

ECONOSCITECH INTEGRATION

ISSUE
5

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

**Academic
Resource
Index**
ResearchBib

BASE

OpenAIRE

doi
Digital
Object
Identifier

OPEN ACCESS

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 5. 374 pages.
Approved for publication on May, 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

FOREIGN EXPERIENCE IN THE EFFECTIVE ORGANIZATION OF FREE ECONOMIC ZONES	51
Mamadiyev Elyor	
IMPROVING ORGANIZATIONAL AND ECONOMIC MECHANISMS FOR THE ESTABLISHMENT AND DEVELOPMENT OF FAMILY GUEST HOUSES	55
Boynazarov Ulugbek Egamberdievich	
IMPROVING METHODS OF ORGANIZING AND DEVELOPING DOMESTIC TOURISM MARKETS IN UZBEKISTAN	61
Daminov Mirvokhid Isroilovich	
THE IMPACT AND SIGNIFICANCE OF INFRASTRUCTURE IN THE DEVELOPMENT OF THE TOURISM SECTOR.....	67
Dilsora Ibodovna Ibodova	
IMPACT OF STUDENTS AGED OVER 40 ON ECONOMIC ACTIVITY AND BUDGETING BASED ON THE COMPETENCY ECOSYSTEM	74
Nigora Ikrom qizi Primova	
ОЦЕНКА ЭФФЕКТИВНОСТИ ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЙ ХОРЕЗМСКОЙ ОБЛАСТИ: ЭКОНОМЕТРИЧЕСКОЕ МОДЕЛИРОВАНИЕ И СЦЕНАРНОЕ ПРОГНОЗИРОВАНИЕ НА 2026–2030 ГОДЫ	80
Юсупов Шерзодбек Бахтиёр угли	
IMPROVING THE METHODOLOGY FOR ASSESSING THE PROCUREMENT MANAGEMENT SYSTEM IN COMMERCIAL ENTERPRISES	87
Ergashev Jahongir Bakhodirovich	
MULTIVARIATE ECONOMETRIC ANALYSIS OF FACTORS AFFECTING HOUSEHOLD INCOME IN SURXONDARYO REGION	93
Abdunazarova Shahnoza Norquchqor qizi	
СРАВНИТЕЛЬНЫЙ АНАЛИЗ ГОСУДАРСТВЕННЫХ ЦИФРОВЫХ УСЛУГ АЗЕРБАЙДЖАНА И УЗБЕКИСТАНА	99
Юсифов Магамед Исмаил оглу, Гасанли Расул Шахин оглу, Белалова Гузаль Анваровна	
SUSTAINABLE DEVELOPMENT OF THE MINING INDUSTRY IN THE CONTEXT OF THE GREEN ECONOMY.....	105
Xudayberdiyeva Kamila Sadillovna, Fozilova Zumrad Ahmadovna	
IMPROVING THE ECONOMIC EFFICIENCY OF CLOTHING MANUFACTURING ENTERPRISES IN UZBEKISTAN THROUGH DIGITAL TRANSFORMATION	111
Axmedova Gaziza Azim kizi	
КОМПЛЕКСНАЯ ОЦЕНКА ПОТЕНЦИАЛА РЕГИОНАЛЬНОГО АГРОПРОМЫШЛЕННОГО ИНТЕГРИРОВАНИЯ НА ОСНОВЕ МОДЕЛИ АНР-TOPSIS	115
Аликулов А.Б.	
APPLICATION OF CLUSTER METHODS IN THE DEVELOPMENT OF TOURISM INFRASTRUCTURE AND IMPROVEMENT OF ECONOMIC MECHANISMS IN SAMARKAND CITY	121
Tashov Mizrob Maxmudovich	
THE ROLE AND PROSPECTS OF THE GREEN ECONOMY IN THE SERVICE SECTOR.....	130
Musayeva Shoirazimovna, Usmonova Dilfuza Ilkhomovna	
FACTORS AFFECTING THE EFFICIENCY OF REGIONAL ENTERPRISES	135
Nigora Zokirjon qizi Toxirova	
CURRENT STATE OF ATTRACTING INVESTMENTS IN THE DEVELOPMENT OF TOURISM IN THE REGIONS OF UZBEKISTAN AND THE METHODOLOGY OF ECONOMIC EFFICIENCY INDICATORS	142
Temurbek Olimovich Mamayunusov	
PRESUPPOSITION SHIFTS IN CROSS-LINGUISTIC RENDERING OF ANECDOTAL NARRATIVES:	

A COMPARATIVE INQUIRY INTO TRIGGER RETENTION AND TRANSFORMATION	148
Umaraliyeva Dildora Taxirjanovna	
DIGITAL TECHNOLOGIES AND RURAL PUBLIC SERVICE QUALITY: AN EMPIRICAL ECONOMETRIC ANALYSIS	156
Bek Hunsia, Feruza Mansurovna Ollokulova	
COMPREHENSIVE ANALYSIS OF THE IMPACT OF WOMEN'S LABOR ACTIVITY ON THE EFFICIENCY OF THE ECONOMIC SYSTEM	164
Ahrorova Asila Abduaziz qizi	
IMPROVING TAX ADMINISTRATION IN THE ENTREPRENEURIAL ENVIRONMENT	170
Azizbek Khurramov	
FORMATION OF FINANCIAL RESULTS AT MOTOR TRANSPORT ENTERPRISES	180
Shanazarova Nilufar Baratovna	
ARIMA-BASED ANALYSIS OF SMALL BUSINESS ACTIVITY IN THE AGRICULTURAL SECTOR OF SURKHANDARYA REGION	185
Fayziyeva Aziza Azamat qizi	
ASSESSMENT OF AGRARIAN SECTOR EFFICIENCY THROUGH THE SFA MODEL	192
Utanov Bunyod Kuvandikovich	
АКТУАЛЬНЫЕ ВОПРОСЫ УПРАВЛЕНИЯ ГОСУДАРСТВЕННЫМ ВНЕШНИМ ДОЛГОМ	196
Шомуродов Равшан Турсункулович, Жуманазаров Шахобиддин Дилмурод угли	
MODERN METHODOLOGICAL APPROACHES TO MANAGING EDUCATIONAL SERVICES MARKETING IN HIGHER EDUCATION INSTITUTIONS	201
Shamshieva Nargizakhon Nosirkhuja kizi	
FINANCIAL MANAGEMENT OF FOREIGN AND DOMESTIC COTTON GINNING ENTERPRISES: COMPARATIVE ANALYSIS, DIAGNOSTICS, AND IMPROVEMENT DIRECTIONS	208
Orif Jumayevich Murodov	
ANALYSIS OF THE INSTITUTIONAL FOUNDATIONS OF STATE INTERVENTION IN THE PRODUCT QUALITY MANAGEMENT PROCESS IN UZBEKISTAN	219
Atakulov Askad Raimkulovich	
ИНТЕГРИРОВАННАЯ МОДЕЛЬ ФОРМАЛИЗАЦИИ НЕФОРМАЛЬНОЙ ЗАНЯТОСТИ И РАСШИРЕНИЯ СОЦИАЛЬНОЙ ЗАЩИТЫ В АГРАРНЫХ РЕГИОНАХ (НА ПРИМЕРЕ КАШКАДАРЬИНСКОЙ ОБЛАСТИ)	224
Бобоназарова Юлдуз Ботировна	
THE ECONOMIC ESSENCE OF RESOURCE USE EFFICIENCY AND ITS ROLE IN INDUSTRIAL ECONOMICS	229
Baymanova Mavlyuda Djurayevna, Aipova Iroda Ikramovna	
THE ROLE OF ARTIFICIAL INTELLIGENCE IN ECONOMIC DEVELOPMENT: EVIDENCE FROM DEVELOPING COUNTRIES	234
Ismatova Diyora Sirojiddin qizi, Ubaydullayeva Gulchexra Erkabayevna	
ЭКОЛОГИЧЕСКАЯ УСТОЙЧИВОСТЬ И РЕСУРСНАЯ АДАПТИВНОСТЬ ОТРАСЛИ МАШИНОСТРОЕНИЯ В РОССИИ, КИТАЕ, ИНДИИ	239
Викторова Наталья Геннадьевна, Абрамчикова Наталья Викторовна, Ван Байянь	
ENSURING ORGANIZATIONAL AND ECONOMIC MECHANISMS FOR HOUSING STOCK MANAGEMENT	249
Aminova Naima Umar qizi	
STRATEGIC MANAGEMENT FOR ECONOMIC GROWTH: PRACTICAL APPROACHES AND IMPROVEMENTS	253
Baymuradov Shokhrukh Makhmudovich, Dilmurodov Komiljon Ahmad o'g'li	
IMPROVING THE EFFICIENCY OF SMALL ENTERPRISES IN THE SERVICE SECTOR (A CASE STUDY OF TASHKENT REGION)	259

