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THE NEXUS BETWEEN MACROECONOMIC INDICATORS AND ECONOMIC GROWTH: INSIGHTS FROM ARMENIA

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Հոդվածը ստացվել է՝ 10.03.25, ուղարկվել է գրախոսման՝ 21.03.25, երաշխավորվել է տպագրության՝ 11.07.25

Introduction. Macroeconomic indicators are key statistical measures that offer valuable insights into the overall health and performance of an economy. These indicators are essential tools for policymakers, investors, and businesses in understanding economic trends, formulating policies, and making informed decisions. Governments utilize these indicators to design effective monetary and fiscal policies aimed at ensuring economic stability and growth. Investors closely examine trends in GDP, inflation, and interest rates to assess market conditions and inform investment strategies. Businesses, in turn, rely on these indicators to plan expansions, set prices for goods and services, and devise financial strategies. Researchers and analysts also leverage macroeconomic data to forecast a country's economic performance and identify potential risks.

The ongoing study of macroeconomic dynamics in Armenia is of particular significance due to several factors. Armenia, with its small, open economy, is highly dependent on imports, remittances (especially from its diaspora), and agriculture, the latter of which remains burdened by unresolved food security issues. Consequently, the Armenian economy is vulnerable to external shocks, including geopolitical tensions, fluctuations in commodity prices, and global economic recessions. The Armenian dram (AMD) is notably influenced by global economic conditions and remittance inflows, contributing to fluctuations in inflation that affect purchasing power and overall economic stability. **This paper** aims to analyze Armenia's principal macroeconomic indicators through a focus on correlation analysis and Granger Causality tests to identify key relationships. Within the scope of this research, **the following research objectives** have been outlined:

- To analyze the dynamics and trends of key macroeconomic indicators.
- To identify correlation patterns among these indicators.
- To apply Granger Causality tests to uncover predictive relationships between the indicators.
- To provide policy recommendations based on the research findings.

Literature Review. As previously mentioned, macroeconomic indicators play a crucial role in assessing economic performance and evaluating policy effectiveness. The analysis of these indicators is grounded in several economic theories. According to the Keynesian model, government spending and monetary policy significantly influence economic output and employment. In contrast, classical and neoclassical theories emphasize the self-regulating nature of markets and the importance of supply-side factors, as highlighted in Solow’s economic growth model. While traditional economic theories provide foundational explanations, empirical validation through modern econometric techniques is essential for a comprehensive understanding of macroeconomic dynamics.

Causal relationships among macroeconomic indicators are often examined using econometric techniques such as Granger causality tests, vector autoregression models (VAR), and structural equation modeling (SEM). Granger causality analysis has been widely employed to determine the direction of causality between economic variables. For instance, studies have shown that inflation can Granger-cause exchange rate fluctuations in emerging African economies[1] and Pakistan[2], while in Ghana, real GDP has been found to Granger-cause exchange rate movements[3]. Similarly, research on public investment and economic growth in six ASEAN (Association of Southeast Asian Nations) countries revealed a long-term impact of public investment on economic expansion, with bidirectional causality observed in all studied countries[4].

Sims (1980) introduced VAR models to analyze the dynamic relationships among macroeconomic variables without imposing strict theoretical restrictions[5]. Empirical studies utilizing VAR models have demonstrated that monetary policy shocks significantly impact inflation and output, with interest rate hikes typically leading to short-term declines in both[6]. Blanchard and Perotti employed structural VAR models to investigate the effects of fiscal policy on economic activity, finding that government spending positively influences GDP in the short run[7]. Acemoglu's research using SEM further explores the indirect effects of macroeconomic policies on economic growth and employment[8].

Another key approach in macroeconomic analysis is correlation analysis, which aids in policy formulation and economic forecasting. Studies using correlation analysis have examined the relationship between GDP growth and stock market dynamics, revealing a persistent link between stock returns and key economic indicators, namely Gross Domestic Product (GDP), disposable income, and Foreign Institutional Investor (FII) participation in the market. The study also highlights the persistent negative relationship between stock

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returns and factors such as interest rates, government policies, exchange rates, and inflation[9]. The correlation analysis of environmental indicators and their macroeconomic implications shows that in the Nordic European Countries - NEC (Norway, Denmark, Finland, Sweden) and the Southeast European Countries - SEEC (Greece, Bulgaria, Romania, Hungary), CO_2 emissions are significantly influenced by GDP per capita, urbanization and renewable energy generation. Urbanization also plays an important role[10]. The analysis of taxation and macroeconomic indicators of selected OECD countries shows that countries with more complex tax systems with a high tax burden perform worse on certain macroeconomic indicators (mainly in Southern Europe from a geographical perspective). These countries are more monetarist than Keynesian[11]. The correlation analysis of GDP with the structural elements of gross value added reveals no link existing between the structural elements of value added and GDP, with the reference values of the items found in the hotel sector companies, companies listed on the BVB[12].

