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# Determinants of China's GDP Growth: An Empirical Analysis of Macroeconomic Variables

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## ABSTRACT

This study examines the impact of foreign direct investment (FDI), trade, and various macroeconomic factors on GDP growth in China over the period 1982–2022. By Employing the Autoregressive Distributed Lag (ARDL) model, the research investigates the dynamic interplay between GDP growth and fifteen independent variables, including FDI, exports, trade, total debt, and real interest rates. The Augmented Dickey-Fuller (ADF) test confirms the stationarity of the data at first difference. The ARDL model results indicate significant long-term impacts of some variables, particularly the current account balance, exports, and merchandise trade. Short-run dynamics revealed that increased FDI and real interest rates positively affect GDP growth, while increased debt, exports, and final consumption have negative effects. The ARDL bounds test confirms a long-run relationship among the variables. Diagnostic checks show no issues with normality, heteroskedasticity, or serial correlation. This comprehensive analysis provides valuable evidence for policymakers to formulate effective economic policies, promoting sustained growth and stability in China's rapidly evolving economy.

***Keywords**:* GDP growth; foreign direct investment (FDI); Trade; macroeconomic factors; China; ARDL model; economic policy; time series analysis

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## INTRODUCTION

China's economic growth trajectory over the past four decades has garnered significant attention in economic literature, largely due to its rapid transformation from a low-income to an upper-middle-income nation. Key drivers of China's growth are foreign direct investment (FDI), trade liberalization, and fiscal policies that have fostered an environment conducive to sustained economic development. While economic reforms initiated in 1978 created a framework for market-oriented growth, the subsequent influx of FDI and expansion in exports solidified China's role in the global economy. This introduction synthesizes the findings of recent studies to contextualize the linkages between FDI, trade, and various economic indicators in China, establishing the basis for this study's research problem and questions.

Research by [1] highlighted that FDI integrates host economies into global markets and improves resource allocation efficiency, thereby fostering sustained economic development despite challenges such as the pandemic. [2] reinforces this finding by illustrating that FDI contributed significantly to income growth in China, especially in coastal regions where trade and infrastructure facilities are more developed. Such regional disparities in FDI effects underscore the need for nuanced policy approaches that address both immediate and long-term growth requirements.

China's reliance on international trade is another crucial element influencing its growth. The study [3] confirms a bidirectional long-term relationship between economic growth and exports and between economic growth and imports, thereby validating the "export-led growth" and "growth-led imports" hypotheses. These results demonstrate China's deep integration into global trade networks, wherein both exports and imports are instrumental to economic expansion. Similarly, Xing and [4] observe that FDI and exports constituted up to 49% of China's GDP growth during specific periods, reflecting a dependency on external demand. This finding reinforces the importance of trade and foreign investment in China's economic framework, albeit raising concerns about the sustainability of such an externally driven growth model.

In addition to FDI and trade, various macroeconomic policies have played pivotal roles. According to [5], China's strategic focus on high-tech exports has not only enhanced trade volume but also improved productivity across regions, thus reinforcing the positive correlation between international trade and regional economic performance. Likewise, the findings of [6] indicate that trade openness significantly contributes to economic growth, both in the short and long term, substantiating the critical role of liberalized trade policies in economic expansion. In a similar vein, [7] argues that China's provincial debt has contributed to economic growth, albeit with regional variations in impact, pointing to a nonlinear, inverted "U-shaped" relationship between debt and growth.

The accumulation of foreign exchange reserves, as [8] demonstrates, also has implications for China's economic resilience and growth stability. Reserves enable China to manage external shocks and maintain economic stability, even as they underscore the country's dependence on international markets. Conversely, [9] suggest that government debt can potentially limit economic growth when the debt-to-GDP ratio exceeds a critical threshold, which aligns with concerns regarding sustainability in debt accumulation. [10] comparative study indicates that China's reserve accumulation strategy reflects a broader trend among emerging markets, which has reinforced stability within an international monetary framework but has also generated significant economic costs.

