

INNOVATION SCIENCE AND TECHNOLOGY



Scopus || Electronic journal specializing in Scopus

ISSUE 2



Acceptance of papers **February, 2026**



Acceptance of papers

Published monthly



Topics

economics, technology, social sciences

ISSN 3060-5229



Digital Object Identifier



Visit the website t.me/scopus_IST2100

Editorial board:



EDITOR-IN-CHIEF:

Mirzaliyev Sanjar Makhmatjon ugli

DEPUTY EDITOR-IN-CHIEF:

Makhmudov Nosir Makhmudovich
DSc., Prof., Academician

DEPUTY EDITOR-IN-CHIEF:

Ochilov Bobur Bakhtiyor ugli – Senior
lecturer at TSUI

THE SCIENTIFIC-POPULAR ELECTRONIC
JOURNAL "INNOVATION SCIENCE AND
TECHNOLOGY" HAS BEEN REGISTERED
UNDER THE NUMBER C-5669633 BY THE
AGENCY FOR INFORMATION AND MASS
COMMUNICATIONS (AOKA) OF THE
REPUBLIC OF UZBEKISTAN, EFFECTIVE
FROM OCTOBER 9, 2024.

CONTACTS

Phone: +998 50 737 87 88

Website: <https://ist-journal.uz>

Email: innovationist2025@gmail.com

The scientific electronic journal "Innovation Science and Technology" has been included in the list of scientific publications recommended for the publication of main scientific results of dissertations for the award of PhD and DSc degrees in economics and technical sciences, in accordance with the Resolution No. 370 of the Presidium of the Higher Attestation Commission of the Republic of Uzbekistan, dated May 8, 2025.



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



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



Cham Tat Huei,
Doctor of Philosophy (PhD), Professor (Malaysia)



Muhammad Imran Sadiq
Doctor of Philosophy in Economics (PhD), Professor,
Malaysia



Ahmed Aziz Ismail
Doctor of Technical Sciences (DSc),
Professor (Egypt)



Lee Chin
Doctor of Philosophy in Economics (PhD), (Malaysia)



Asongu Simplicie
Doctor of Philosophy in Economics (PhD), Cameroon



Rui Dang
Doctor of Chemistry (DSc), Professor, China



Zahoor Ahmed
Doctor of Philosophy in Economics (PhD), Turkey



Shujaat Abbas
Doctor of Philosophy in Economics (PhD), Russia



Tina A Coffelt
Doctor of Philosophy in Educational Sciences (PhD),
USA



Abdikarimova Dinara Rustamxanovna
Doctor of Economic Sciences (DSc), Professor

Kurbonbekova Mohichehra Turobjonovna
Doctor of Economic Sciences (DSc), Professor

Alimardonov Ilkhom Muzrabshokovich
Doctor of Economic Sciences (DSc), Professor



Razakova Barno Sayfiyevna
Doctor of Philosophy in Economics (PhD)



Khasanov Sarvar Ulugbek ugli
Doctor of Philosophy in Economics (PhD)



Kholikova Rukhsora Sanjarovna
Associate Professor (PhD)

CONTENTS

DIGITAL TECHNOLOGY INTEGRATION TRENDS AND CHALLENGES IN PEDIATRIC DENTISTRY	15
Tursunov Begzod Sherzodovich, Solijonov Sherzod Qahramonovich	
THE ROLE OF RISKS AND RISK MANAGEMENT IN MANAGING THE SOLVENCY OF INSURANCE COMPANIES	20
Xalikulova Shirin Utkir qizi	
INVESTMENT OPPORTUNITIES IN THE SECURITIES MARKET OF UZBEKISTAN: DIVIDEND YIELD, INSTITUTIONAL REFORMS AND INTERNATIONAL ATTRACTIVENESS.....	25
Akhliyor Ibragimov	
A CONCEPTUAL APPROACH TO ANTI-MONOPOLY CONTROL IN SERVICE INDUSTRIES ADAPTED TO THE CONDITIONS OF UZBEKISTAN.....	30
Bekbutayev Nodirjon Fayzullayevich	
TECHNOLOGICAL FEATURES OF WEAR-RESISTANT SURFACING OF METALLIC COMPONENTS ALLOYED WITH CARBON, MANGANESE, AND SILICON USING FUSED FLUXES.....	35
Khudoyorov Sardor Sadullaevich, Khudoykulov Nurilla Zikirillaevich	
ECONOMIC EFFICIENCY OF IMPLEMENTING INTEGRATED MARKETING COMMUNICATIONS IN ENTERING NEW MARKETS IN UZBEKISTAN	39
Baqoyev Sunnatillo Burxon o'g'li	
ENVIRONMENTALLY EFFICIENT FATLIQUORING AGENTS IN KARAKUL FATLIQUORING TECHNOLOGY.....	46
Rustamov Bobir Ismatovich, Shodieva Dilnoza Turajon qizi	
STRATEGIC PLANNING IN IMPROVING THE METHODOLOGY FOR MANAGING INVESTMENT PROJECTS IN THE TEXTILE INDUSTRY.....	51
Qurbonov Jasurbek Pozilovich	
FOUNDATIONS OF ENGLISH TEACHING BASED ON PROVERBS (UZBEK AND AFGAN WORDS).....	56
Samadi Nooria	
MATHEMATICAL MODELING AND SOLUTION ALGORITHMS OF GEOMETRIC PROBLEMS IN NUMERICALLY CONTROLLED MACHINES.....	60
Khasanov Bobirmirzo Makhmudali ugli, Yusupov Sardorbek Ma'rufovich, Abdullajonov Asadbek Sherzodbek ugli	
INNOVATION IS A KEY FACTOR IN THE DEVELOPMENT OF THE ENERGY INDUSTRY.....	70
Gavkhar Absamatovna Khamdamova	
MARKETING PROBLEMS IN THE INTERNATIONAL INDUSTRIAL ENTERPRISE MARKET AND FOREIGN EXPERIENCE IN SOLVING THEM.....	76
Usmanova Dilfuza Ilhomovna	
FUZZY ROBUST CONTROLLERS FOR GAS PURIFICATION PROCESSES.....	82
Sh. D. Tulyaganov	
METHODOLOGICAL PROBLEMS OF MARKETING IN FURNITURE ENTERPRISES IN THE CONTEXT OF THE IMPLEMENTATION OF THE NEW UZBEKISTAN DEVELOPMENT STRATEGY	87
Musayeva Shoirazimovna	
THE ROLE OF METHODOLOGICAL COMPETENCE IN FUNDAMENTALIZING THE PROFESSIONAL PREPARATION OF FUTURE ECONOMICS TEACHERS	92
Djumanazarova Zamira Kojabayevna	
MAHALLIY BUDJET DAROMADLARI BARQARORLIGINI TA'MINLASH YO'NALISHLARI	97
Isoqov Zafarjon Zokirjonovich	
LIQUIDITY PROVISION IN BANKS THROUGH EFFECTIVE ASSET-LIABILITY MANAGEMENT.....	101
Sulaymanov Samandarboy Adhambek ugli	
EFFECTIVENESS OF THE "MANAGEMENT CERTIFICATE" SYSTEM IN THE PROFESSIONAL DEVELOPMENT OF PRE-SCHOOL EDUCATION SYSTEM LEADERS AND MECHANISMS FOR ITS IMPROVEMENT	108
Mamatqulova Shoxsanam Dilshodovna	