Contemporary research increasingly integrates econometric methods with advanced machine learning techniques to enhance the accuracy of macroeconomic forecasting. This emerging trend represents a promising avenue for improving predictive modeling and policy assessment in economic research.

Methodology. The empirical analysis presented in this study utilizes monthly macroeconomic data spanning the period from January 2010 to December 2023, sourced from the RA Statistical Committee, the Central Bank of Armenia, the International Monetary Fund (IMF), and the World Bank. The use of high-frequency (monthly) data significantly enhances the analytical precision of the study, enabling a detailed investigation of both short-term and medium-term macroeconomic dynamics, including seasonal variations and lagged responses among key economic indicators. To ensure the accuracy of the calculations, data processing and cleaning procedures were applied. Specifically, nominal values were adjusted to real terms (accounting for inflation), seasonal adjustments were made where necessary, and the indicators were transformed into index format for ease of comparison. Furthermore, the stationarity of the time series was tested using the Augmented Dickey-Fuller (ADF) test prior to analysis. The methodological framework of the study follows these key steps:

- Conducting a trend analysis of the macroeconomic indicators.
- Implementing correlation analysis through the Pearson correlation matrix to examine initial relationships between selected indicators.
- Applying Granger Causality tests to assess predictive relationships between the identified indicators.

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The availability of a large number of time-series observations substantially improves the statistical power and reliability of the econometric techniques employed. This level of temporal granularity allows for a more robust exploration of dynamic interactions among macroeconomic indicators, facilitating a deeper understanding of the timing and transmission of macroeconomic shocks, policy interventions, and structural shifts within the economy.

Results and Discussion. In the scope of the study, the following pairs of macroeconomic indicators were selected for the Granger causality analysis:

- GDP Growth and Inflation,
- GDP Growth and Industrial Production Indexes,
- Central Bank's interest rate and Inflation,
- Exchange Rates (USD/RUB/EUR) and Inflation,
- Broad Money Supply and Inflation,
- Unemployment and Inflation (Phillips Curve),
- Exports/Imports Growth and GDP Growth,
- Government Debt and GDP Growth,
- Exchange Rates and Exports/Imports,
- Tax Revenue and GDP Growth.

Taking into account those pairings this study explores key interrelated hypotheses concerning the dynamics of economic growth, inflation, and other macroeconomic variables. A central question is whether GDP growth drives inflation or vice versa. While economic expansion can increase aggregate demand and raise prices, inflation may also influence real income, consumption, and investment, thereby affecting growth. The research also examines which sectors most significantly contribute to Armenia's economic growth, offering insights for targeted policy and investment. The study investigates the relationship between interest rates and inflation, emphasizing the role of monetary policy and the importance of testing causality. It also considers the impact of exchange rate fluctuations on inflation, as currency depreciation raises import costs and inflation can, in turn, influence exchange rates.

Table 1

The correlation matrix of GDP growth and Industrial Production Index indicators[13]

	Trade	Service	Industry	Construction	Agriculture	GDP growth
Trade	1	0.77	0.35	0.59	-0.26	0.65
Service		1	0.42	0.59	-0.23	0.76
Industry			1	0.53	0.07	0.76
Construction				1	-0.14	0.88
Agriculture					1	0.025
GDP growth						1

Furthermore, the role of money supply in driving inflation is assessed within the framework of the quantity theory of money. The inflation-unemployment trade-off, based

[13] The table was composed by the authors.

on the Phillips Curve, is also explored, as low unemployment may fuel inflationary pressures. The connection between trade and GDP is analyzed to determine whether exports and imports drive growth or whether economic expansion influences trade flows. Additionally, the relationship between public debt and growth is examined, weighing the potential crowding-out effect against the stimulus provided by government spending. Lastly, the study evaluates how exchange rate movements affect trade balances by altering export competitiveness and import costs.