While the relationship between FDI, trade, and economic growth is well-documented, questions remain regarding the precise dynamics of these interactions. For example, [11] find that financial liberalization may influence interest rates and bond market development, further affecting lending patterns and economic growth. In a related context, [12] suggest that short-term capital inflows impact real exchange rates more than demographic forces, pointing to the intricate effects of financial capital

on economic performance. [13] add that savings patterns are intrinsically tied to economic growth, with savings-growth causality varying by region. These findings underscore the multi-dimensional influences of trade, capital, and financial policies on economic performance. The primary research problem addressed in this study is the exploration of how FDI, trade policies, and fiscal strategies collectively drive China's economic growth. Existing literature highlights the contributions of FDI and trade to GDP growth but does not comprehensively explain their interdependence with debt levels, financial liberalization, and regional disparities. Given China's evolving economic landscape, it is critical to understand how these factors interact within the broader framework of sustainable growth

This research addresses critical gaps in understanding the complex dynamics shaping China's GDP growth by conducting a comprehensive analysis of trade structure, foreign direct investment (FDI), government expenditure, and socio-economic factors. By leveraging recent empirical findings and advanced econometric techniques, this study aims to deepen insights for policymakers, economists, and scholars into the drivers of China's economic trajectory.

Moreover, it contributes to ongoing discussions on sustainable economic development strategies, incorporating environmental impact considerations and long-term economic stability. The primary objectives of this study are manifold: Evaluate the short-term dynamics and assess the immediate impacts of Foreign Direct Investment (FDI), exports, trade, real interest rates, and government final consumption expenditure on GDP growth. Understanding these short-term dynamics is crucial for identifying immediate policy levers that can effectively stimulate economic activity and manage economic fluctuations. Examine long-term relationships: Investigate the persistent effects of merchandise trade, current account balance, total debt, and domestic interest rates on GDP growth over an extended period. By analyzing these long-term relationships, the study seeks to uncover structural factors that contribute to sustained economic growth or pose challenges that need to be addressed for achieving economic stability and resilience. Provide policy recommendations: Offer actionable policy recommendations based on empirical findings to enhance economic growth sustainability. This includes strategies to foster a positive current account balance, manage debt levels effectively, optimize the impact of FDI and trade, and address structural inefficiencies in export and consumption patterns. These insights aim to guide policymakers in formulating strategies that promote sustainable economic development and resilience in the face of global economic uncertainties. The novelty of this study lies in its integrated approach, examining not only FDI and trade but also the impacts of regional disparity, debt, and financial reserves on China's economic performance. By combining macroeconomic variables with region-specific data, this research aims to provide a nuanced understanding of how economic growth is sustained across varying contexts within China. Additionally, the study addresses gaps in the literature concerning debt sustainability and reserve accumulation, thus offering policy recommendations that balance external dependence with fiscal autonomy.

The findings of this study will pave the way for future research on optimizing FDI allocation strategies to balance regional economic disparities in China. Future studies could explore the elasticity of China's trade dependency amidst changing global demand by focusing on the bidirectional relationships between GDP growth, exports, and imports. Additionally, as financial liberalization progresses, further research on the effects of interest rate adjustments and bond market developments could provide insights into China's economic stability.

## LITERATURE REVIEW

The Solow-Swan Growth Model, developed by R. Solow and T. Swan in the 1950s, is a neoclassical framework analyzing long-term economic growth through capital accumulation, labor growth, and technological progress. It posits that sustained growth is driven primarily by technological advancements. This model, relevant to the study of China's eco-