REGIONAL DISPARITIES IN SMALL BUSINESS DEVELOPMENT: A CLUSTER AND INDEX ANALYSIS.....	114
Akbarova Barno Shukhratovna	
INSTITUTIONAL COORDINATION AND TOURISM GOVERNANCE IN UZBEKISTAN: A THEORETICAL AND EMPIRICAL ANALYSIS.....	119
Akkulov Abdulaziz Uralbaevich	
USE OF ECONOMETRIC FORECAST INDICATORS IN MANAGING THE COMPETITIVENESS OF FOOD INDUSTRY ENTERPRISES	124
Xusanova Gavhar	
STRATEGY FOR DEVELOPING INCLUSIVE FINANCING IN THE MANAGEMENT OF COMMERCIAL BANKS AND ITS INSTITUTIONAL FOUNDATIONS	130
Rajabov Oybek Panjievich	
SCENARIO ANALYSIS OF IMPROVING THE ENERGY EFFICIENCY OF UZBEKISTAN'S ECONOMY UNDER CONDITIONS OF UNCERTAINTY.....	134
Muslimova F.S., Khashimova N.A.	
SCIENTIFIC AND THEORETICAL VIEWS ON THE FINANCING OF PROJECTS BASED ON PUBLIC-PRIVATE PARTNERSHIP	141
Ergashev Ahmadjon	
THE INFLUENCE OF TAX INCENTIVES ON INNOVATION IN INDUSTRIAL ENTERPRISES.....	146
Bahriddinov Nodirbek Zamirdinovich	
KORXONALARDA SOTISH TIZIMINI TASHKIL ETISH VA TAKOMILLASHTIRISH.....	150
Abduxalilova Laylo Tohtasinovna	
CRITERIA FOR EVALUATING THE EFFECTIVENESS OF MARKETING ACTIVITIES IN CONSTRUCTION MATERIALS MANUFACTURING ENTERPRISES	156
Uzakova Umida Ruziyevna	
INFLATION, ECONOMIC GROWTH, AND UNEMPLOYMENT: REVISITING THE PHILLIPS AND OKUN FRAMEWORKS IN THE CONTEXT OF JOB CREATION	163
Zakhidov Azizbek Rustamovich	

INFLATION, ECONOMIC GROWTH, AND UNEMPLOYMENT: REVISITING THE PHILLIPS AND OKUN FRAMEWORKS IN THE CONTEXT OF JOB CREATION



Zakhidov Azizbek Rustamovich

Westminster International University in Tashkent

Part-time PhD student

Abstract: This article presents a systematic review of the theoretical and empirical literature examining the interrelationship between inflation, economic growth, and unemployment within the frameworks of the Phillips Curve and Okun's Law. The study critically reassesses these foundational macroeconomic relationships in the context of job creation and job destruction, with particular attention to emerging and transitional economies.

The review synthesises classical, expectations-augmented, and New Keynesian interpretations of the inflation–unemployment trade-off, alongside modern extensions incorporating nonlinearity, asymmetry, and structural breaks in the growth–unemployment nexus. It evaluates how macroeconomic instability, supply shocks, policy regimes, and institutional characteristics influence the stability and magnitude of these relationships over time.

Special attention is devoted to empirical evidence from developing and post-transition economies, where traditional linear specifications often fail to capture labour market dynamics. The article highlights the importance of incorporating cyclical asymmetries, business-cycle phases, and structural constraints when analysing employment responses to macroeconomic fluctuations.

Methodologically, the study adopts a structured analytical review approach, comparing theoretical propositions with cross-country empirical findings. Job creation and job destruction are conceptualised as macroeconomically driven processes shaped not only by output dynamics but also by inflation expectations, monetary–fiscal coordination, and institutional settings.

The contribution of the article lies in integrating the Phillips and Okun frameworks into a unified analytical perspective that links macroeconomic volatility to employment dynamics. By systematising existing evidence, the review provides a conceptual foundation for future empirical modelling and policy design aimed at promoting sustainable and employment-intensive economic growth.