Before performing the Granger Causality test, stationarity (i.e., the absence of trends or seasonality) of the time series was ensured using the Augmented Dickey-Fuller (ADF) test. Additionally, the optimal lag length for each variable was determined using the Akaike Information Criterion (AIC). As part of the research objectives, correlation analysis was also conducted between the macroeconomic indicators. Correlation matrices were constructed, and the results were analyzed (see Tables 1, 2, and 3).

Table 2

The correlation matrix of GDP growth, trade, and fiscal policy indicators[14]

	GDP growth	Inflation CPI	Broad money supply	Unemployment	Tax revenue	Government dept	Exports	Imports
GDP growth	1							
Inflation CPI	-0.02	1						
Broad money supply	-0.335	0.997	1					
Unemployment	0.269	-0.354	-0.507	1				
Tax revenue	-0.281	-0.163	-0.608	0.552	1			
Government dept	-0.263	-0.479	-0.327	0.318	0.737	1		
Exports	0.39	-0.532	-0.344	0.084	0.265	0.174	1	
Imports	0.605	-0.411	-0.199	-0.077	0.062	-0.058	0.801	1

The correlation matrix (Table 1) reveals that the construction sector exhibits the strongest correlation with GDP growth (0.88), indicating that economic expansion in Armenia is linked with the developments within this sector. The service and industry sectors also demonstrate a strong positive correlation with GDP growth (both at 0.76), underscoring their critical role in shaping the country's economic performance. While trade is positively correlated with GDP growth (0.65), its impact appears comparatively moderate relative to construction, industry, and services. In contrast, the agriculture sector shows an almost negligible correlation with GDP growth (0.025), suggesting that its contribution to overall

[14] The table was composed by the authors.

economic fluctuations is minimal. These findings highlight construction, industry, and services as the primary drivers of GDP growth in Armenia, whereas agriculture plays a relatively minor role. This conclusion aligns with World Bank studies, which indicate a declining share of agriculture in Armenia's GDP and a sustained contribution of the construction sector to long-term economic growth[15].

According to the data presented in Table 2, trade (imports - 0.605 and exports - 0.390) emerges as the strongest driver of GDP growth, whereas inflation (-0.020) has a negligible impact. The strong correlation between broad money supply and inflation (0.997) suggests that monetary expansion primarily fuels price increases rather than significantly stimulating economic growth (-0.335). Fiscal policies, including government debt and tax revenue, are interrelated but do not directly contribute to GDP growth. Additionally, unemployment (0.269) exhibits an unexpected positive correlation with economic growth, potentially indicating structural challenges within the labor market. Overall, the findings highlight that economic expansion in Armenia is closely linked to trade dynamics, while inflation and monetary factors exert a more indirect influence.

Table 3

The correlation matrix of trade and exchange rate indicators[16]

	USD	RUB	Imports	Exports	EUR	CPI	Central Bank rate
USD	1	0.615	-0.851	-0.772	0.94	0.133	-0.692
RUB		1	-0.74	-0.694	0.528	-0.089	-0.398
Imports			1	0.935	-0.745	0.02	0.489
Exports				1	-0.68	0.016	0.439
EUR					1	0.092	-0.707
CPI						1	-0.07
Central bank rate							1

According to the data presented in Table 3, the USD exhibits a strong negative correlation with imports (-0.851) and exports (-0.772), indicating that an appreciation of the USD is associated with a decline in trade activity. Furthermore, the USD is negatively correlated with the Central Bank's interest rate (-0.692), suggesting that a higher interest rate corresponds to a depreciation of the USD. Similarly, the RUB demonstrates a negative correlation with imports (-0.740) and exports (-0.694), reflecting a pattern analogous to that of the USD, wherein an appreciation of the RUB is associated with reduced trade volumes. Imports and exports display a strong positive correlation (0.935), signifying that fluctuations in one variable are closely mirrored by the other. Additionally, imports exhibit a negative correlation with the EUR (-0.745), implying that a stronger EUR is linked to a decline in import volumes. Likewise, exports are negatively correlated with the EUR (-0.680), indicating that an appreciation of the EUR adversely affects export levels. Inflation demonstrates weak correlations with the other macroeconomic indicators, suggesting that it

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[16] The table was composed by the authors.

is influenced by external factors not captured within the dataset. Overall, the findings underscore the significant impact of exchange rate fluctuations on trade dynamics, with the Central Bank's interest rate playing a crucial role in shaping currency values and trade flows.