nomic growth, helps understand the roles of FDI, government expenditure, and trade structure in economic development. Key assumptions include constant returns to scale, diminishing marginal returns, and exogenous technological progress. However, it has limitations, such as treating technological progress as external, assuming a closed economy, and initially neglecting human capital's role. Despite these limitations, the model provides valuable insights into the mechanisms driving economic growth and informs policy measures for sustaining growth. [14] investigated the effects of FDI and trade openness on the economic growth of BRICS countries from 1990 to 2018. The study aims to elucidate the causal relationships between FDI, trade openness, and GDP in these nations. Employing the Auto Regressive Distributed Lag (ARDL) model for cointegration and Dumitrescu and Hurlin Granger causality tests, the research evaluates both short-term and long-term interactions among the variables. The empirical findings indicate that both FDI and trade openness significantly contribute to long-term economic growth in the BRICS countries. Furthermore, the study establishes a long-run relationship between the real effective exchange rate and gross capital formation with economic growth. The causality analysis uncovers several critical relationships: there is bidirectional causality between FDI and economic growth, as well as between trade openness and economic growth. Additionally, the analysis reveals unidirectional causality from trade openness to FDI. This study provides empirical evidence supporting the positive impact of FDI and trade openness on growth in emerging economies, utilizing advanced econometric techniques. It specifically focuses on BRICS nations, though it does not consider economic changes occurring post. [15] examined the relationship between FDI, trade, and economic growth in East Asian countries using an augmented production function model and panel data from 1980 to 2006. The findings indicate that FDI and trade positively impact economic growth in China, Korea, and Thailand, while the effects are negative in Malaysia and the Philippines. The labor force's impact on growth is statistically insignificant across all countries. Gross fixed capital formation positively influences economic growth in all countries, especially in China and Korea. This research highlights the importance of country-specific factors in understanding the relationship between FDI, trade, and economic growth. However, it does not consider other factors such as government expenditure, debt service, and socio-economic indicators. [16] investigated the factors influencing China's current account surplus from 1994 to 2016. The study examines the relationships between the current account surplus and factors such as the balance of trade, foreign direct investment (FDI), and gross domestic product (GDP). Using factor analysis, multiple regression modeling, and a corrected model, the research assesses the impact of these factors on China's current account surplus. The findings highlight that the balance of trade and foreign direct investment are the primary determinants influencing China's current account surplus. The study concludes by suggesting that the government should closely monitor fluctuations in the current account and implement measures to adjust factors contributing to these fluctuations. [17] examined the primary drivers of Chinese GDP growth from 1998 to 2013, focusing on consumption, investment, exports, and imports. Using factor analysis, multiple regressions, and hierarchical clustering on data from 31 provinces, the study assesses the quantitative relationships between these factors. The findings reveal that consumption is the largest contributor to GDP growth, followed by investment and exports, with imports showing minimal impact. The study underscores the importance of bolstering consumption and maintaining investment for sustainable economic development in China. This research provides empirical evidence on the significant influence of these factors on GDP growth, emphasizing their graded quantitative relationships. [18] investigated the role of international trade in China's economic growth, focusing on how increased participation in global trade and trade structure impact economic productivity. Using both econometric and non-parametric approaches,

the study analyzes a balanced panel dataset from 31 Chinese provinces spanning 2002 to 2007. The econometric approach employs a stochastic frontier production function to estimate province-specific inefficiencies in trade, while the non-parametric approach uses the Divisia index as a benchmark. The findings indicate that China's integration into global trade significantly enhances economic growth, primarily driven by increased trade volume and high-tech exports. The study emphasizes that the eastern region has experienced the most rapid development, while central and western provinces lag in both economic growth and international trade participation. This research contributes to the literature by providing empirical evidence on the positive effects of international trade on China's regional productivity and economic growth. [19] explored the impact of China's integration into the global economy, emphasizing its effects on other Asian countries. It identifies differential impacts based on economic development, industrial specialization, and geographical proximity to China. Countries specializing in components, capital goods, and raw materials benefit from China's economic growth, whereas those focusing on consumer goods may experience negative impacts. The study underscores the importance of supply chain relationships in influencing FDI flows, highlighting those countries near China benefit from geographical proximity and lower production costs. This research provides insights into how China's economic expansion affects regional economies and the dynamics of global trade relationships. [20] investigated the effects of government debt, economic policy uncertainty (EPU), and government spending on institutional quality in BRIC nations from 1990 to 2020. Employing econometric techniques including Augmented ARDL, nonlinear ARDL, and Fourier Toda-Yamamoto causality tests, the research finds that government debt and EPU negatively impact institutional quality, whereas government spending has a positive effect. The study identifies bidirectional causality between government

*Table 1*

**Variable and Indicator Description**

| Variable Name | Indicator Description |
|---|---|
| Gross Domestic Product (GDP) Growth Rate | Annual percentage growth rate of GDP |
| Foreign Direct Investment (FDI) | Net inflows of foreign direct investment (% of GDP) |
| Exports | Exports of goods and services as a percentage of GDP |
| Trade | Trade volume as a percentage of GDP |
| Total Debt (T-DEBT) | Total debt as a percentage of GDP |
| Merchandise Trade (MERCHANDISE TRADE) | Merchandise trade as a percentage of GDP |
| Total Reserves (T-RESERVE) | Total reserves, including foreign exchange (% of GDP) |
| Real Interest Rate (REAL INTEREST) | Inflation-adjusted real interest rates (% of GDP) |
| Final Consumption Expenditure (F-CONSUMPTION) | Household and government final consumption (% of GDP) |
| Gross Capital Formation (G-CAPITAL) | Investment in fixed assets as a percentage of GDP |
| Gross Savings (G-SAVINGS) | Savings as a percentage of GDP |
| Government Final Consumption Expenditure (GGFCE) | General government spending as a percentage of GDP |
| Agriculture and Fisheries (A&F) | Value added from agriculture, forestry, and fishing (% of GDP) |
| Personal Remittances (P-REMITT) | Personal remittances received as a percentage of GDP |
| Current Account Balance (C-ACC) | Balance of current account transactions (% of GDP) |
| Domestic Interest Rate (D-INTEREST) | Nominal domestic interest rate |