Key words: Inflation; Economic Growth; Unemployment; Phillips Curve; Okun's Law; Job Creation; Macroeconomic Stability.

Annotatsiya: Ushbu maqolada Phillips egri chizig'i va Okun qonuni doirasida inflyatsiya, iqtisodiy o'sish va ishsizlik o'rtasidagi o'zaro bog'liqlikni o'rganuvchi nazariy va empirik adabiyotlarning tizimli sharhi keltirilgan. Tadqiqotda ushbu asosiy makroiqtisodiy munosabatlar ish o'rinlarini yaratish va yo'q qilish kontekstida, ayniqsa rivojlanayotgan va o'tish davri iqtisodiyotlariga e'tibor qaratgan holda, tanqidiy qayta baholanadi.

Sharhda inflyatsiya-ishsizlik o'rtasidagi murosaning klassik, kutilgan va yangi Keynscha talqinlari, shuningdek, o'sish-ishsizlik o'rtasidagi bog'liqlikdagi chiziqli bo'lmaganlik, assimetriya va tarkibiy tanaffuslarni o'z ichiga olgan zamonaviy kengaytmalar sintez qilinadi. Unda makroiqtisodiy beqarorlik, ta'minot shoklari, siyosat rejimlari va institutsional xususiyatlar vaqt o'tishi bilan bu munosabatlarning barqarorligi va hajmiga qanday ta'sir qilishi baholanadi.

Rivojlanayotgan va o'tish davridan keyingi iqtisodiyotlardan olingan empirik dalillarga alohida e'tibor qaratilgan bo'lib, bu yerda an'anaviy chiziqli spetsifikatsiyalar ko'pincha mehnat bozori dinamikasini aks ettira olmaydi. Maqolada makroiqtisodiy tebranishlarga bandlikning javoblarini tahlil qilishda tsiklik assimetriyalar, biznes tsiklining fazalari va tarkibiy cheklovlarni hisobga olish muhimligi ta'kidlangan. Metodologik jihatdan, tadqiqot nazariy takliflarni mamlakatlararo empirik topilmalar bilan taqqoslab, strukturaviy analitik tahlil yondashuvini qo'llaydi. Ish o'rinlarini yaratish va yo'q qilish nafaqat ishlab chiqarish dinamikasi, balki inflyatsiya kutilmalari, pul-moliyaviy muvofiqlashtirish va institutsional sharoitlar bilan ham shakllangan makroiqtisodiy jihatdan boshqariladigan jarayonlar sifatida kontseptsiyalashtiriladi.

Maqolaning hissasi makroiqtisodiy o'zgaruvchanlikni bandlik dinamikasi bilan bog'laydigan yagona analitik nuqtai nazarga Filips va Okun doiralari integratsiyalashdan iborat. Mavjud dalillarni tizimlashtirish orqali, sharh barqaror va bandlikka asoslangan iqtisodiy o'sishni rag'batlantirishga qaratilgan kelajakdagi empirik modellashtirish va siyosatni ishlab chiqish uchun kontseptual asos yaratadi.

Kalit so'zlar: Inflyatsiya; Iqtisodiy o'sish; Ishsizlik; Filips egri chizig'i; Okun qonuni; Ish o'rinlarini yaratish; Makroiqtisodiy barqarorlik.

Аннотация: В данной статье представлен систематический обзор теоретической и эмпирической литературы, изучающей взаимосвязь между инфляцией, экономическим ростом и безработицей в рамках кривой Филлипса и закона Окуна. В исследовании критически переоцениваются эти основополагающие макроэкономические взаимосвязи в контексте создания и сокращения рабочих мест, с особым вниманием к развивающимся и переходным экономикам.

В обзоре синтезируются классические, дополненные ожиданиями и неокейнсианские интерпретации компромисса между инфляцией и безработицей, а также современные расширения, включающие нелинейность, асимметрию и структурные разрывы во взаимосвязи роста и безработицы. Оценивается, как макроэкономическая нестабильность, шоки предложения, политические режимы и институциональные характеристики влияют на стабильность и величину этих взаимосвязей во времени.

Особое внимание уделяется эмпирическим данным из развивающихся и постпереходных экономик, где традиционные линейные спецификации часто не позволяют отразить динамику рынка труда. В статье подчеркивается важность учета циклических асимметрий, фаз делового цикла и структурных ограничений при анализе реакции занятости на макроэкономические колебания.

В методологическом плане в исследовании используется структурированный аналитический обзор, сравнивающий теоретические положения с эмпирическими данными по разным странам. Создание и сокращение рабочих мест рассматриваются как макроэкономически обусловленные процессы, формируемые не только динамикой производства, но и инфляционными ожиданиями, координацией денежно-кредитной и фискальной политики, а также институциональными условиями.

Вклад статьи заключается в интеграции концепций Филлипса и Окуна в единую аналитическую перспективу, связывающую макроэкономическую волатильность с динамикой занятости. Систематизируя имеющиеся данные, обзор обеспечивает концептуальную основу для будущего эмпирического моделирования и разработки политики, направленной на содействие устойчивому и высокоэффективному экономическому росту.

Ключевые слова: Инфляция; Экономический рост; Безработица; Кривая Филлипса; Закон Окуна; Создание рабочих мест; Макроэкономическая стабильность.

INTRODUCTION

Over the past several decades, the interrelationship between inflation, economic growth, and unemployment has remained central to macroeconomic analysis due to its profound implications for labour market stability, welfare outcomes, and economic policy design. These variables constitute the core triad of macroeconomic performance and are closely monitored by policymakers seeking to balance sustainable growth with price stability and high employment [4], [16]. Both classical and modern macroeconomic frameworks emphasise that fluctuations in aggregate demand and price dynamics are transmitted to the labour market through adjustments in employment, wages, and productivity, thereby shaping job creation and job destruction processes.