Table 4

The Granger Causality test results[17]

Null hypothesis	Lags	F-Statistic	Prob.
GDP Growth does not Granger cause CPI	2	0.45851	0.6379
CPI does not Granger cause GDP Growth	2	0.57713	0.5694
GDP Growth does not predict Industrial Production Indexes (Services)	2	0.80037	0.4821
Industrial Production Indexes (Services) do not predict GDP Growth	2	5.92153	0.0264
GDP Growth does not predict Industrial Production Indexes (Agriculture)	2	1.52694	0.2743
Industrial Production Indexes (Agriculture) do not predict GDP Growth	3	1.87403	0.2516
GDP Growth does not predict Industrial Production Indexes (Trade)	3	0.48513	0.7072
Industrial Production Indexes (Trade) do not predict GDP Growth	2	1.32982	0.3172
GDP Growth does not predict Industrial Production Indexes (Construction)	1	2.37489	0.1516
Industrial Production Indexes (Construction) do not predict GDP Growth	1	0.63955	0.4408
GDP Growth does not predict Industrial Production Indexes (Industry)	2	1.43715	0.2929
Industrial Production Indexes (Industry) do not predict GDP Growth	3	1.13374	0.4196
Inflation does not predict the Central Bank's Interest Rates	9	1.20357	0.3046
Central Bank's Interest Rates do not predict Inflation	6	2.97858	0.0107
EUR does not predict Inflation	6	1.94956	0.0825
Inflation does not predict EUR	6	1.94326	0.0835
USD does not predict Inflation	2	3.00071	0.0543
Inflation does not predict USD	7	3.48778	0.0026
RUB does not predict Inflation	10	1.23618	0.2852
Inflation does not predict RUB	6	1.28593	0.2729
Broad money supply does not predict Inflation	2	0.59647	0.5613
Inflation does not predict Broad money supply	2	0.11412	0.8928
Unemployment does not predict Inflation	4	0.94880	0.4671
Inflation does not predict Unemployment	4	0.46528	0.7602
Government debt does not predict GDP Growth	2	4.32092	0.0444
GDP Growth does not predict Government dept	2	1.56540	0.2562
Tax revenue does not predict GDP Growth	4	0.08980	0.9823

[17] The table was composed by the authors.

GDP Growth does not predict Tax revenue	4	6.54773	0.0223
Export growth does not predict GDP Growth	1	0.68711	0.4150
GDP Growth does not predict Export growth	1	4.31347	0.0482
Import growth does not predict GDP Growth	2	0.08364	0.9614
GDP Growth does not predict Import growth	2	0.08364	0.9201
Exports do not predict EUR	7	0.78195	0.6042
EUR does not predict Exports	7	0.68424	0.6850
Exports do not predict USD	7	1.24677	0.2866
USD does not predict Exports	7	2.86575	0.0098
Exports do not predict RUB	2	7.52041	0.0009
RUB does not predict Exports	3	2.44407	0.0686
Imports do not predict EUR	2	0.62969	0.5348
EUR does not predict Imports	2	3.85589	0.0243
Imports do not predict USD	6	1.85469	0.0975
USD does not predict Imports	8	2.49695	0.0176
Imports do not predict RUB	4	4.72701	0.0016
RUB does not predict Imports	3	7.05260	0.0002

Table 4 presents the results of the Granger Causality tests conducted to explore potential causal relationships between key macroeconomic indicators, with the aim of generating insights for economic policymaking. The analysis indicates that there is no significant causal relationship between GDP growth and inflation. Specifically, GDP growth does not Granger-cause inflation (p=0.6379), and inflation does not Granger-cause GDP growth (p=0.5694). These results suggest that, within the examined period, the two variables evolved independently of each other from a statistical perspective.

When examining sectoral growth, the findings show that most industrial production indices do not significantly predict GDP growth. For instance, the industrial indices for agriculture (p=0.2743), trade (p=0.7072), construction (p=0.1516), and industry (p=0.2929) do not Granger-cause GDP growth. However, an exception is observed in the case of the service sector: the industrial production index for services does Granger-cause GDP growth (p=0.0264), indicating that developments in the service sector have predictive power over broader economic activity in Armenia.