*Source:* compiled by the authors.

debt and institutional quality, with mixed causal relationships observed for EPU and government spending. These findings contribute to understanding the complex interactions between fiscal policy, economic uncertainty, government expenditure, and institutional quality in emerging economies. [21] emphasize that final consumption expenditure is a major component of GDP, directly affecting economic growth by increasing production and employment. Real interest rates influence investment decisions, balancing investment incentives and controlling inflation. [22] suggest that appropriate real interest rates can foster economic growth by encouraging investment and managing economic activity effectively. Foreign trade plays a pivotal role in GDP growth by facilitating technology transfer, increasing productivity, and expanding market access. [22] highlighted that China's rapid growth in merchandise trade has been a key driver of its economic expansion. Furthermore, he demonstrated that both exports and imports positively impact GDP growth, with foreign trade being a significant factor in long-term economic development. Managing debt levels is crucial for maintaining economic stability and sustainable growth. [23] and [24] indicate that while some debt can stimulate growth through increased investment, excessive debt can lead to financial instability and hinder economic performance. Foreign-invested enterprises (FIEs) have played a substantial role in China's exports and imports, significantly contributing to GDP growth. [4] provided evidence for export-led growth in various Chinese regions, indicating that exports, along with FDI, significantly contribute to regional GDP growth. The dynamic interplay of macroeconomic factors significantly influences GDP growth in China. FDI, interest rates, current account balance, remittances, agriculture, fiscal policy, savings, consumption, real interest rates, foreign trade, debt levels, and exports are crucial in shaping the economic landscape. Understanding these relationships is essential for formulating effective economic policies that promote sustained growth and stability in China's rapidly evolving economy.

## METHODOLOGY

### Model specification

#### *Model Description and Hypothesis*

This study employs a quantitative research design, utilizing time-series econometric techniques to analyze determinants of China's GDP growth over the period 1982–2022. The methodology integrates both descriptive and inferential statistical approaches, focusing on dynamic relationships between macroeconomic indicators through the Autoregressive Distributed Lag (ARDL) model. This model is particularly suitable for examining short-term dynamics and long-term equilibrium relationships among variables, even when exhibit different levels of stationarity. following similar empirical model utilized in numerous prior studies, including those by [4, 7, 25–27]. The dataset comprises annual data for 15 macroeconomic indicators from 1982 to 2022, sourced from reliable secondary databases, including World Development Indicators (WDI).

*Table 1* above variables include GDP growth rate, Foreign Direct Investment (FDI), exports, trade, total debt, merchandise trade, total reserves, real interest rates, government final consumption expenditure, agriculture and fisheries, personal remittances, gross savings, gross capital formation, and current account balance. Inclusion of these variables ensures comprehensive examination of the multifaceted factors influencing economic growth.

Model specification follows a framework commonly employed in empirical studies. The dependent variable, GDP growth, is modeled as a function of its own lagged values and those of independent variables. The ARDL model is expressed as follows:

$$GDPt=\beta_0+\beta_1 FDIt+\beta_2 Export_t+\beta_3 Trade_t+\beta_4 RealInterest_t+$$
$$+\beta_5 MerchandTrade_t+\beta_6 Dinterest_t+\beta_7 Tresevre_t+$$
$$+\beta_8 Fconsumption_t+\beta_9 Gcapital_t+\beta_{10} Gsavings_t+$$
$$+\beta_{11} GGFCE_t+\beta_{12} A\&F_t+\beta_{13} Premitt_t+$$
$$+\beta_{14} Tdebt_t+\beta_{15} CACC_t+\varepsilon_{it}$$

$$GPD_t=\alpha+\sum_{i=1}^{p}\beta_i GPD_{t-i}+\sum_{j=0}^{q}\gamma_j X_{t-j}+\varepsilon_t$$

Here $GDP_t$ represents GDP growth; $X_t$ denotes the vector of independent variables; $\alpha$ is the intercept

term; $\beta_i$ and $\gamma_j$ are coefficients of lagged and current values, respectively; $\varepsilon_t$ is the error term.