Ashirov Alisher

IMPROVING THE ORGANIZATIONAL AND ECONOMIC MECHANISMS FOR THE TRANSFORMATION OF SERVICE ENTERPRISES IN UZBEKISTAN	264
--	-----

Kurbanova Rahima Jamshedovna

INNOVATIVE IDEAS OF YOUNG ENTREPRENEURS AND INFRASTRUCTURE FACTORS IN THE DEVELOPMENT OF SMALL INNOVATIVE BUSINESSES	270
--	-----

Ergashev Oybek Khaydaralievich

MARKETING CHARACTERISTICS OF POSITIONING ORGANIC DRIED FRUIT PRODUCTS IN INTERNATIONAL MARKETS	274
--	-----

Khidirov Shokhrukh

TYPOLOGIZATION OF THE ECONOMIC POTENTIAL AND DEVELOPMENT CHARACTERISTICS OF THE DISTRICTS OF SURKHANDARYA REGION BASED ON STATISTICAL AND NEURAL NETWORK APPROACHES.....	280
--	-----

Normurodov Asliddin Alijon ugli

THE ROLE OF FOREIGN EXPERIENCE IN ANALYSING THE THEORETICAL FOUNDATIONS OF THE AUDIT OF FINANCIAL LIABILITIES	291
---	-----

Palvanov Xusniddin Bekimmatovich

DIGITAL SKILLS AND LABOUR PRODUCTIVITY: A SCENARIO ANALYSIS BASED ON AN INTEGRATED STATISTICAL MODEL	297
--	-----

Madraimov Xabibulla Madaminovich

АКТУАЛЬНЫЕ ВОПРОСЫ ФОРМИРОВАНИЯ СТРУКТУРЫ АКТИВОВ И ПАССИВОВ ГОСУДАРСТВЕННЫХ БАНКОВ УЗБЕКИСТАНА	303
---	-----

Т.И. Бобакулов

АКТУАЛЬНЫЕ ВОПРОСЫ ФИНАНСИРОВАНИЯ ВНЕШНЕТОРГОВУЮ ДЕЯТЕЛЬНОСТЬ КОМПАНИЙ С ДОКУМЕНТАРНЫМИ АККРЕДИТИВАМИ	308
---	-----

М.Т. Ибодуллаева

ФОРМИРОВАНИЕ ИНТЕГРИРОВАННОГО МЕХАНИЗМА УПРАВЛЕНИЯ ОСНОВНЫМИ СРЕДСТВАМИ В УСЛОВИЯХ ИННОВАЦИОННОЙ ЭКОНОМИКИ	312
--	-----

Мусаева Жамила Кароматовна

ПРОБЛЕМНЫЕ ВОПРОСЫ ОБЕСПЕЧЕНИЯ КОНКУРЕНТОСПОСОБНОСТИ КОММЕРЧЕСКИХ БАНКОВ УЗБЕКИСТАНА	320
--	-----

Ш.Т. Ибодуллаев

THE IMPORTANCE OF STATE SUPPORT AND INVESTMENT POLICY IN ENSURING THE FINANCIAL STABILITY OF MASS MEDIA ENTERPRISES.....	325
--	-----

Sharipova Shahlo Istamovna

CURRENT STATUS AND DEVELOPMENT TRENDS OF MOTOR TRANSPORT SERVICES	329
---	-----

Rakhimov Azamat Hamrakulovich

ПРИМЕНЕНИЕ ЭКСТРЕМАЛЬНЫХ МОДЕЛЕЙ В ОЦЕНКЕ ЭКОНОМИЧЕСКОГО ПОТЕНЦИАЛА ПРЕДПРИЯТИЯ.....	333
--	-----

Мусаева Шоира Азимовна

MULTI-FACTOR ECONOMETRIC MODELS OF WATER RESOURCE USE IN ENSURING REGIONAL ECONOMIC STABILITY	341
---	-----

Xaitbaev Jasurbek Otaxanovich

СОВЕРШЕНСТВОВАНИЕ ПРАКТИКИ ИСПОЛЬЗОВАНИЯ ИНСТРУМЕНТОВ ЭЛЕКТРОННОГО ДОКУМЕНТООБОРОТА В КОММЕРЧЕСКИХ БАНКАХ.....	345
--	-----

Шомуродов Равшан Турсункулович

THE WAYS OF IMPROVING COMPETITIVENESS IN COMPANIES OF THE CONSTRUCTION INDUSTRY	350
---	-----

Buriev Khakim Toshimovich, Usmanov Ilxom Achilovich, Tolibov Abduazim Zoxid ugli

MACROECONOMIC MODELS AND PROSPECTS OF TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN	357
---	-----

