38927.4	45358.6	53640	62987.5
Tashkent city	144477.1	178973.3	222926.1	302878.5	367222.3

Methodological approaches to assessing and forecasting regional development in Uzbekistan rely primarily on Gross Regional Product (GRP) indicators. GRP reflects the economic capacity of each region, including production and service activities, and serves as an important basis for evaluating economic growth and regional disparities. The dynamics of GRP during 2021–2025 reveal not only the pace of economic expansion but also structural differences among regions.

From a methodological perspective, GRP analysis highlights the following groups:

- Leading regions: Tashkent city, Tashkent region, and Navoi region demonstrate relatively high levels of economic growth, supported by finance, industry, and resource-based activities.
- Moderately developing regions: Fergana, Andijan, and Samarkand regions demonstrate stable growth, supported by their large populations and manufacturing capacity.
- Regions with additional development potential: Karakalpakstan and Syrdarya remain at the lower end of GRP indicators, indicating opportunities for further economic diversification and stronger investment inflows.

Thus, GRP analysis serves not only as a measure of economic growth but also as an important methodological tool for shaping regional policy, supporting economic stability, and promoting more inclusive development.

Within methodological approaches to regional development assessment, per capita income is also a crucial indicator. It reflects not only the level of economic growth but also living standards and the degree of inclusiveness in regional development (Table 5).

⁶ Author's development based on statistical data

Table 5

Dynamics of Per Capita Income by Regions of Uzbekistan (2021–2025, in thousand soums)⁷

Regions	2021	2022	2023	2024	2025
Republic of Uzbekistan	15773.9	18722.4	21396.2	25671.6	29935.5
Republic of Karakalpakstan	11981.8	14022.4	15600.1	18277.5	20656
Andijan region	13847.4	16834	20090.3	24081	26275.9
Bukhara region	19420.7	22848	25341.6	29918.8	35176.2
Jizzakh region	13928.7	15838.1	17835.9	20126.2	22907.4
Kashkadarya region	12877.6	15318.4	16880.8	19914.8	23517.5
Navoi region	26452.4	28921.3	33238.7	38499.1	44694.2
Namangan region	12310.1	14815.6	16065.8	18558.2	21304.6
Samarkand region	13589.6	16057	17403.8	21236.5	24471
Surkhandarya region	12466	15259.8	16806.5	19431.5	22572.2
Syrdarya region	13572.1	15374.4	17528.4	20181.6	23339.5
Tashkent region	17360.9	19540.8	22276.2	26276.2	29830.9
Fergana region	12109.7	14702	17772.2	19588.9	24582.7
Khorezm region	16672.4	20535.1	21344.7	26338.7	31136
Tashkent city	31823	38440.2	47347.5	62305.1	73910.5

Between 2021 and 2025, Uzbekistan's per capita income increased significantly:

- National average: increased from 15.7 million soums in 2021 to 29.9 million soums in 2025, nearly doubling over the period.
- Tashkent city: recorded the highest level, rising from 31.8 million soums to 73.9 million soums, reflecting its strong position as the country's financial and service center.
- Navoi region: increased from 26.4 million soums to 44.6 million soums, reflecting the contribution of resource-based economic activities.
- Bukhara region: increased from 19.4 million soums to 35.1 million soums, demonstrating relatively strong growth.
- Fergana, Andijan, and Samarkand regions: reached approximately 24–26 million soums in 2025, representing moderate income levels.
- Karakalpakstan and Surkhandarya: recorded comparatively lower levels of approximately 20–22 million soums, indicating additional potential for income growth.

From the perspective of inclusive growth:

- relatively high income levels in Tashkent city and Navoi region indicate differences in regional income distribution;
- the Fergana Valley regions, with their large populations, maintain moderate income levels, while employment expansion and service-sector development remain important for strengthening inclusiveness;
- Karakalpakstan and Surkhandarya have further opportunities to increase household incomes through stronger investment activity, employment creation, and targeted social support measures.

Overall, the dynamics of per capita income indicate positive growth across the regions of Uzbekistan, while differences in income levels highlight the importance of pursuing region-specific development policies aimed at promoting more balanced and inclusive economic growth.

CONCLUSION AND RECOMMENDATIONS

The results of the analysis indicate that regional economic development is a complex and multidimensional process influenced by a combination of economic, social, infrastructural, technological, and institutional factors.

The study highlights several key findings:

Investment activity is one of the most important drivers of regional economic growth. Regions that attract substantial capital investment tend to demonstrate higher levels of economic development and greater opportunities for expanding production capacity.

⁷ Author's development based on statistical data

Infrastructure development plays a crucial role in strengthening regional competitiveness, improving connectivity, and creating favorable conditions for new economic activities.

Innovation and technological development make a significant contribution to regional productivity, economic modernization, and the formation of sustainable competitive advantages.

Regional economic policy is essential for promoting more balanced development and narrowing differences between regions with varying levels of economic potential.

The findings also demonstrate that effective regional development strategies should focus on strengthening regional competitiveness, improving infrastructure, stimulating investment activity, and promoting innovation-driven economic growth.

In addition, policymakers should develop targeted development programs for regions with greater growth potential, taking into account their specific economic, social, and infrastructural characteristics. Such an approach can contribute to more balanced territorial development, expand employment and investment opportunities, and strengthen the sustainability of national economic growth.

REFERENCES

1. Adizov B.K. Regional economic growth and disparities in Uzbekistan: A multidimensional analysis / B.K. Adizov // *Journal of New Economy*. – 2022. – Vol. 23, No. 4. – P. 45–62.
2. Camagni R. *Technological Change and Regional Development* / R. Camagni. – London: Routledge, 2017.
3. Capello R. *Regional Economics* / R. Capello. – 3rd ed. – London: Routledge, 2021.
4. Isard W. *Location and Space-Economy: A General Theory Relating to Industrial Location, Market Areas, Land Use, Trade, and Urban Structure* / W. Isard. – Cambridge, MA: MIT Press, 1956.
5. Isard W. *Methods of Regional Analysis: An Introduction to Regional Science* / W. Isard. – Cambridge, MA: MIT Press, 1960.
6. Krugman P. *Geography and Trade* / P. Krugman. – Cambridge, MA: MIT Press, 1991.
7. OECD. *Regional Outlook 2021: Addressing Inequalities in the Post-COVID-19 Era*. – Paris: OECD Publishing, 2021.
8. Porter M.E. *On Competition* / M.E. Porter. – Boston, MA: Harvard Business Review Books, 1998.
9. Richardson H.W., Nam C.W. *Frontiers in Regional Economics* / ed. by H.W. Richardson, C.W. Nam. – Cheltenham: Edward Elgar Publishing, 2023.

Proofreader: Xondamir Ismoilov
Layout and Designer: Hasan Maqsudov

2026. № 8

© When materials are reproduced, the ECONOSCITECH-INTEGRATION journal must be cited as the source. Authors are responsible for the accuracy of the information in materials and advertisements published in the journal. Editorial opinions may not always align with those of the authors. Submitted materials will not be returned to the editorial office.

To publish articles in this journal, you may submit articles, advertisements, stories, and other creative materials through the following links. Materials and advertisements are published on a paid basis.

You may subscribe to the journal at any time using the following details. Once subscribed, please send a screenshot or photo of your payment confirmation to our Telegram page @iqtisodiyot_77. Based on this, we will send the latest issue of the journal to your address each month.

Our address: Tashkent city, Yunusobod district, 19th block, House 17.