Lag lengths were selected based on the Akaike Information Criterion (AIC), ensuring the model's efficiency. The Augmented Dickey-Fuller (ADF) test was employed to verify the stationarity of variables. Results revealed that most variables were stationary at the first difference (I[1]), while a few, such as agriculture and fisheries, government final consumption expenditure, and real interest rates, were stationary at the level (I[0]). This confirmed the appropriateness of the ARDL framework, which accommodates variables of mixed stationarity levels. The ARDL bounds testing approach was utilized to examine the existence of a long-run equilibrium relationship among the variables. The F-statistic of 4.89 exceeded the upper critical bound at a 5% significance level, indicating a significant long-term relationship between the dependent and independent variables. To capture short-term dynamics and the speed of adjustment toward equilibrium, an error correction model (ECM) was derived from the ARDL results. The error correction term was negative and highly significant, suggesting a rapid adjustment of approximately 115.85% per period to restore equilibrium after a short-term shock. The diagnostic checks confirmed the robustness of the model. The Jarque-Bera test indicated that residuals were normally distributed, while the Breusch-Pagan-Godfrey test confirmed homoskedasticity. Additionally, the Breusch-Godfrey LM test revealed no evidence of serial correlation, ensuring the reliability of the estimates. In the short-term analysis, FDI and real interest rates were found to positively and significantly impact GDP growth, while exports and final consumption expenditure exhibited negative effects. Long-term analysis revealed that a positive current account balance and merchandise trade significantly boosted GDP growth, while exports and domestic interest rates had negative impacts in the long run.

This comprehensive methodological framework ensures robust and reliable findings. By combining rigorous econometric modeling with thorough diagnostic testing, the study provides

*Table 2*

**Results of Descriptive Statistics**

| Variables & Statistics | Mean | Median | Std. Dev | Maximum | Minimum | Observations |
|---|---|---|---|---|---|---|
| GDP | 9.228 | 9.237 | 3.013 | 15.192 | 2.239 | 41 |
| D-INTEREST | 4.533 | 3.000 | 3.158 | 11.340 | 1.500 | 41 |
| FDI | 2.621 | 2.569 | 1.602 | 5.987 | 0.151 | 41 |
| T-DEBT | 1.456 | 1.501 | 0.554 | 2.462 | 0.721 | 41 |
| C-ACC | 2.130 | 1.802 | 2.704 | 9.948 | –3.685 | 41 |
| P-REMITT | 0.163 | 0.152 | 0.903v | 0.477 | 0.033 | 41 |
| A& F | 4.443 | 3.961 | 2.250 | 12.881 | 1.844 | 41 |
| GGFCE | 14.937 | 14.798 | 1.219 | 17.130 | 12.498 | 41 |
| G SAVINGS | 42.238 | 41.773 | 5.391 | 51.548 | 32.971 | 41 |
| G-CAPITAL | 39.849 | 39.910 | 4.294 | 46.660 | 31.926 | 41 |
| F-CONSUMPTION | 57.848 | 58.179 | 5.304 | 67.451 | 48.913 | 41 |
| EXPORTS | 19.553 | 19.493 | 7.809 | 36.035 | 7.205 | 41 |
| REAL INTEREST | 2.023 | 2.638 | 3.1276 | 7.356 | –7.989 | 41 |
| T-RESERVE | 181.894 | 152.443 | 124.675 | 539.697 | 31.766 | 41 |
| TRADE | 36.887 | 37.482 | 13.695 | 64.479 | 13.566 | 41 |
| MERCHANDISE TRADE | 37.035 | 33.815 | 12.245 | 63.967 | 14.312 | 41 |

*Source:* compiled by the authors.

nuanced insights into the dynamic interplay of macroeconomic variables shaping China's GDP growth. These results offer valuable guidance for policymakers to design strategies fostering sustainable economic development.

## Data analysis

*Table 2* shows the statistical summary of the factors used in the study with a total of 41 observations for each variable. The results show that the mean of **GDP growth** rate is 9.23%, with a standard deviation of 3.01, maximum 15.19%, and the minimum is 2.24%.The mean of **Domestic Interest Rate (D-INTEREST)** is 4.53%, with a high standard deviation of 3.16, with ranges from 1.5% to 11.34%. **Foreign Direct Investment (FDI)** averages