Historically, the Phillips Curve and Okun's Law have provided the principal analytical foundations for understanding these linkages. The Phillips Curve, originally formulated by Phillips [21], identified an inverse relationship between inflation and unemployment, later refined through expectations-augmented models that incorporated adaptive and rational expectations [9], [22]. Okun's Law established a systematic empirical relationship between output growth and changes in unemployment, suggesting that economic expansions above potential are associated with declining unemployment rates [20]. Together, these frameworks have

significantly influenced macroeconomic stabilisation strategies, particularly monetary policy rules and counter-cyclical fiscal interventions [24], [7].

However, accumulating empirical evidence demonstrates that these relationships are neither structurally stable nor universally linear. Structural breaks, supply shocks, evolving inflation expectations, and policy regime shifts have altered both the magnitude and direction of the inflation–unemployment trade-off [15], [11]. The New Keynesian Phillips Curve further reconceptualised inflation dynamics by emphasising forward-looking expectations and real marginal costs rather than simple unemployment gaps [10], [25]. Similarly, empirical studies of Okun's Law reveal considerable cross-country heterogeneity, time variation in coefficients, and the presence of asymmetry and nonlinearity in output–unemployment responses [1], [13], [8].

Revisiting these frameworks is particularly important in emerging and transitional economies, where labour markets operate under structural rigidities, sectoral imbalances, and ongoing institutional transformation [6], [23]. In such contexts, output growth may not generate proportional employment gains, and inflationary pressures can coexist with persistent or structurally embedded unemployment. These dynamics challenge conventional interpretations of both the Phillips Curve and Okun's Law and underscore the need to examine how macroeconomic fluctuations translate into labour market outcomes under conditions of structural change.

Recent global shocks—including the global financial crisis, prolonged episodes of economic policy uncertainty, geopolitical tensions, and the COVID-19 pandemic—have further exposed the fragility of traditional macroeconomic relationships [3], [12]. Empirical research increasingly documents asymmetric and nonlinear responses of unemployment to output shocks, with downturns exerting stronger and more persistent labour market effects than expansions [17], [18]. These findings highlight the limitations of static and linear specifications and reinforce the importance of incorporating expectations dynamics, institutional settings, and cyclical asymmetries into macroeconomic–labour analysis.

Despite the extensive body of theoretical and empirical contributions, the literature remains fragmented across competing paradigms and methodological approaches. Some studies concentrate on short-run inflation–unemployment trade-offs [11], while others emphasise long-run growth–employment elasticities [14], [1]. Research incorporating structural breaks, nonlinear modelling, and regime shifts often develops independently from traditional macroeconomic frameworks. Consequently, there is a need for a systematic and integrated reassessment of the Phillips and Okun relationships within a unified macro-labour perspective.

This article addresses this gap by conducting a structured review of theoretical and empirical research on the inflation–growth–unemployment nexus. It synthesises classical, expectations-augmented, and New Keynesian interpretations of the Phillips Curve with modern empirical evidence on Okun's Law, including asymmetric and nonlinear specifications. Particular attention is devoted to understanding how macroeconomic instability and structural conditions influence job creation and job destruction, especially in transitional economic environments.

The object of the study is the macroeconomic relationship between inflation, economic growth, and unemployment.

The subject of the study is the set of theoretical mechanisms and empirical regularities linking macroeconomic fluctuations to employment dynamics.

The aim of the article is to systematise and critically reassess existing theoretical and empirical research on the Phillips Curve and Okun's Law in order to clarify their explanatory power for understanding employment dynamics and job creation in modern and transitional economies.

LITERATURE REVIEW

Research on the interrelationship between inflation, economic growth, and unemployment has evolved substantially over the past several decades, reflecting sustained interest in understanding how macroeconomic fluctuations transmit to labour market outcomes. Early empirical work by Phillips identified an inverse relationship between wage inflation and unemployment [21], later extended to price inflation and formalised within expectations-augmented frameworks [9], [22]. Within this tradition, short-run trade-offs between inflation and unemployment were interpreted as central to macroeconomic stabilisation policy. However, the long-run neutrality of money and the role of adaptive or rational expectations challenged the stability of this relationship, leading to the view that any inflation–unemployment trade-off is temporary and contingent on expectation errors [15].

The development of the New Keynesian Phillips Curve (NKPC) marked a further refinement of the framework by grounding inflation dynamics in forward-looking expectations and real marginal costs rather than simple unemployment gaps [10], [25]. Empirical evidence suggests that expected future inflation plays a dominant role in determining current inflation, while the slope of the Phillips Curve may vary across policy regimes and business-cycle phases [11]. Recent studies also document a flattening of the Phillips Curve in

advanced economies, raising questions regarding the strength of the inflation–labour market linkage under modern monetary regimes [2].

Parallel to inflation–unemployment research, Okun established an empirical relationship between output growth and changes in unemployment [20], positing that economic expansions above potential reduce unemployment rates. Subsequent research confirms the negative association between GDP growth and unemployment in many contexts [1], yet also highlights significant cross-country heterogeneity in the magnitude of the Okun coefficient [14], [13]. Evidence from emerging and transitional economies suggests that output growth does not always translate proportionally into employment gains, giving rise to episodes of “jobless growth” [6].

A growing body of literature emphasises that the growth–unemployment relationship is neither strictly linear nor symmetric. Empirical findings indicate that unemployment responds more strongly to negative output shocks than to positive expansions [8], [17]. Structural breaks, financial crises, and institutional transformations further alter the responsiveness of unemployment to output changes [13]. These results imply that traditional linear specifications may underestimate labour market vulnerability during downturns and overstate employment gains during recoveries.