The relationship between inflation and exchange rates reveals further significant patterns. Inflation Granger-causes movements in the USD exchange rate (p=0.0026), while the reverse relationship (USD predicting inflation) is marginally significant (p=0.0543). Inflation does not significantly Granger-cause the EUR exchange rate (p=0.0835), suggesting that Armenia's inflationary dynamics are more closely linked to the dollar than to the euro.

In terms of monetary policy, the Central Bank's interest rate was found to Granger-cause inflation with statistical significance (p=0.0107), indicating that interest rate adjustments have a delayed but measurable effect on inflation, particularly with lags of six to nine months. On the other hand, inflation does not Granger-cause changes in the interest rate (p=0.3046), suggesting that interest rate decisions are not directly responsive to current inflation trends but are likely forward-looking in nature.

The interaction between trade flows and exchange rates reveals significant bidirectional relationships. Exports Granger-causes changes in the RUB exchange rate (p =0.0009), and RUB also Granger-causes exports (p=0.0686), indicating mutual influence.

In the case of imports, the USD exchange rate Granger-causes import volumes (p= 0.0176), and the same is true for the RUB (p=0.0002), confirming that exchange rate fluctuations have a direct impact on Armenia's import dynamics. These findings emphasize that while some macroeconomic indicators, such as inflation and the Central Bank's interest rate or exports and the RUB exchange rate, exhibit strong causal relationships, others (such as GDP growth and inflation) do not show statistically significant interdependence. This evidence provides a nuanced understanding of Armenia's macroeconomic structure and can inform more effective, data-driven policymaking in the areas of monetary policy, trade strategy, and sectoral development.

The Granger Causality analysis reveals several key factors influencing GDP growth in Armenia. The service sector serves as a significant predictor of economic expansion, highlighting the sector's crucial role in the country's growth trajectory. Likewise, export growth is identified as a key driver, underscoring Armenia's reliance on external trade for economic development. In contrast, fiscal variables such as government debt and tax revenues do not significantly predict GDP growth. However, GDP growth itself drives higher tax revenues, suggesting that economic expansion strengthens fiscal capacity, rather than fiscal policies driving growth.

Macroeconomic interdependencies further illustrate the critical relationships between inflation, monetary policy, and exchange rate dynamics. While inflation does not significantly influence the Central Bank's interest rate, the latter does impact inflation, indicating a reactive rather than proactive monetary policy stance in Armenia. Inflation also affects exchange rates, particularly the USD, though its influence on the EUR is weaker, emphasizing the importance of price stability in managing currency fluctuations. Trade and exchange rate dynamics are also crucial in shaping Armenia's economic environment. The bidirectional causality between exports and the RUB exchange rate suggests that fluctuations in the Russian ruble impact Armenian exports and vice versa, reflecting Armenia's deep economic ties with Russia. Additionally, the USD exchange rate significantly affects imports, highlighting the importance of currency stability for maintaining a balanced trade flow. However, imports do not significantly influence GDP, indicating that Armenia's economic growth is not heavily reliant on foreign goods.

In summary, the service sector and exports are identified as primary drivers of GDP growth, while fiscal policies do not play a significant predictive role. Inflation has a notable impact on the USD exchange rate, while its effect on the EUR is weaker. The Central Bank's interest rate shapes inflation dynamics, but inflation does not significantly influence interest rate adjustments. Lastly, exchange rates particularly (USD and RUB) are key determinants of trade flows, affecting both exports and imports.

Conclusion. Armenia's macroeconomic landscape is characterized by a service-driven economy, a heavy reliance on imports, and a strong interconnection between inflation, the Central Bank's interest rate, and exchange rates. Fiscal policies do not appear to be the primary drivers of economic growth, whereas monetary policy, implemented by the Central Bank, plays a crucial role in controlling inflation and stabilizing trade. A strategic focus on strengthening the service sector and enhancing export competitiveness, combined with prudent monetary policy, will be essential for ensuring sustainable economic growth in Armenia. The research findings provide ground for the following policy implications:

- Service sector development: Given the significant contribution of the service sector to GDP growth, policies should prioritize improving infrastructure for service-based industries. This includes enhancing digital and financial services and facilitating investments in key sectors such as tourism, information technology (IT), and business services.