Sharipboyev Hasanboy Marks ugli, Sharipov Kuvondik Baxtiyorovich

THE IMPACT OF HRM PRACTICES ON ACADEMIC STAFF WORK EFFICIENCY IN HIGHER EDUCATION INSTITUTIONS.....	366
---	-----

Sultonboyeva Munira Bahodirovna, Sultanova Kamila Muktorali Kizi

THE ECONOMIC ROLE OF RENEWABLE ENERGY SOURCES IN THE DEVELOPMENT OF THE GREEN ECONOMY IN UZBEKISTAN	374
Inatullayeva Intizor Jamshid qizi	
ОЦЕНКА ФИЗИОЛОГИЧЕСКИХ ПОКАЗАТЕЛЕЙ КРУПНОГО РОГАТОГО СКОТА, ЗАВЕЗЁННОГО В РЕСПУБЛИКУ КАРАКАЛПАКСТАН ИЗ-ЗА РУБЕЖА, С ИСПОЛЬЗОВАНИЕМ ЦИФРОВЫХ ТЕХНОЛОГИЙ	378
Аскарова Нилуфар Бахтияровна	
COOPERATIVE MECHANISMS FOR REGIONAL DEVELOPMENT: A FRAMEWORK ANALYSIS OF CULTURAL TOURISM ENTERPRISE PARTNERSHIPS.....	382
Shohruzbek Ruziyev	
IMPROVING THE ECONOMIC EFFICIENCY OF RESOURCE UTILIZATION IN METALLURGICAL ENTERPRISES: INTERNATIONAL EXPERIENCE AND MODERN DEVELOPMENT TRENDS	393
Matkuliev Akbar Karimovich	
TAX INCENTIVES GRANTED TO ENTERPRISES LOCATED IN SPECIAL ECONOMIC ZONES	397
Torayeva Nafisa Odiljonovna	
REQUIREMENTS FOR TRANSITIONING TO ELECTRONIC BUSINESS AND CONDITIONS FOR DIGITALIZATION.....	402
Ismoilov Diyorbek Ismoiljon ugli	
DEVELOPMENT OF ALTERNATIVE ENERGY AS AN IMPORTANT FACTOR IN ENSURING A SUSTAINABLE ECONOMY AND ENERGY SECURITY	407
Ergash Bobobekov	
ANALYSIS OF WAGE DYNAMICS IN THE EXAMPLE OF SURKHANDARYA REGION BASED ON PANEL DATA.....	412
Abdunazarova Shahnoza Norquchqor kizi	
THE ROLE OF MARKETING STRATEGIES IN IMPROVING THE MARKET COMPETITIVENESS OF CARPET INDUSTRY ENTERPRISES	420
Arzieva Sevinch Shomurot kizi	
CONSUMER PROPERTIES OF FOOD PRODUCTS IN UZBEKISTAN: TRADITIONS, TRANSFORMATION AND NEW QUALITY STANDARDS.....	425
Gayrat Pardaev	
DIRECTIONS FOR STIMULATING ECONOMIC GROWTH THROUGH THE IMPROVEMENT OF THE TAX SYSTEM.....	431
Yakhshimuratova Khasiyat Khudaybergenovna	
THE ROLE OF E-COMMERCE IN THE ECONOMY OF UZBEKISTAN AND ITS DEVELOPMENT PROSPECTS	435
Kambaraliyeva Intizor Suxrobovna	
Aliyarov Olim Abdug'aparovich	
ISSUES OF IMPROVING PRE-TRIAL TAX DISPUTE RESOLUTION MECHANISMS BASED ON INTERNATIONAL EXPERIENCE	439
Solihova Xumora Xasan kizi	
INCREASING THE ATTRACTIVENESS OF DIVIDEND POLICY IN UZBEKISTAN COMPANIES.....	446
Akmal Komiljonovich Shermukhamedov	
COMMUNITY-BASED HERITAGE TOURISM MODELS AS A TOOL FOR ENHANCING HANDICRAFT DEVELOPMENT IN UZBEKISTAN	451
Olimjonova Farog'at Dilmurod qizi	
Amiriddinova Muslima Zayniddin qizi	
ИНСТИТУЦИОНАЛЬНЫЕ МЕХАНИЗМЫ СОЦИАЛЬНОЙ ЗАЩИТЫ НАСЕЛЕНИЯ В УСЛОВИЯХ ПЕРЕХОДНОЙ ЭКОНОМИКИ: ОПЫТ РЕСПУБЛИКИ УЗБЕКИСТАН	458
Шоахмедов Шохрух Шорахимович	

OF EFFECTIVE USE OF AGRICULTURAL LAND	464
Umarov Muzaffar Yusupbayevich	
ECONOMIC CONTENT OF INTANGIBLE ASSETS IN THE FIELD OF INFORMATION AND COMMUNICATION TECHNOLOGIES AND SPECIFIC CHARACTERISTICS OF THEIR RECOGNITION	469
Ishankulov Izzatilla Nurillaevich	
DETERMINANTS OF NON-PERFORMING LOANS IN SERVICE SECTOR LENDING AND CREDIT RISK MITIGATION MECHANISMS	473
Nurmukhammedov Abdijabbar Yunusovich	
ESG INTEGRATION PRACTICES INTO CORPORATE CULTURE SYSTEM IN THE JOINTSTOCK SECTOR OF UZBEKISTAN: A CASE STUDY OF “DORI-DARMON” JSC	479
Sadikova Muslima Alisher kizi	
DEVELOPMENT OF THE METAL MARKET IN THE TASHKENT REGION AND WAYS TO IMPROVE IT	485
Musayeva Shoira Azimovna	
SMALL BUSINESS AS A CATALYST FOR REGIONAL ECONOMIC DEVELOPMENT: AN EMPIRICAL ANALYSIS WITH EVIDENCE FROM UZBEKISTAN	491
Jo‘rayev Ilhomjon Kamolidinovich	
ISSUES OF DEVELOPING DEPOSIT OPERATIONS IN COMMERCIAL BANKS	497
Rahimov Akmal Matyaqubovich	
IMPROVING TEXTILE LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN UZBEKISTAN	503
Isroilov Madaminjon Mukhsinovich	
FEATURES OF SUMMARIZING AND EVALUATING THE RESULTS OF FINANCIAL STATEMENT AUDITING IN UZBEKISTAN PRACTICE	509
Isroil Ismoilovich Meliev	
ГОСУДАРСТВЕННОЕ УПРАВЛЕНИЕ ФИНАНСАМИ И СОЦИАЛЬНОЕ РАВЕНСТВО В УЗБЕКИСТАНЕ: ИНТЕГРАЦИЯ МЕТОДОЛОГИИ РЕФА С ДИСТРИБУТИВНЫМ АНАЛИЗОМ НА ОСНОВЕ ПОДХОДА SEQ	516
Зокиржонов Мухаммадсодик Равшанбек угли	
FACTORS AFFECTING DAIRY PRODUCTION EFFICIENCY: CORRELATION AND REGRESSION ANALYSIS	530
Ergashev M.Y.	
Tairova Z.M.	
METHODOLOGICAL FOUNDATIONS OF COST ACCOUNTING AND ANALYSIS IN AQUACULTURE CLUSTERS: IFRS INTEGRATION, ECONOMETRIC MODELING, AND ESG PERSPECTIVES	537
Shodiev Aslam Rahmatilloevich	
APPLICATION OF ARTIFICIAL NEURAL NETWORKS FOR PREDICTING CUSTOMER LOYALTY IN COMMERCIAL BANKS	544
Jumaniyozova Mukaddas	
SUSTAINABLE REGIONAL SPECIALIZATION UNDER WATER SCARCITY: GLOBAL EXPERIENCE AND PROSPECTS FOR UZBEKISTAN	550
Sodiqova Nigora Turayevna	
CURRENT STATE AND STRUCTURAL ANALYSIS OF EXPORT ACTIVITIES OF BUSINESS ENTITIES IN THE BUKHARA REGION	555
Djurayeva Munira Sadiilloyevna	
EVALUATION OF THE EFFICIENCY OF STRATEGIC MANAGEMENT OF EDUCATIONAL SERVICES EXPORTS IN THE BUKHARA REGION	560
Alimova Shamsiya Abidovna	