In transitional and post-socialist economies, macroeconomic transmission mechanisms are further complicated by institutional restructuring, sectoral reallocation, and regional disparities. Studies of Central and Eastern European countries show that labour market rigidities and firm restructuring shape the magnitude and persistence of unemployment responses to output fluctuations [23]. In some cases, output growth has coexisted with persistent unemployment due to structural adjustment costs and sectoral imbalances [6]. These findings suggest that macroeconomic expansion alone may be insufficient to generate sustained job creation without complementary structural reforms.

Recent global shocks have added further complexity to macroeconomic–labour market linkages. The global financial crisis and the COVID-19 pandemic exposed nonlinear and regime-dependent relationships between output and unemployment [12]. Evidence indicates that negative shocks generate more persistent employment losses than positive shocks generate employment gains, reinforcing asymmetry in Okun’s relationship [17]. Moreover, supply-side disruptions have revived debates on stagflationary dynamics, where inflation and unemployment may increase simultaneously, challenging traditional Phillips Curve interpretations [11].

Institutional design and policy frameworks also influence macroeconomic–labour market interactions. Monetary policy regimes targeting inflation have altered inflation expectations and potentially flattened the Phillips Curve [7]. Fiscal–monetary coordination and automatic stabilisers further shape the speed and distribution of employment adjustment during macroeconomic fluctuations [5]. In emerging economies, weaker institutions and higher structural volatility may amplify macroeconomic shocks and alter employment elasticity with respect to growth [19].

Within this broader literature, the Russian and CIS contexts represent distinctive cases due to post-transition structural legacies, regional heterogeneity, and recurrent macroeconomic shocks. Empirical evidence from transitional economies suggests that growth–employment linkages may be weaker or more unstable than predicted by standard Okun coefficients [6], [23]. Episodes of high inflation combined with elevated unemployment further complicate the inflation–labour market nexus, indicating potential regime shifts or structural breaks in macroeconomic relationships [15].

Despite the extensive international evidence on the Phillips Curve and Okun’s Law, the literature remains fragmented across theoretical traditions and empirical methodologies. Studies often analyse inflation–unemployment or growth–unemployment relationships in isolation [11], [14], while fewer contributions integrate both frameworks into a unified perspective on job creation and job destruction dynamics. Moreover, nonlinear modelling, structural break analysis, and asymmetry considerations are not consistently incorporated into macro-labour analysis in transitional contexts.

Overall, existing research suggests that employment dynamics are shaped by the joint interaction of inflation expectations, output fluctuations, institutional conditions, and policy regimes. However, there remains a need for an integrated analytical synthesis that reassesses the Phillips and Okun frameworks within a common macro-labour perspective. The present study addresses this gap by consolidating theoretical developments and empirical findings, emphasising nonlinearity, asymmetry, and structural volatility as key mechanisms linking macroeconomic instability to job creation and job destruction processes.

RESEARCH METHODOLOGY

This article adopts a qualitative analytical research design based on a structured and systematic review of theoretical and empirical literature examining the interrelationship between inflation, economic growth, and unemployment. The methodological approach is intended to identify, organise, and critically assess the principal

analytical frameworks that link macroeconomic fluctuations to employment dynamics, with particular emphasis on the Phillips Curve [21] and Okun's Law [20]. A literature-based analytical design is especially appropriate in contexts where employment outcomes are shaped by complex macroeconomic transmission mechanisms, expectations formation [9], [22], institutional settings [19], and structural volatility [3] rather than by isolated microeconomic factors.

The primary methodological instrument employed in the study is a structured literature review. Academic publications were selected from leading peer-reviewed journals, working paper series, and institutional research reports in macroeconomics and labour economics. The reviewed studies were organised thematically around key macroeconomic mechanisms, including: (i) inflation–unemployment trade-offs within classical and expectations-augmented Phillips frameworks [21], [9], [22]; (ii) output–unemployment dynamics within Okun's Law [20], [1]; (iii) forward-looking inflation models such as the New Keynesian Phillips Curve [10], [25]; (iv) nonlinear and asymmetric specifications of macro-labour relationships [8], [17]; and (v) the role of monetary and fiscal policy regimes in shaping employment responses [7], [5].

A comparative analytical method was applied to evaluate similarities and differences in macroeconomic–labour market linkages across advanced, developing, and transitional economies. This comparative perspective allows the study to assess how institutional maturity, labour market flexibility, structural transformation, and policy credibility condition the magnitude and stability of Phillips and Okun relationships [6], [23]. Particular attention is devoted to transitional and post-socialist economies, where structural rigidities and institutional legacies may weaken or destabilise traditional macroeconomic relationships [6], [19].

The analysis also incorporates an institutional macroeconomic perspective, drawing on insights from monetary economics and political economy to interpret inflation and unemployment dynamics as outcomes influenced by policy regimes, credibility of inflation targeting, fiscal–monetary coordination, and labour market institutions [7], [19]. This approach is used to evaluate how employment protection frameworks, public sector intervention, and labour market regulation interact with macroeconomic shocks to shape job creation and job destruction processes. The importance of uncertainty and macroeconomic volatility as conditioning factors is supported by evidence demonstrating that financial crises, geopolitical instability, and global pandemics alter both inflation expectations and employment elasticities [3], [12].

In addition, elements of analytical synthesis were employed to consolidate fragmented strands of macroeconomic research. Rather than treating the Phillips Curve and Okun's Law as separate empirical regularities, the study examines their interaction within a unified macro-labour framework. Particular emphasis is placed on incorporating structural breaks [13], business-cycle asymmetries [17], and nonlinear adjustment dynamics documented in recent empirical literature [8]. This integrative perspective allows for a more comprehensive interpretation of employment responses to macroeconomic fluctuations.