*Table 3*

**ADF Unit Root Rest**

| Variables | P-value, At level | P-value 1st Difference | Level of integration |
|---|---|---|---|
| GDP GROWTH RATE | 0.0843 | 0.0000 | 1(1) |
| A&F | 0.0000 | – | 1(0) |
| D.INTERSTR | 0.7118 | 0.0001 | 1(1) |
| FDI | 0.4515 | 0.0004 | 1(1) |
| T. DEBT.S | 0.5416 | 0.0000 | 1(1) |
| TRADE | 0.4238 | 0.0002 | 1(1) |
| C.ACC.B | 0.2229 | 0.0000 | 1(1) |
| P. REMITT | 0.0016 | 0.0000 | 1(1) |
| GGFCE | 0.0193 | – | 1(0) |
| G. SAVING | 0.3159 | 0.0036 | 1(1) |
| G. CAPITAL.F | 0.1293 | 0.0006 | 1(1) |
| F. CONSUMPTION | 0.2856 | 0.0060 | 1(1) |
| EXPORTS | 0.5008 | 0.0001 | 1(1) |
| REAL INTEREST | 0.0031 | – | 1(0) |
| T. RESERVE R | 0.3304 | 0.0119 | 1(1) |
| MRCHANDAIS TRADE | 0.3242 | 0.0004 | 1(1) |

*Source:* compiled by the authors.

*Table 4*

**Short-run output results**

| Variable | Coefficient | Std. Error | t-Statistic | Probability Value |
|---|---|---|---|---|
| D(C_ACC_B) | 8.509029 | 0.672629 | 12.65041 | 0.0000 |
| D(DEBT) | –2.162139 | 0.628301 | –3.441247 | 0.0036 |
| D(EXP0RTS) | –18.73335 | 1.462102 | –12.81262 | 0.0000 |
| D(F_CONCUMPTION) | –13.07277 | 0.966036 | –13.53239 | 0.0000 |
| D(FDI) | 1.331729 | 0.300623 | 4.429899 | 0.0005 |
| D(MERCHAND_TRADE) | –0.942539 | 0.146433 | –6.436681 | 0.0000 |
| D(REAL_INTEREST) | 0.249986 | 0.076441 | 3.270312 | 0.0052 |
| COINTEQ (–1) | –1.158475 | 0.088340 | –13.11378 | 0.0000 |

*Source:* compiled by the authors.

2.62%, with Std. Dev. 1.60 and ranges from a low of 0.15% to a high of 5.99%. **Total Debt (T-DEBT)** mean is 1.46 with standard deviation of 0.55 and minimum of 0.72, and the maximum of 2.46. **The current Account Balance (C-ACC)** mean is 2.13, with standard deviation 2.70, with minumum of –3.69 and maximum of 9.95.Mean of **Personal Remittances (P-REMITT)** is 0.16, with Std. Dev. of 0.09) and minimum of 0.03 with maximum of 0.48. **Agriculture & Fisheries (A&F)** mean value is 4.44 with Std. Dev. 2.25 and ranges from 1.84 to 12.88.

**Government Final Consumption Expenditure (GGFCE)** mean is 14.94, with a standard deviation of 1.22 with minimum of 12.50 and maximum of 17.13. Mean of **Gross Savings (G SAVINGS)** is 42.24, with Std. Dev. Of 5.39, and minimum of 32.97 and maximum of 51.55. **Gross Capital Formation (G-CAPITAL)** average is 39.85, with Std. Dev. of 4.29, minimum of 31.93 and maximum of 46.66. **The final Consumption (F-CONSUMPTION)** mean is 57.85 with a standard deviation of 5.30, minimum of 48.91 and maximum of 67.45. **Exports** mean is 19.55 with a Std. Dev. Of 7.81 and minimum of 7.20 and miximum of 36.04. **The real Interest Rate (REAL INTEREST)**