ADVANCING AN INTEGRATED STATISTICAL ASSESSMENT METHODOLOGY FOR COMMERCIAL BANKS' DIGITAL ACTIVITIES AND CREDIT PORTFOLIO QUALITY	565
Rakhmatalliev Muzaffar Eshdavlatovich	
EFFECTIVENESS OF USING BIOLOGICAL METHODS IN PLANT PROTECTION: STATISTICAL ANALYSIS OF DISTRIBUTION STRATEGY AND PRACTICAL IMPLEMENTATION DENSITY	570
Suyundikova Dilafruz Mamarajabovna	
МЕТОДОЛОГИЯ ФОРМИРОВАНИЯ «КАРТЫ ПРОЗРАЧНОСТИ ПО МСФО» НА ОСНОВЕ КЛАСТЕРИЗАЦИИ АКЦИОНЕРНЫХ ОБЩЕСТВ ПО УРОВНЮ КАЧЕСТВА.....	577
Лутфуллаев Сардорбек Уткур угли	
INDICATOR-BASED IMPROVED METHODOLOGY FOR DETERMINING INTERNAL AUDIT SIGNIFICANCE LIMITS IN THE PUBLIC SECTOR	586
Ismatillayev Baypolat Khushvaqtovich	
METHODOLOGY FOR IDENTIFYING CASHGENERATING UNITS AND ADJUSTING THE DISCOUNT RATE TO NATIONAL CAPITAL MARKET CONDITIONS IN THE IMPAIRMENT ASSESSMENT OF LONG-TERM ASSETS	593
Fayzullayev Begzod Bakhtiyor o'g'li	
IMPROVING THE SCIENTIFIC AND METHODOLOGICAL APPROACHES TO THE FUNCTIONAL CLASSIFICATION OF INVENTORIES IN COMMUNICATION ENTERPRISES	599
Jamilov Jushkin Jonon o'g'li	
IMPROVING THE CHART OF ACCOUNTS AND ANALYTICAL ACCOUNTING FOR FINANCIAL INVESTMENTS IN ACCORDANCE WITH IFRS 9	604
Jumamurodov Toliboy Yeldashbayevich	
RISK-BASED METHODOLOGY FOR CALCULATING MATERIALITY IN INTERNAL AUDITS OF BUDGETARY ORGANIZATIONS.....	608
Misirov Akbarali Pardayevich	
IMPROVING AUDIT SAMPLING EFFICIENCY THROUGH RISK-BASED STRATIFICATION IN THE INTERNAL AUDIT OF BUDGETARY ORGANIZATIONS.....	613
Muqumov Jasur Bosimovich	
INTEGRATED INDEX MODEL FOR THE COMPREHENSIVE ASSESSMENT OF INTERNAL AUDIT EFFECTIVENESS IN COMMERCIAL BANKS	619
Narziyev Khayotjon Azamatovich	
RISK-BASED INTERNAL AUDIT METHODOLOGY FOR PUBLIC PROCUREMENT.....	625
Rajabov Shukhrat Ismailovich	
INTEGRATED REAL-TIME AUDIT MODEL FOR FRUIT AND VEGETABLE PROCESSING ENTERPRISES	630
Rakhmatullayev Mirjalol Khatamson	
IMPROVING THE ACCOUNTING AND AUDITING OF BIOLOGICAL ASSETS BASED ON INTERNATIONAL STANDARDS	634
Akhmetova Salima Seytovna	
IMPROVING GREEN ECONOMY MECHANISMS FOR THE SUSTAINABLE DEVELOPMENT OF THE INDUSTRIAL SECTOR: EVIDENCE FROM UZBEKISTAN	641
Yusupov Bekzod Ulug'bekovich	
IMPROVING MECHANISMS FOR ATTRACTING INVESTMENT IN HUMAN CAPITAL BASED ON ARTIFICIAL INTELLIGENCE TECHNOLOGIES.....	644
Akhmadaliyeva Nikholakhon	
IMPROVING THE METHODOLOGY FOR THE COMPREHENSIVE ASSESSMENT OF AUDIT RISK AND MATERIALITY IN THE AUDIT OF COMMERCIAL BANKS' FINANCIAL STATEMENTS.....	649
Ibragimov Nodirbek Bakhodir o'g'li	

RISK-FOCUSED AUDIT PROCEDURES FOR EXAMINING EXPECTED CREDIT LOSSES (ECL) AND RESERVES UNDER IFRS 9 IN THE AUDIT OF COMMERCIAL BANKS.....	656
Ibragimov Nodirbek Bakhodir o'g'li	
METHODOLOGICAL ASPECTS OF ORGANIZING THE AUDIT OF INVENTORIES.....	662
Rakhimova Umida Rabbimovna	
IMPROVING THE ORGANIZATION, PLANNING, AND METHODOLOGICAL ASPECTS OF THE AUDIT OF BIOLOGICAL ASSETS	669
Akhmetova Salima Seytovna	
DESCRIPTION OF THE KEY FUNCTIONAL ELEMENTS OF MANAGING FINANCIAL RESOURCES OF HIGHER EDUCATION INSTITUTIONS DURING THE PERIOD OF DEVELOPMENT	674
Islomov Bobur Zarifjon ugli	
ECONOMETRIC ANALYSIS OF THE FACTORS AFFECTING INTERBANK COMPETITION IN THE DIGITAL BANKING SERVICES MARKET	680
Karimov Odiljon Boqiyevich	
INTERNATIONAL PRACTICES IN THE VALUATION OF MOVABLE ASSETS FOR LOAN COLLATERAL PURPOSES.....	692
Jasur Jura ugli Khojamqulov	

INTERNATIONAL PRACTICES IN THE VALUATION OF MOVABLE ASSETS FOR LOAN COLLATERAL PURPOSES

Jasur Jura ugli Khojamqulov

Independent Researcher at Tashkent State University of Economics

Abstract. The valuation of movable assets has become an essential element of secured lending systems, particularly in improving access to finance for businesses with limited immovable property. This study examines the legal, institutional, and practical aspects of movable asset valuation for loan collateral purposes in Uzbekistan. The paper analyzes the existing legislative framework, institutional arrangements, valuation procedures, accepted categories of collateral, valuation methodologies, loan-to-value (LTV) practices, revaluation procedures, current challenges, and recent reforms. Furthermore, the study evaluates the role of commercial banks, licensed valuation organizations, and the Electronic Collateral Registry in ensuring effective collateral management. Based on international valuation principles and current practices in Uzbekistan, the paper identifies key challenges and proposes recommendations for improving transparency, valuation accuracy, and credit risk management. The findings contribute to strengthening secured lending practices and promoting the sustainable development of the country's financial sector.

Keywords: movable assets, collateral valuation, secured lending, commercial banks, loan-to-value, valuation standards, Electronic Collateral Registry.