- Export promotion: As exports are a key driver of GDP growth, policymakers should focus on supporting export-oriented industries. This can be achieved through subsidies or tax incentives, enhancing trade agreements and international market access, and investing in technological advancements and innovation to improve product competitiveness.
- Exchange rate stability: While exchange rates do not directly predict GDP growth, their impact on exports and imports indicates that a stable exchange rate policy is crucial for maintaining a balanced trade flow. Inflation management is also essential, as it affects exchange rates, particularly the USD. Policymakers should focus on stabilizing inflation to mitigate its effects on the exchange rate.
- Fiscal policy focus: Since GDP growth drives tax revenue (rather than the reverse), fiscal policy should prioritize fostering economic expansion rather than imposing excessive taxation. This is particularly relevant in light of recent tax reforms, which have introduced substantial changes in tax rates for small and medium-sized enterprises (SMEs), potentially increasing their tax burden[18]. While these reforms may lead to higher tax revenues, taxation policies mustn't hinder business growth. Additionally, tax revenues should be reinvested in policies that support economic growth and development.
- Monetary policy and inflation control: Given that the Central Bank's interest rate predicts inflation (p=0.0385), policymakers should consider using interest rate adjustments as a tool for controlling inflation. However, it is critical to balance inflation control with the need to foster economic growth and maintain incentives for business investment.

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ՄԱԿՐՈՏՆՏԵՍԱԿԱՆ ՑՈՒՑԱՆԻՇՆԵՐԻ ԵՎ ՏՆՏԵՍԱԿԱՆ ԱՃԻ ՓՈԽԿԱՊԱԿՑՎԱԾՈՒԹՅԱՆ ՈՒՍՈՒՄՆԱՍԻՐՈՒԹՅՈՒՆԸ ՀՀ ՕՐԻՆԱԿՈՎ

ՀՈՎՀԱՆՆԵՍ ԱՍԱՏՐՅԱՆ
ՍԵՅԵԴ ՋԱՎԱԴ ՀՈՒՍԵՅՆ ՇԱՀՋԱԴ

Համառոտագիր

ՀՀ մակրոտնտեսական ցուցանիշների դինամիկայի ուսումնասիրությունը մեծ կարևորություն ունի և մշտապես արդիական է՝ մի շարք հանգամանքներով պայմանավորված: ՀՀ-ն փոքր, բաց տնտեսություն ունեցող երկիր է, որը զգալիորեն կախված է ներմուծումից, դրամական փոխանցումներից և գյուղատնտեսությունից (չլուծված պարենային անվտանգության հիմնախնդիր): Հոդվածի նպատակն է վերլուծել ՀՀ հիմնական մակրոտնտեսական ցուցանիշները՝ շեշտը դնելով կոռելյացիոն վերլուծության և Գրեյնջերի պատճառականության թեստի վրա: Հետազոտության շրջանակներում սահմանվել են հետևյալ խնդիրները.

- Վերլուծել հիմնական մակրոտնտեսական ցուցանիշների դինամիկան և միտումները։
- Հայտնաբերել մակրոտնտեսական ցուցանիշների միջև առկա կոռելյացիոն օրինաչափությունները։
- Կիրառել Գրեյնջերի պատճառականության թեստեր՝ ցուցանիշների միջև կապերը բացահայտելու համար։
- Հիմք ընդունելով ստացված արդյունքները՝ ներկայացնել առաջարկություններ։

Հետազոտության հիմնական արդյունքները փաստում են, որ ՀՀ-ում ՀՆԱ-ի աճի հիմնական շարժիչ ուժը ծառայությունների ոլորտն ու արտահանումն են, մինչդեռ հարկաբյուջետային քաղաքականությունը նշանակալի ազդեցություն չի ունենում։ Ինֆլյացիան զգալի ազդեցություն ունի ԱՄՆ դոլարի փոխարժեքի վրա, իսկ Կենտրոնական բանկի վերաֆինանսավորման տոկոսադրույքը ձևավորում է գնաճի դինամիկան։ Փոխարժեքները, հատկապես ԱՄՆ դոլարն ու ռուսական ռուբլին, կարևոր դեր են խաղում առևտրային հաշվեկշռի վրա՝ ազդելով ինչպես արտահանման, այնպես էլ ներմուծման վրա։ ՀՀ-ում կայուն տնտեսական աճի ապահովման համար առանցքային է ծառայությունների ոլորտի հետագա ամրապնդումը, արտահանման մրցունակության բարձրացումը և զսպող դրամավարկային քաղաքականության իրականացումը։