*Table 5*

**Long-run output results**

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
|---|---|---|---|---|
| GDP (–1) | –0.158475 | 0.206291 | –0.768213 | 0.4543 |
| A_F | 0.113655 | 0.215910 | 0.526398 | 0.6063 |
| C_ACC_B | 8.509029 | 5.204466 | 1.634948 | 0.1229 |
| C_ACC_B (–1) | 2.130773 | 0.481617 | 4.424211 | 0.0005 |
| D_INTERSTR | 0.163787 | 0.479241 | 0.341763 | 0.7373 |
| D_INTERSTR (–1) | –1.352161 | 0.444573 | –3.041485 | 0.0082 |
| DEBT | –2.162139 | 1.627987 | –1.328106 | 0.2040 |
| DEBT (–1) | –2.639068 | 1.351411 | –1.952824 | 0.0698 |
| EXPORTS | –18.73335 | 10.67423 | –1.755007 | 0.0997 |
| EXPORTS (–1) | –3.421516 | 0.979287 | –3.493885 | 0.0033 |
| F_CONCUMPTION | –13.07277 | 8.750179 | –1.494000 | 0.1559 |
| F_CONCUMPTION (–1) | 0.569167 | 0.406753 | 1.399292 | 0.1821 |
| FDI | 1.331729 | 0.664649 | 2.003659 | 0.0635 |
| FDI (–1) | 0.826343 | 0.767949 | 1.076038 | 0.2989 |
| G_SAVING | –11.81616 | 8.750580 | –1.350329 | 0.1969 |
| GGFCE | –0.337053 | 0.993886 | –0.339127 | 0.7392 |
| MERCHAND_TRADE | –0.942539 | 0.476463 | –1.978201 | 0.0666 |
| MERCHAND_TRADE (–1) | 1.300542 | 0.408202 | 3.186028 | 0.0061 |
| P_REMITT | 4.698772 | 3.939156 | 1.192837 | 0.2515 |
| REAL_INTEREST | 0.249986 | 0.238661 | 1.047454 | 0.3115 |
| REAL_INTEREST (–1) | –0.415077 | 0.207412 | –2.001220 | 0.0638 |
| T_RESERVE | –0.013424 | 0.009335 | –1.438029 | 0.1710 |
| TRADE | 10.58369 | 5.354044 | 1.976765 | 0.0668 |
| C | 1295.815 | 872.6752 | 1.484877 | 0.1583 |

*Source:* compiled by authors.

average is 2.02, with a standard deviation of 3.13, minimum of –7.99 and maximum of 7.36. **Total Reserves (T-RESERVE)** average is 181.89, with Std. Dev. 124.67), minimum of 31.77 and maximum of 539.70. The mean of **Merchandise Trade (MERCHANDISE TRADE)** is 37.03, with moderate variability (Std. Dev. 12.24), showing fluctuations from 14.31 to 63.97. TRADE reveals a central tendency with a mean of 36.887 a median of 37.482 and standard deviation of 13.695, a minimum of 13.566 to a maximum of 64.479.

***Unit Root Test***

To avoid spurious results, the Augmented Dickey-Fuller unit root test is commonly used [28]. For checking stationarity, we used the ADF unit root test as shown in *Table 3*. A& F, GGFCE, and Real interest rate are stationary at level but the rest are stationary at first difference. The significance level used to test the hypothesis is 5%.

***Short-run output results***

Considering data in *Table 4*, The error correction term is negative and highly significant, indicating that any short-run disequilibrium is corrected at a speed of approximately 115.85% per period. This suggests a strong tendency to return to the long-run equilibrium. The differenced current account balance has a positive and highly significant effect in the short run, suggesting that an increase in D(C_ACC_B) by one unit increases the DGP growth by approximately 8.51 units. The differenced debt has a negative and significant effect in the short run, indicating that an increase in D(DEBT) by one unit decreases the DGP growth by approximately 2.16 units. The differenced exports have a highly significant negative effect in the short run, suggesting that an increase in D(EXP0RTS) by one unit decreases the DGP growth by approximately 18.73 units. The differenced final consumption has a significant negative effect, indicating that an increase in D(F_CONCUMPTION) by one unit decreases the GDP growth by approximately 13.07 units. The differenced foreign direct investment has a positive and significant effect, suggesting that an increase in D(FDI) by one unit increases the GDP growth by approximately 1.33 units. The differenced merchandise trade has a negative and significant effect, indicating that an increase in D(MERCHAND_TRADE) by one unit decreases the GDP growth by approximately 0.94 units. The differenced real interest rate has a positive and significant effect, suggesting that an increase in D(REAL_INTEREST) by one unit increases the GDP growth by approximately 0.25 units. All variables have a short-run impact on GDP growth except the D-Interest rate. The lagged value of MERCHAND_TRADE has a positive and significant effect, indicating that a unit increase in MERCHAND_TRADE (–1) increases the GDP growth by approximately 1.30 units in the long run. The lagged value of C_ACC_B has a positive and highly significant effect on the dependent variable, indicating that a unit increase in C_ACC_B (–1) increases the GDP growth by approximately 2.13 units in the long run. The lagged value

*Table 6*

**ARDL Bound test (Null Hypothesis of No long-run relationships exist)**

| Test Statistics | Value | K |
|---|---|---|
| F-statistics | 4.894816 | 15 |
| **Critical value bound** | | |
| Significance | 10 Bound | 11 Bound |
| 10% | 1.76 | 2.77 |
| 5% | 1.98 | 3.04 |
| 2.5% | 2.18 | 3.28 |
| 1% | 2.41 | 3.61 |

*Source:* compiled by authors.

of EXP0RTS has a negative and significant effect on the dependent variable, suggesting that a unit increase in EXP0RTS (–1) decreases the GDP growth by approximately 3.42 units in the long run. The ARDL model results suggest that certain lagged variables, particularly C_ACC_B (–1), D-INTEREST (–1), EXP0RTS (–1), and MERCHAND_TRADE (–1), have significant long-term impacts on the dependent variable. In contrast, other variables either do not have a statistically significant effect or their significance is marginal.