Аннотация. Оценка движимых активов стала важным элементом системы обеспеченного кредитования, особенно в контексте расширения доступа к финансированию для предприятий, располагающих ограниченным объемом недвижимого имущества. В данном исследовании рассматриваются правовые, институциональные и практические аспекты оценки движимых активов, используемых в качестве обеспечения по кредитам в Узбекистане. В статье анализируются действующая законодательная база, институциональные механизмы, процедуры оценки, принимаемые категории залогового имущества, методы оценки, практика применения коэффициента «кредит/залоговая стоимость» (LTV), процедуры переоценки, существующие проблемы и последние реформы. Кроме того, исследуется роль коммерческих банков, лицензированных оценочных организаций и Электронного реестра залогов в обеспечении эффективного управления залоговым имуществом. На основе международных принципов оценки и действующей практики Узбекистана определены основные проблемы и предложены рекомендации по повышению прозрачности, точности оценки и эффективности управления кредитными рисками. Полученные результаты способствуют совершенствованию практики обеспеченного кредитования и устойчивому развитию финансового сектора страны.

Ключевые слова: движимые активы, оценка залога, обеспеченное кредитование, коммерческие банки, коэффициент LTV, стандарты оценки, Электронный реестр залогов.

INTRODUCTION

In recent years, the use of movable assets as loan collateral has become increasingly important in improving access to finance and promoting sustainable economic development. Unlike traditional lending practices that primarily rely on immovable property, modern financial systems increasingly recognize machinery, equipment, vehicles, inventories, agricultural machinery, accounts receivable, and other movable assets as valuable forms of collateral. This transformation has significantly expanded financing opportunities for businesses, particularly small and medium-sized enterprises (SMEs), which often possess substantial movable assets but have limited ownership of real estate.

In Uzbekistan, the development of collateral-based lending has become one of the priorities of ongoing financial sector reforms aimed at strengthening private entrepreneurship and increasing financial inclusion. Commercial banks have gradually expanded the range of acceptable collateral, allowing borrowers to pledge movable assets in addition to land and buildings. This approach has contributed to improving access to bank financing, supporting business expansion, and stimulating investment activity across various sectors of the economy.

The importance of movable assets is particularly evident in SME financing. Small and medium-sized enterprises represent a significant share of Uzbekistan's economy, contributing to employment generation, industrial production, and regional economic development. However, many SMEs face difficulties in obtaining bank loans because they lack sufficient immovable property to satisfy traditional collateral requirements. Since machinery, production equipment, transport vehicles, agricultural equipment, inventories, and trade receivables often constitute the majority of their business assets, recognizing these assets as eligible collateral substantially increases their borrowing capacity and improves access to financial resources.

At the same time, the effectiveness of movable asset financing largely depends on the reliability of collateral valuation. Accurate valuation enables banks to determine appropriate loan amounts, reduce credit risk, improve collateral coverage, and strengthen the overall stability of their loan portfolios. Conversely, inaccurate or outdated valuations may lead to excessive lending, insufficient collateral protection, and increased financial losses in the event of borrower default. Therefore, professional valuation practices constitute an essential component of prudent credit risk management.

Despite significant progress in financial sector reforms, several challenges remain in the valuation of movable assets in Uzbekistan. These include limited market information for specialized equipment, the absence of active secondary markets for certain categories of assets, inconsistencies in valuation practices, and the need for greater integration of digital technologies into the valuation process. Furthermore, strengthening the legal and institutional frameworks governing collateral registration, enforcement, and professional valuation remains an important priority for improving secured lending.

Against this background, the present study aims to examine the current practices of movable asset valuation for loan collateral purposes in Uzbekistan and compare them with internationally recognized valuation principles and best practices. The study evaluates existing valuation methodologies, legal and institutional arrangements, and recent technological developments while identifying opportunities for improving the efficiency, transparency, and reliability of collateral valuation. The findings are expected to contribute to strengthening secured lending mechanisms, enhancing credit accessibility for SMEs, and supporting the sustainable development of Uzbekistan's financial system.

LITERATURE REVIEW

Aktamov (2023) argues that the sustainable development of valuation activities in Uzbekistan requires the harmonization of national valuation standards with International Valuation Standards (IVS). The author emphasizes that improving the institutional and legal framework, strengthening professional valuation practices, and enhancing state regulation are essential for ensuring the credibility and transparency of asset valuation [6]. Furthermore, the study highlights that aligning the national valuation system with international best practices will improve investor confidence and facilitate the development of financial markets.

Yoqubboyev (2024) emphasizes that the legal framework governing valuation activities plays a decisive role in protecting the rights and legitimate interests of market participants. According to the author, valuation should be conducted in accordance with national legislation and internationally recognized valuation principles to ensure objectivity, transparency, and reliability [7]. The study further explains that compliance with legal procedures significantly improves the credibility of valuation results and strengthens confidence in financial transactions.

Tulakov (2024) notes that the introduction of modern valuation methodologies based on International Valuation Standards (IVS) and the standards of the Royal Institution of Chartered Surveyors (RICS) is essential for improving the quality and consistency of valuation practice in Uzbekistan [8]. The author argues that adopting international approaches enhances valuation accuracy, promotes market transparency, and strengthens the efficiency of property taxation and financial decision-making.

Turayeva et al. (2025) state that the application of the market, cost, and income approaches remains the foundation of professional valuation practice. The authors emphasize that the selection of an appropriate valuation approach depends on the characteristics of the asset, the purpose of the valuation, and the availability of market information [9]. Their study concludes that the combined application of these approaches improves valuation reliability and supports more informed financial and investment decisions.

According to Lobanova (2014), although international banking practice has not established a universally standardized set of principles for collateral valuation, several fundamental requirements are widely recognized. These principles ensure that pledged assets provide sufficient security for lenders [10]. Where collateral fails to meet these requirements, banks may decline to conclude a loan agreement due to the increased level of credit risk.

Empirical evidence presented by Campello and Larrain (2016) revealed that legal reforms allowing movable assets to be used as collateral substantially increase firms' access to bank credit [11]. The authors concluded

that these reforms are particularly beneficial for small and medium-sized enterprises, which generally possess limited immovable assets but significant amounts of movable property.

RESEARCH METHODOLOGY

This study employs a qualitative research approach based on a comprehensive review of legal documents, institutional regulations, and international valuation literature. The research integrates comparative, analytical, and descriptive methods to examine the current practices of movable asset valuation for loan collateral purposes in Uzbekistan.

The comparative analysis evaluates Uzbekistan's legal and institutional framework against internationally recognized valuation principles and secured lending practices. The analytical method is applied to assess valuation procedures, collateral management mechanisms, loan-to-value (LTV) practices, and the roles of commercial banks, licensed valuation companies, and the Electronic Collateral Registry. Descriptive analysis is used to summarize the principal categories of movable assets accepted as collateral, valuation approaches, and recent regulatory reforms.

ANALYSIS AND RESULTS

The valuation of movable assets used as loan collateral in Uzbekistan is governed by a comprehensive legal and institutional framework designed to ensure transparency, reliability, and effective credit risk management. In recent years, the country has implemented a number of reforms aimed at strengthening valuation activities, improving secured lending mechanisms, and harmonizing national practices with international standards. This framework combines legal regulations governing valuation and collateral with institutions responsible for supervision, registration, and professional valuation services.

An effective valuation system requires not only appropriate legal provisions but also strong institutional cooperation among commercial banks, licensed valuation organizations, regulatory authorities, and collateral registration agencies. The interaction among these institutions ensures that movable assets are valued objectively, registered properly, and monitored throughout the lending process.