Overall, the chosen methodology is appropriate for the objectives of the study, as it facilitates a conceptually grounded reassessment of classical macroeconomic relationships without relying on new econometric estimation. By systematically synthesising theoretical developments and empirical findings, the approach provides a robust foundation for future quantitative research, including time-series modelling, VAR-based impulse response analysis, and nonlinear specifications of the inflation–growth–unemployment nexus in transitional economic contexts.

ANALYSIS AND RESULTS

Inflation, economic growth, and unemployment occupy a central position in macroeconomic analysis because they jointly determine macroeconomic stability, social welfare, and the effectiveness of stabilisation policy [4], [18]. Contemporary macroeconomics increasingly recognises that employment outcomes are not determined solely by output expansion; rather, they reflect a complex interaction between aggregate demand conditions, expectations formation, institutional structures, firm behaviour, and external economic shocks [9], [22]. In transitional and structurally volatile economies, these interactions are often amplified due to incomplete institutional frameworks, structural rigidities, and recurrent macroeconomic disturbances, which influence both job creation and job destruction processes [6], [3].

Classical macroeconomic approaches conceptualise unemployment and inflation through equilibrium models in which output and labour markets adjust to shocks under price flexibility. Within this framework, inflation reflects excess demand conditions, while unemployment emerges from deviations between actual and potential output. The Phillips Curve formalised the short-run trade-off between inflation and unemployment [21], later extended through expectations-augmented models emphasising adaptive and rational expectations [9], [22]. These developments highlighted that any inflation–unemployment trade-off is contingent upon expectations dynamics and policy credibility rather than being structurally stable [13].

Similarly, Okun's Law conceptualises unemployment as a function of output fluctuations, linking economic growth above potential to reductions in unemployment [20]. Empirical evidence confirms a generally negative association between GDP growth and changes in unemployment, yet the magnitude and stability of this relationship vary across institutional settings and business-cycle phases [1], [16]. In many emerging and transitional economies, output growth does not uniformly translate into employment gains, raising concerns about jobless growth and weak employment elasticity with respect to output [6].

Institutional and policy-based perspectives further suggest that macroeconomic transmission mechanisms operate through regulatory frameworks, labour market flexibility, and firm adjustment strategies. Under conditions of economic uncertainty, firms may adjust through wage moderation, labour hoarding, or delayed hiring rather than through immediate employment expansion. Monetary and fiscal policy regimes shape these responses by influencing inflation expectations, aggregate demand stability, and investment incentives [7], [5]. Empirical evidence indicates that heightened economic policy uncertainty amplifies unemployment volatility and weakens the predictability of macroeconomic relationships [3].

Across economies, structural characteristics critically condition the growth–employment nexus. Labour market segmentation, skill mismatches, and sectoral composition influence how output fluctuations translate into job creation. Empirical findings show that unemployment responses to output shocks are frequently nonlinear and asymmetric: negative output shocks tend to produce stronger and more persistent increases in unemployment than positive shocks generate reductions [8], [17]. These asymmetries imply that standard linear Okun specifications may underestimate labour market vulnerability during downturns.

Technological transformation and structural change further reshape macroeconomic–labour linkages. Automation, digitalisation, and sectoral reallocation alter labour demand patterns, potentially weakening traditional relationships between aggregate output growth and employment expansion. Firm-level heterogeneity and productivity dispersion increasingly influence employment adjustment, suggesting that aggregate growth may mask divergent sectoral dynamics [29]. In transitional economies, uneven technological diffusion and institutional inertia may limit the capacity of growth episodes to generate broad-based employment gains [6].

Beyond structural factors, social and regional characteristics also influence macroeconomic–labour interactions. Regional disparities, uneven industrial concentration, and sectoral imbalances affect employment elasticities and may amplify unemployment persistence even during periods of positive growth. Urban concentration of productive sectors may generate localised employment gains while peripheral regions experience stagnation, reinforcing spatial inequality in labour market outcomes [14], [16], [24].

External macroeconomic shocks introduce an additional layer of instability. Financial crises, pandemics, and geopolitical disruptions simultaneously affect output, inflation expectations, and labour demand. Evidence from the global financial crisis and the COVID-19 pandemic demonstrates that shocks do not produce symmetric adjustments: employment losses tend to be abrupt and concentrated, while recovery is gradual and uneven [12], [17]. Supply-side disruptions may also produce episodes of stagflation, where inflation and unemployment increase simultaneously, challenging conventional Phillips Curve interpretations [15].

In the CIS and broader post-socialist space, transition legacies provide a distinctive context for analysing macroeconomic–labour linkages. Decentralised wage-setting, enterprise restructuring, and sectoral reallocation have weakened the transmission from output growth to employment expansion in some cases [6], [19]. Empirical evidence suggests that firm-level constraints and institutional rigidities influence unemployment adjustment and may generate persistent deviations from standard Okun predictions [26]. Occupational restructuring and skill obsolescence further contribute to structural unemployment, particularly during periods of rapid transformation [6].

Taken together, the literature identifies several recurring mechanisms shaping macroeconomic–employment dynamics in transitional economies:

- inflation–unemployment trade-offs are contingent upon expectations and policy credibility rather than mechanically stable [9], [22];
- output–unemployment relationships are heterogeneous, nonlinear, and asymmetric [1], [17];
- institutional and structural rigidities weaken the employment elasticity of growth [6];
- technological and sectoral transformation alters labour demand responsiveness [29];
- external shocks amplify labour market volatility and may destabilise traditional macroeconomic relationships [3], [12].