Բանալի բառեր. մակրոտնտեսական ցուցանիշներ, տնտեսական աճ, Գրեյնջերի պատճառականություն, կոռելյացիոն վերլուծություն, ինֆլյացիա

СВЯЗЬ МЕЖДУ МАКРОЭКОНОМИЧЕСКИМИ ПОКАЗАТЕЛЯМИ И ЭКОНОМИЧЕСКИМ РОСТОМ: АНАЛИЗ НА ПРИМЕРЕ АРМЕНИИ

ОГАННЕС АСАТРЯН
СЕЙЕД ДЖАВАД ХУССЕЙН ШАХЗАД

Аннотация

Исследование динамики макроэкономических показателей Армении имеет важное значение и остается актуальным по нескольким причинам. Армения - небольшая открытая экономика, которая в значительной степени зависит от импорта, денежных переводов (существенный вклад вносят представители диаспоры) и сельского хозяйства, сталкивающегося с нерешенными проблемами продовольственной безопасности. Основная цель данной статьи - проанализировать ключевые макроэкономические показатели Армении с акцентом на корреляционный анализ и тесты причинности по Грейнджеру для выявления значимых взаимосвязей. В рамках исследования были поставлены следующие задачи:

- Проанализировать динамику и тенденции основных макроэкономических показателей.
- Определить корреляционные зависимости между макроэкономическими показателями.
- Применить тесты причинности по Грейнджеру для выявления предиктивных взаимосвязей между показателями.

• Разработать рекомендации по экономической политике на основе полученных результатов.

Основные результаты исследования показывают, что главными драйверами роста ВВП являются сфера услуг и экспорт, тогда как фискальная политика не играет значимой предиктивной роли. Инфляция оказывает существенное влияние на обменный курс доллара США, однако ее воздействие на евро менее выражено. Процентные ставки Центрального банка определяют динамику инфляции, но инфляция, в свою очередь, не оказывает значимого влияния на корректировку ставок. Кроме того, валютные курсы, особенно доллара США и российского рубля, играют критическую роль в формировании торговых потоков, влияя как на экспорт, так и на импорт. В этой связи стратегический акцент на укрепление сферы услуг, повышение конкурентоспособности экспорта и проведение взвешенной монетарной политики станет ключевым фактором обеспечения устойчивого экономического роста Армении.

Ключевые слова. макроэкономические показатели, рост ВВП, причинность по Грейнджеру, корреляционный анализ, инфляция

THE NEXUS BETWEEN MACROECONOMIC INDICATORS AND ECONOMIC GROWTH: INSIGHTS FROM ARMENIA

HOVHANNES ASATRYAN
SYED JAWAD HUSSAIN SHAHZAD

Abstract

The analysis of the macroeconomic indicators of Armenia is of great importance and remains consistently relevant for several reasons. Armenia has a small, open economy that is highly dependent on imports, remittances (with significant contributions from the diaspora), and agriculture (unresolved food security issues). **Th**is article aims to examine Armenia's key macroeconomic indicators, with a particular focus on correlation analysis and Granger causality tests to identify significant interrelationships. Within the research framework, the following **research objectives** were defined:

- Analyze the dynamics and trends of key macroeconomic indicators.
- Identify correlation patterns between macroeconomic indicators.
- Apply Granger causality tests to detect predictive relationships between these indicators.
- Provide policy recommendations based on the research findings.

The main research findings indicate that the service sector and exports are the primary drivers of GDP growth, whereas fiscal policies do not play a significant predictive role. Inflation has a strong impact on the USD exchange rate, while its influence on the EUR is less pronounced. The Central Bank’s interest rate shapes inflation dynamics, but inflation does not significantly influence interest rate adjustments. Finally, exchange rates (particularly USD and RUB) play a critical role in shaping trade flows, affecting both exports and imports. A strategic emphasis on strengthening the service sector and enhancing export competitiveness, alongside prudent monetary management, will be key to ensuring Armenia’s sustainable economic growth and macroeconomic stability.

Keywords: macroeconomic indicators, economic growth, Granger causality, correlation analysis, inflation.