The legal regulation of movable asset valuation in Uzbekistan is based on several legislative acts and regulatory documents that establish the legal status of collateral, valuation procedures, creditor rights, and professional valuation standards. These legal instruments provide the foundation for secured lending and facilitate the effective use of movable assets as collateral.

Table 1

Legal Framework Governing Movable Asset Valuation in Uzbekistan¹

Document	Purpose	Relevance to Movable Asset Valuation
Law of the Republic of Uzbekistan No. 811-I "On Valuation Activities" [1]	Regulates professional valuation activities	Establishes the legal basis for independent valuation, valuers' rights and obligations, and valuation reports.
Civil Code of the Republic of Uzbekistan [2]	Regulates property rights and contractual obligations	Defines ownership rights, secured transactions, and legal relations between creditors and borrowers.
Law of the Republic of Uzbekistan No. 736-XII "On Pledge" [3]	Governs pledge agreements	Determines the legal requirements for creating, registering, and enforcing movable asset collateral.
Law of the Republic of Uzbekistan No. O'RQ-58 "On Mortgage" [4]	Regulates mortgage transactions	Establishes general collateral principles applicable to secured lending.
Regulations of the Central Bank of Uzbekistan (CBU)	Regulates banking supervision and collateral management	Specifies collateral valuation requirements, risk assessment procedures, and loan classification standards.
Unified National Valuation Standard of the Republic of Uzbekistan [5]	Establishes professional valuation methodologies	Provides valuation approaches, reporting requirements, and ethical standards consistent with International Valuation Standards (IVS).

¹ Source: Compiled by the author based on the legislation of the Republic of Uzbekistan [1–5].

As shown in Table 1, Uzbekistan has established a comprehensive legal framework governing the valuation of movable assets. The legislation regulates valuation activities, collateral creation and enforcement, banking supervision, and professional valuation standards. Collectively, these legal instruments improve legal certainty, strengthen creditor protection, and support prudent credit risk management in commercial banks.

In addition to an appropriate legal environment, an effective collateral valuation system requires strong institutional cooperation among public authorities, financial institutions, valuation professionals, and information providers. The institutional framework supports the practical implementation of legislation by ensuring that collateral is properly valued, registered, monitored, and enforced throughout the lending process.

Table 2

Institutional Framework for Movable Asset Valuation in Uzbekistan²

Institution	Primary Function	Role in Collateral Valuation
Commercial Banks	Loan origination and credit risk management	Assess collateral adequacy, determine loan-to-value ratios, and monitor pledged assets.
Licensed Valuation Companies	Independent asset valuation	Conduct professional valuation and prepare valuation reports in accordance with national standards.
Credit Bureau	Credit information services	Provides borrowers' credit histories and supports lending decisions.
Electronic Collateral Registry	Registration of security interests	Records pledged movable assets, establishes creditor priority, and prevents duplicate collateral registration.
Agency for Management of State Assets of the Republic of Uzbekistan	State regulation of valuation activities	Develops valuation policy, supervises implementation of national valuation standards, and coordinates reforms.
Chamber of Valuers	Professional self-regulatory organization	Supports professional education, certification, ethical standards, and continuous development of valuers.

Table 2 illustrates the key institutions involved in movable asset valuation and secured lending in Uzbekistan. Commercial banks, licensed valuation companies, the Electronic Collateral Registry, the Credit Bureau, the Agency for Management of State Assets of the Republic of Uzbekistan, and the Chamber of Valuers perform complementary functions that collectively enhance transparency, improve collateral management, reduce information asymmetry, and strengthen the stability of the financial system.

The valuation of movable assets has become an integral component of secured lending practices in Uzbekistan. Commercial banks increasingly accept movable assets as collateral to improve access to finance for businesses, particularly small and medium-sized enterprises (SMEs), while ensuring adequate protection against credit risk. The valuation process is generally performed by licensed valuation companies in accordance with the Law of the Republic of Uzbekistan "On Valuation Activities," the Unified National Valuation Standard, and the internal collateral management policies of commercial banks. The results of the valuation form the basis for determining the collateral value, the loan amount, and the level of credit risk associated with each transaction.

The valuation process adopted by commercial banks generally consists of several consecutive stages. Initially, the borrower submits an application together with documents confirming ownership of the movable asset. The bank then verifies the legal status of the asset through the Electronic Collateral Registry and other available information systems. After verification, an independent licensed valuation company inspects the asset and prepares a valuation report using appropriate valuation approaches in accordance with the National Valuation Standards. Based on the valuation report, the bank determines the acceptable collateral value, applies internal risk adjustments where necessary, and approves the loan amount. Throughout the loan period, banks may periodically monitor or revalue the collateral, depending on the type of asset and changes in market conditions.

² Source: Compiled by the author based on national legislation and institutional practice.

Table 3
Typical Stages of Movable Asset Valuation in Commercial Banks of Uzbekistan³

Stage	Description
Borrower's application	Submission of loan application and ownership documents
Legal verification	Verification of ownership and encumbrances through the Electronic Collateral Registry
Independent valuation	Physical inspection and preparation of a valuation report by a licensed valuation company
Credit assessment	Determination of collateral value, loan amount, and credit risk
Registration	Registration of the security interest in the Electronic Collateral Registry
Monitoring and revaluation	Periodic review of collateral condition and market value during the loan term

As presented in Table 3, the valuation process adopted by commercial banks follows a structured sequence aimed at ensuring the legal validity, market accuracy, and financial reliability of movable asset collateral. Each stage contributes to reducing credit risk by verifying ownership rights, determining fair market value through independent appraisal, and establishing legally enforceable collateral rights before loan approval. This systematic approach strengthens the transparency and consistency of secured lending practices in Uzbekistan.

Commercial banks accept a broad range of movable assets as collateral, depending on their liquidity, marketability, ownership status, and legal enforceability. Commonly accepted collateral includes motor vehicles, agricultural machinery, industrial equipment, production machinery, inventories, warehouse goods, livestock, accounts receivable, and certain financial assets. The acceptance of collateral depends on its market value, physical condition, depreciation, expected liquidation value, and the existence of valid ownership documentation. Banks generally prefer assets with active secondary markets because they can be sold more easily in the event of borrower default.

The diversity of movable assets accepted as collateral requires commercial banks to apply different valuation approaches, depending on the economic characteristics, marketability, and expected useful life of each asset category. Consequently, selecting an appropriate valuation methodology becomes a critical factor in determining reliable collateral values.

Licensed valuers apply the valuation approaches established by the National Valuation Standards, which are harmonized with the International Valuation Standards (IVS). Depending on the characteristics of the collateral, banks primarily rely on the market approach for vehicles and standard equipment, the cost approach for specialized machinery with limited market information, and the income approach for income-generating assets for which future cash flows can be reliably estimated. In practice, valuers may combine more than one approach to improve the reliability of valuation results.

Following the determination of market value, commercial banks assess the amount of credit that can be safely extended against the pledged asset. This assessment is primarily based on the loan-to-value (LTV) ratio, which serves as one of the most important indicators of collateral adequacy and credit risk management.