Overall, employment dynamics in transitional economies emerge as the product of interacting macroeconomic forces, institutional structures, and structural transformation processes. By integrating Phillips and Okun frameworks with evidence on nonlinearity, asymmetry, and institutional conditioning, the analysis advances a comprehensive macro-labour interpretation of job creation and job destruction under conditions of structural uncertainty and policy transformation.

DISCUSSION AND RECOMMENDATIONS

The reviewed literature indicates that macroeconomic relationships between inflation, economic growth, and unemployment—particularly in transitional and structurally volatile economies—are shaped primarily by structural and institutional forces rather than by purely temporary or cyclical fluctuations. Across theoretical and empirical strands, employment dynamics emerge as the outcome of a complex interaction between aggregate demand conditions, expectations formation, institutional arrangements, firm adjustment strategies, technological transformation, and external shocks. This body of evidence supports an interpretation of macroeconomic–labour linkages as operating through institutional transmission mechanisms and structural constraints rather than through frictionless and mechanically stable equilibrium relationships.

A key insight from the literature is that macroeconomic and policy uncertainty alters employment adjustment mechanisms more often than it uniformly suppresses labour demand. In more flexible and market-oriented labour systems, uncertainty is typically associated with stronger cyclical volatility, faster employment contraction during downturns, and more uneven recovery patterns. In more institutionally coordinated settings, adjustment may occur through labour hoarding, delayed hiring, selective sectoral support, or fiscal stabilisation measures. In both cases, uncertainty tends to amplify asymmetries in employment responses, as negative output shocks often generate larger and more persistent increases in unemployment than positive shocks generate reductions. This asymmetry challenges the stability of traditional Okun coefficients and weakens the predictability of growth–employment relationships.

Institutional context strongly conditions these responses. Where labour markets are flexible and employment protection is limited, output contractions translate rapidly into unemployment increases, reinforcing cyclical sensitivity. Where institutional coordination, public sector involvement, or sectoral protections are stronger, employment adjustment may be slower but more uneven across sectors. Selective stabilisation of strategically important industries can preserve employment in certain segments while allowing adjustment elsewhere, thereby sustaining structural unemployment or segmentation. These institutional mechanisms mediate the transmission of both inflationary and output shocks to labour market outcomes.

Technological transformation further intensifies these dynamics. Automation, digitalisation, and sectoral reallocation alter the composition of labour demand and may weaken the aggregate employment elasticity of growth. Even during periods of positive output expansion, employment gains may concentrate in specific sectors or skill groups, while other segments experience stagnation or displacement. As technological diffusion is uneven across firms and regions, growth episodes can mask divergent labour market trajectories. This structural heterogeneity complicates traditional interpretations of Okun's Law and may contribute to observed flattening of employment responses in modern economies.

Inflation dynamics add another layer of complexity. The literature on the Phillips Curve demonstrates that inflation–unemployment trade-offs are contingent upon expectations formation, policy credibility, and supply-side conditions. Episodes of stagflation or supply-driven inflation challenge the traditional inverse relationship, as inflation and unemployment may rise simultaneously. Under such conditions, the interaction between inflation shocks and employment adjustment becomes regime-dependent, further weakening linear macroeconomic specifications.

External shocks—including financial crises, pandemics, and geopolitical disruptions—tend to deepen these asymmetries rather than produce uniform cyclical deviations. Evidence from recent global shocks indicates that employment losses are often abrupt and concentrated, while recovery is gradual and uneven. Supply-chain disruptions and energy price shocks may generate simultaneous inflationary pressures and employment instability, reinforcing the view that macroeconomic–labour linkages are structurally conditioned rather than purely cyclical. Moreover, shock exposure varies across sectors, regions, and institutional settings, reshaping employment structures through pre-existing segmentation patterns.

Across the reviewed strands, several robust patterns emerge:

- employment responses to output fluctuations are nonlinear and frequently asymmetric;
- inflation–unemployment trade-offs are contingent upon expectations and policy regimes;
- institutional structures mediate the transmission of macroeconomic shocks to labour markets;
- technological and sectoral transformation alter the employment elasticity of growth;
- external shocks amplify structural segmentation rather than producing uniform cyclical adjustments.

Overall, the synthesis suggests that the inflation–growth–unemployment nexus in transitional economies cannot be adequately explained through stable, linear relationships alone. Instead, employment dynamics operate within a framework shaped by institutional conditioning, structural transformation, policy credibility, and repeated external disturbances. By integrating Phillips and Okun perspectives within this broader structural context, the analysis advances a macro–labour interpretation of job creation and job destruction that emphasises asymmetry, regime dependence, and institutional transmission mechanisms.

Policy implications

First, enhancing institutional transparency and policy credibility in macroeconomic governance can reduce uncertainty-driven employment volatility. Clear and consistent monetary and fiscal frameworks strengthen expectations formation, stabilise inflation dynamics, and improve the predictability of output–employment transmission. Credible policy regimes reduce precautionary hiring restraint and support more stable job creation across sectors, particularly in non-strategic and private segments of the economy.

Second, policies aimed at strengthening the employment elasticity of growth are essential for ensuring that output expansion translates into broad-based job creation. Investment in skills development, sectoral diversification, and technological diffusion can enhance the absorptive capacity of labour markets and reduce the risk of jobless growth. Regionally inclusive development strategies are particularly important in transitional economies, where structural imbalances may weaken the link between economic growth and employment gains.

Third, improving labour market institutions and adjustment mechanisms can moderate asymmetric responses to negative shocks. Active labour market policies, retraining programmes, and employment protection frameworks that balance flexibility with security can reduce the persistence of unemployment during downturns. Even incremental improvements in coordination between macroeconomic policy and labour market regulation may enhance resilience under conditions of volatility.