Commercial banks determine the amount of credit by applying internal loan-to-value (LTV) ratios to the appraised value of collateral. The applicable LTV ratio depends on the type, liquidity, depreciation rate, and marketability of the pledged asset. Highly liquid assets generally receive higher LTV ratios than specialized or rapidly depreciating equipment. The Central Bank has increasingly adopted borrower-based prudential measures using LTV limits in certain lending segments as part of its macroprudential policy and credit risk management.

Collateral valuation does not end with loan approval. Throughout the loan period, commercial banks continuously monitor the adequacy of pledged assets to ensure that the collateral value remains sufficient to cover outstanding credit obligations.

During the loan period, commercial banks periodically review collateral values to ensure that the pledged assets continue to provide sufficient security for outstanding credit obligations. Revaluation is commonly performed when significant changes occur in market prices, asset condition, or economic circumstances, as well as during loan restructuring or renewal. Banks may also require additional collateral if the market value of pledged assets declines substantially. Modern collateral management systems increasingly support continuous monitoring and more efficient collateral administration.

Although the existing valuation system provides an effective framework for collateral management, its practical implementation still faces a number of operational and market-related challenges that may affect valuation accuracy and lending efficiency.

³ Source: Compiled by the author based on national valuation standards and commercial banking practice.

Despite considerable progress, several challenges remain in the valuation of movable assets in Uzbekistan. The secondary market for certain categories of industrial equipment remains relatively underdeveloped, reducing the availability of comparable market data. Rapid technological obsolescence complicates the valuation of specialized machinery. Differences in valuation practices among appraisal companies may also affect consistency. Furthermore, the wider application of automated valuation technologies and the use of comprehensive digital data remain works in progress.

To address these challenges, Uzbekistan has introduced a series of institutional and technological reforms aimed at modernizing collateral management and improving the efficiency of valuation practices.

Recent reforms have focused on strengthening the Electronic Collateral Registry, expanding digital integration, and aligning collateral management with international practices. In cooperation with the International Finance Corporation (IFC), the Central Bank has reviewed proposals to modernize the Collateral Registry, improve its technical capabilities, and enhance user convenience. The Registry has also been integrated with other government information systems, allowing for more effective verification of pledged assets and reducing information asymmetry. According to the Central Bank, the number of users and registered collateral records has increased significantly, reflecting the broader adoption of secured lending practices. These reforms are expected to improve the transparency, efficiency, and reliability of movable asset valuation in Uzbekistan.

Recent legal and institutional reforms have also contributed to the development of a standardized mechanism for the valuation of movable assets used as loan collateral. This mechanism integrates the activities of commercial banks, licensed valuation companies, and public information systems into a unified collateral management process.

To ensure consistency and transparency in collateral-based lending, commercial banks in Uzbekistan follow a standardized mechanism for the valuation of movable assets pledged as loan collateral. This mechanism involves a sequence of legal, technical, and financial procedures carried out by borrowers, commercial banks, licensed valuation organizations, and the Electronic Collateral Registry. The process is designed to establish the market value of collateral, assess lending risks, and protect the interests of both lenders and borrowers.

Table 4

Mechanism for the Valuation of Movable Assets for Loan Collateral Purposes in Uzbekistan⁴

Stage	Process	Main Participants	Expected Outcome
1	Submission of a loan application and proposal of movable assets as collateral	Borrower, Commercial Bank	Initial acceptance of collateral
2	Preliminary review of collateral eligibility and ownership documents	Commercial Bank	Verification of legal ownership and eligibility
3	Appointment of an independent licensed valuation organization	Commercial Bank, Valuation Organization	Selection of a certified valuer
4	Inspection and identification of the movable asset	Valuation Organization	Collection of technical, legal, and market information
5	Determination of the market value using appropriate valuation approaches (Market, Cost, or Income Approach)	Valuation Organization	Preparation of the valuation report
6	Review and approval of the valuation report by the commercial bank	Commercial Bank (Risk Management/Credit Department)	Determination of collateral value and loan-to-value (LTV) ratio
7	Registration of the security interest in the Electronic Collateral Registry	Commercial Bank, Credit Bureau	Legally enforceable registration of the collateral right
8	Loan approval and periodic monitoring or revaluation of collateral during the loan period	Commercial Bank	Continuous collateral risk management

As shown in Table 4, the valuation process consists of eight interrelated stages, beginning with the submission of a loan application and ending with the periodic monitoring or revaluation of collateral during the loan period. Independent licensed valuation organizations play a central role in determining the market value of movable assets using internationally recognized valuation approaches, while commercial banks evaluate the valuation report to establish the collateral value and the loan-to-value (LTV) ratio. Furthermore, the registration

4 Source: Developed by the author based on national legislation, valuation standards, and secured lending practices.

of collateral in the Electronic Collateral Registry strengthens legal protection and improves the enforceability of secured transactions. Overall, the current mechanism contributes to greater transparency, effective credit risk management, and enhanced reliability of collateral-based lending in Uzbekistan. The mechanism also facilitates greater coordination among financial institutions and regulatory authorities, thereby improving the overall effectiveness of secured lending and reducing information asymmetry within the credit market.

Commercial banks generally classify movable collateral according to its liquidity, marketability, and ease of realization in the event of borrower default. Table 5 summarizes the most frequently accepted categories of movable assets used as loan collateral in Uzbekistan.

Table 5
Types of Movable Assets Accepted as Loan Collateral in Uzbekistan⁵

Asset Type	Examples	Liquidity
Vehicles	Cars, trucks	High
Machinery	Industrial equipment	Medium
Agricultural machinery	Tractors, harvesters	Medium
Inventories	Finished goods	Medium
Livestock	Cattle	Medium
Accounts receivable	Trade receivables	Medium-High
Securities	Shares, bonds	High

As shown in Table 5, commercial banks in Uzbekistan accept a wide range of movable assets as loan collateral based on their liquidity, marketability, and legal enforceability. Highly liquid assets, such as vehicles and securities, generally provide stronger collateral protection because they can be realized more quickly in the event of borrower default. Conversely, machinery, agricultural equipment, inventories, and livestock require more detailed valuation due to differences in depreciation rates, market demand, and liquidation conditions. Therefore, the characteristics of each asset category directly influence both collateral valuation and lending decisions. The valuation of each collateral category requires the application of appropriate valuation approaches, depending on market conditions and asset characteristics. The methods most commonly applied by commercial banks are summarized in Table 6.

Table 6
Valuation Methods Applied by Commercial Banks⁶

Method	Typical Assets	Advantages
Market Approach	Vehicles	Reflects market prices
Cost Approach	Machinery	Suitable for specialized assets
Income Approach	Receivables	Based on expected future cash flows

Table 6 demonstrates that commercial banks apply different valuation approaches depending on the nature and economic characteristics of the pledged asset. The market approach is generally preferred for assets with active secondary markets, while the cost approach is more suitable for specialized machinery for which comparable market transactions are limited. The income approach is primarily used for financial assets capable of generating predictable future cash flows. The appropriate selection of valuation methods enhances the accuracy of collateral valuation and supports effective credit risk management. After determining the market value of collateral, banks apply internal loan-to-value (LTV) ratios to establish the maximum amount of financing that can be granted against the pledged asset. Illustrative LTV ratios are presented in Table 7.

⁵ Source: Compiled by the author based on commercial banking practice.

⁶ Source: Compiled by the author based on the Unified National Valuation Standard and International Valuation Standards [5; 12].

Table 7
Illustrative Loan-to-Value Ratios Applied by Commercial Banks⁷

Asset	Typical LTV
Vehicles	60–80%
Machinery	50–70%
Inventory	40–60%
Agricultural machinery	50–70%

As illustrated in Table 7, loan-to-value (LTV) ratios vary according to the liquidity, marketability, and expected depreciation of different categories of movable assets. Highly liquid collateral generally receives higher LTV ratios because it can be converted into cash more efficiently in the event of default. In contrast, inventories and specialized machinery are assigned relatively lower LTV ratios due to greater valuation uncertainty and higher market risk. The application of differentiated LTV ratios enables commercial banks to balance lending opportunities with prudent credit risk management. Despite the significant improvements achieved in recent years, several structural and operational issues continue to influence the effectiveness of movable asset valuation practices. The major challenges are summarized in Table 8.

Table 8
Major Challenges in Movable Asset Valuation⁸

Challenge	Impact
Limited development of secondary markets	Limited availability of comparable market data
Rapid depreciation of movable assets	Gradual reduction in collateral value
Variations across valuation reports	Reduced consistency in lending decisions
Limited adoption of digital valuation technologies	Extended valuation and processing time

Table 8 highlights the principal challenges affecting the valuation of movable assets in Uzbekistan. The limited development of secondary markets restricts the availability of reliable market data, while rapid depreciation and technological obsolescence reduce the long-term value of many movable assets. In addition, inconsistencies among valuation reports and the limited adoption of digital valuation technologies may affect the transparency and efficiency of collateral assessment. Addressing these challenges through regulatory improvements, digital transformation, and greater standardization of valuation practices would contribute to a more reliable and efficient secured lending system. Overall, the current practices of movable asset valuation in Uzbekistan demonstrate substantial progress toward establishing a transparent and reliable collateral valuation system. Nevertheless, further improvements in digital valuation technologies, the availability of market information, standardized appraisal methodologies, and institutional coordination remain essential for achieving full compliance with international best practices and enhancing the efficiency of secured lending.

CONCLUSION AND SUGGESTIONS

The findings of this study demonstrate that Uzbekistan has established a comprehensive legal and institutional framework for the valuation of movable assets used as loan collateral. The adoption of the Law on Valuation Activities, the National Valuation Standards, and the Electronic Collateral Registry has significantly strengthened the transparency and legal certainty of secured lending practices. Commercial banks increasingly rely on licensed valuation organizations and internationally recognized valuation approaches to determine the market value of movable assets and manage credit risk more effectively.

Despite the progress achieved, several areas remain in which the efficiency and consistency of movable asset valuation practices could be further improved. Limited secondary markets for specialized equipment, rapid technological depreciation, inconsistencies in valuation practices, and the relatively low level of digitalization reduce valuation accuracy and increase operational risk. Addressing these challenges requires the broader

⁷ Source: Compiled by the author based on illustrative commercial banking practices.

⁸ Source: Compiled by the author based on the analysis of scientific literature and current valuation practices [6–12].

implementation of digital valuation technologies, improved access to market information, greater standardization of valuation methodologies, and stronger institutional coordination among regulators, commercial banks, and valuation professionals.

Future reforms should focus on integrating artificial intelligence, automated valuation models (AVMs), big data analytics, blockchain-based collateral registration, and machine learning into collateral valuation processes. These technologies have the potential to improve valuation accuracy, reduce processing time, enhance transparency, and strengthen credit risk management. The adoption of international best practices and the continued modernization of the valuation system will further improve access to finance, particularly for small and medium-sized enterprises, and contribute to the sustainable development of Uzbekistan's banking and financial sector.

REFERENCES

- Republic of Uzbekistan. Law No. 811-I "On Valuation Activities" dated August 19 1999 // National Database of Legislation of the Republic of Uzbekistan. – URL: <https://lex.uz/docs/-24703> (accessed: July 15, 2026).
- Republic of Uzbekistan. Civil Code of the Republic of Uzbekistan. Part One: approved by Law No. 163-I dated 21 December 1995; Part Two: approved by Law No. 256-I dated 29 August 1996. Effective from 1 March 1997 // National Database of Legislation of the Republic of Uzbekistan. – URL: <https://lex.uz/docs/-111189>; <https://lex.uz/docs/-180552> (accessed: 15 July 2026).
- Republic of Uzbekistan. Law No. 736-XII "On Pledge" dated 9 December 1992, in the new edition approved by Law No. 614-I dated 1 May 1998 // National Database of Legislation of the Republic of Uzbekistan. – URL: <https://lex.uz/docs/-59914> (accessed: 15 July 2026).
- Republic of Uzbekistan. Law No. O'RQ-58 "On Mortgage", dated 4 October 2006 // National Database of Legislation of the Republic of Uzbekistan. – URL: <https://lex.uz/docs/-1063359> (accessed: 15 July 2026).
- Republic of Uzbekistan. Unified National Valuation Standard: approved by Order No. 01/11-14/29 of the Director of the Agency for Management of State Assets of the Republic of Uzbekistan dated 25 October 2023; registered by the Ministry of Justice under No. 3487 on 28 December 2023 // National Database of Legislation of the Republic of Uzbekistan. – URL: <https://lex.uz/docs/-6720235> (accessed: 15 July 2026).
- Aktamov B. Directions for the Development of Valuation Activities and Their Organizational and Legal Foundations in the Republic of Uzbekistan // Eurasian Journal of Academic Research. – 2023. – Vol. 3, No. 12, Part 2. – P. 162–172. – In Uzbek.
- Yoqubboyev I. Legal Foundations, Objectives, and Stages of Property Valuation // Iqtisodiy taraqqiyot va tahlil. – 2024. – Vol. 2, No. 3. – P. 193–200. – DOI: 10.60078/2992-877X-2024-vol2-iss3-pp193-200. – In Uzbek.
- To'lakov U.T. Strategic and Methodological Aspects of Introducing a Mass Real Estate Valuation System in Uzbekistan // Iqtisodiy taraqqiyot va tahlil. – 2026. – Vol. 4, No. 1. – P. 223–228. – DOI: 10.60078/2992-877X-2026-vol4-iss1-pp223-228. – In Uzbek.
- Turayeva G., Xayrullayeva A., Rahimova Sh., G'ofurova G., Tojiboyev E. Practical Aspects of Real Estate Valuation // The Role of Exact Sciences in the Era of Modern Development. – 2025. – Vol. 3, No. 2. – P. 52–54. – In Uzbek.
- Lobanova E.I. Problems of Property Valuation for Collateral Purposes // Interexpo GEO-Siberia. – 2014. – Vol. 3, No. 1. – P. 231–235. – In Russian.
- Campello M., Larrain M. Enlarging the Contracting Space: Collateral Menus, Access to Credit, and Economic Activity // The Review of Financial Studies. – 2016. – Vol. 29, No. 2. – P. 349–383. – DOI: 10.1093/rfs/hhv069.
- International Valuation Standards. Effective 31 January 2025. – London: International Valuation Standards Council, 2024. – URL: <https://www.ivsc.org> (accessed: July 15, 2026).

Proofreader: Xondamir Ismoilov
Layout and Designer: Oloviddin Sobir ugli

2026. № 5

© 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.