Fourth, policymakers should recognise that macroeconomic shocks and inflationary episodes often reallocate employment across sectors rather than uniformly affecting labour demand. Without complementary structural, educational, and competition policies, such reallocation may reinforce segmentation, regional disparities, and structural unemployment. Coordinated policy design—integrating monetary stabilisation, fiscal support, and labour market reform—is therefore necessary to ensure that macroeconomic stabilisation efforts promote inclusive and employment-intensive growth.

Overall, the literature supports an institutional and structural interpretation of the inflation–growth–unemployment nexus. Employment dynamics are shaped by the interaction of aggregate demand conditions, expectations formation, policy regimes, technological transformation, and structural constraints. This integrated macro-labour framework provides a robust foundation for future empirical modelling and for designing macroeconomic and labour policies in transitional economies facing recurrent external volatility and structural transformation.

REFERENCES

1. Ball, L., Leigh, D. and Loungani, P. (2017) 'Okun's law: Fit at 50?', *Journal of Money, Credit and Banking*, 49(7), pp. 1413–1441.
2. Ball, L. and Mazumder, S. (2019) 'A Phillips curve with anchored expectations and short-term unemployment', *Journal of Money, Credit and Banking*, 51(1), pp. 111–137.
3. Baker, S.R., Bloom, N. and Davis, S.J. (2016) 'Measuring economic policy uncertainty', *The Quarterly Journal of Economics*, 131(4), pp. 1593–1636.
4. Blanchard, O. (2017) *Macroeconomics*. 7th edn. Boston: Pearson.
5. Blanchard, O. and Leigh, D. (2013) 'Growth forecast errors and fiscal multipliers', *American Economic Review*, 103(3), pp. 117–120.
6. Boeri, T. and Terrell, K. (2002) 'Institutional determinants of labor reallocation in transition', *Journal of Economic Perspectives*, 16(1), pp. 51–76.
7. Clarida, R., Gali, J. and Gertler, M. (1999) 'The science of monetary policy: A New Keynesian perspective', *Journal of Economic Literature*, 37(4), pp. 1661–1707.
8. Cuaresma, J.C. (2003) 'Okun's law revisited', *Oxford Bulletin of Economics and Statistics*, 65(4), pp. 439–451.
9. Friedman, M. (1968) 'The role of monetary policy', *American Economic Review*, 58(1), pp. 1–17.
10. Gali, J. and Gertler, M. (1999) 'Inflation dynamics: A structural econometric analysis', *Journal of Monetary Economics*, 44(2), pp. 195–222.
11. Gordon, R.J. (2011) 'The history of the Phillips curve: Consensus and bifurcation', *Economica*, 78(309), pp. 10–50.
12. Jordà, Ò., Singh, S.R. and Taylor, A.M. (2020) 'Longer-run economic consequences of pandemics', *Review of Economics and Statistics*, 102(5), pp. 933–951.
13. Knotek, E.S. and Terry, S.J. (2009) 'How will unemployment fare following the recession?', *Economic Review*, Federal Reserve Bank of Kansas City, pp. 5–33.
14. Lee, J. (2000) 'The robustness of Okun's law: Evidence from OECD countries', *Journal of Macroeconomics*, 22(2), pp. 331–356.
15. Lucas, R.E. (1976) 'Econometric policy evaluation: A critique', *Carnegie-Rochester Conference Series on Public Policy*, 1, pp. 19–46.
16. Mankiw, N.G. (2019) *Macroeconomics*. 10th edn. New York: Worth Publishers.
17. Mihajlović, V. and Fedajev, A. (2021) 'Asymmetry of Okun's law in European countries', *Economic Research-Ekonomska Istraživanja*, 34(1), pp. 3068–3087.

18. Neifar, M. (2016) 'Asymmetry in Okun's law: Evidence from the MENA region', *Journal of Economic Asymmetries*, 14, pp. 1–10.
19. North, D.C. (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
20. Okun, A.M. (1962) 'Potential GNP: Its measurement and significance', *Proceedings of the Business and Economic Statistics Section, American Statistical Association*, pp. 98–104.
21. Phillips, A.W. (1958) 'The relation between unemployment and the rate of change of money wage rates in the United Kingdom, 1861–1957', *Economica*, 25(100), pp. 283–299.
22. Phelps, E.S. (1967) 'Phillips curves, expectations of inflation and optimal unemployment over time', *Economica*, 34(135), pp. 254–281.
23. Svejnar, J. (2002) 'Transition economies: Performance and challenges', *Journal of Economic Perspectives*, 16(1), pp. 3–28.
24. Taylor, J.B. (1993) 'Discretion versus policy rules in practice', *Carnegie-Rochester Conference Series on Public Policy*, 39, pp. 195–214.
25. Woodford, M. (2003) *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton: Princeton University Press.

Proofreader: Zokir ALIBEKOV

Layout and Designer: Oloviddin Sobir ugli

2026. № 2

© When materials are reproduced, the INNOVATION SCIENCE AND TECHNOLOGY 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.

“The journal “INNOVATION SCIENCE AND TECHNOLOGY” has been registered by the Agency for Information and Mass Communications under the Administration of the President of the Republic of Uzbekistan from 09.10.2024 under the registration number №390637. License number: C-5669633. PNFL: 30407832680027

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



Acceptance of articles

Published every
monthly



Directions

Social, economic, political,
technological, scientific

 **Scopus || Scientific electronic journal specializing in Scopus**

CERTIFICATE NUMBER: №390637

**ORDER NUMBER ACCORDING TO
THE LICENSE REGISTER: C-5669633**

CONTACT:

 Contact us
+998 50 737 87 88

 Telegram channel
t.me/scopus_IST2100

 Journal official website
<https://ist-journal.uz/index.php/IST>