***Long-run output results***

According to *Table 5*, the lagged value of the current account balance (C_ACC_B) has a significant positive effect on the long-run output. A one-unit increase in the lagged current account balance leads to an increase of approximately 2.13 units in the long-run output, holding other variables constant. The lagged value of the domestic interest rate (D_INTERSTR) has a significant negative effect on the long-run output. A one-unit increase in the lagged interest rate results in a decrease of approximately 1.35 units in the long-run output, indicating that higher past interest rates may dampen economic output over time. The lagged value of exports has a significant negative effect on the long-run output. A one-unit increase in lagged exports leads to a decrease of approximately 3.42 units in long-run output. This counterintuitive result could suggest that past exports might be associated with a crowding-out effect or other structural issues in the economy. The lagged value of merchandise trade has a significant positive effect on the long-run output. A one-unit increase in lagged merchandise trade leads to an increase of approximately 1.30 units in the long-run out-

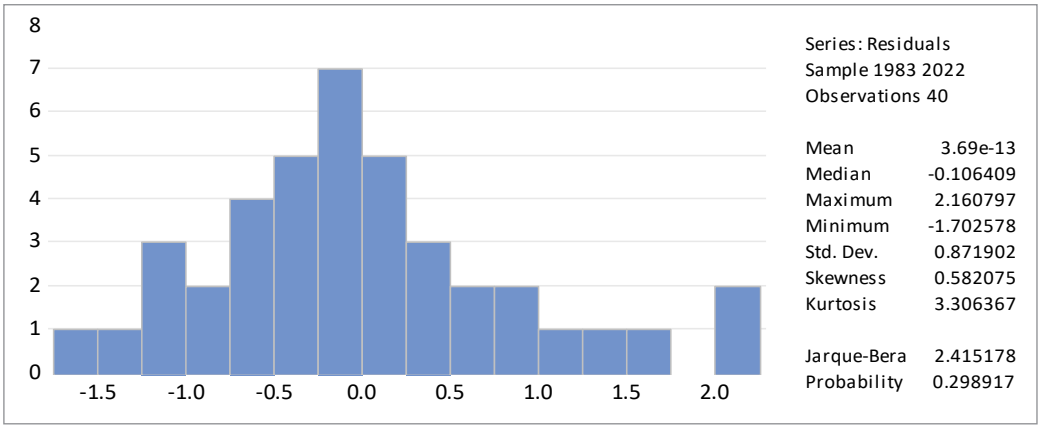


*Fig.* **Normality test**

*Source:* compiled by the authors.

*Table 7*

**Heteroskedasticity Test**

| | | | |
|---|---|---|---|
| F-statistic | 1.194622 | Probability value F (24,15) | 0.3676 |
| R-squared | 26.26088 | Probability value of Chi-Square (24) | 0.3401 |
| Scaled explained SS | 4.258634 | Probability value of Chi-Square (24) | 1.0000 |

*Source:* compiled by the authors.

*Table 8*

***Serial correlation test***

| | | | |
|---|---|---|---|
| F-statistic | 0.019619 | Probability value F (1,10) | 0.8914 |
| R-squared | 0.060700 | Probability value of Chi-Square (24) | 0.8054 |

*Source:* Author's compilation from EViews output

put, highlighting the importance of trade in driving economic growth.

### *ARDL Bound test*

The results of the ARDL bound test (*Table 6*) above shows that there is a long-run relationship exists because the value of the F-statistic is 4.894816, which is more than the upper bound test. *Table 6* shows the existence of a long-run relationship among variables.

### Diagnostic check

### *Normality Test*

As we can see in *Figure, the P-value is 0.298917, which is greater than 0.05, and the Jarque-Bera test statistic has a high p-value of 0.299817, which is greater than 0.05. Thus,* we cannot reject the null hypothesis that the residuals are normally distributed.

### *Heteroskedasticity*

Breusch-Pagan-Godfrey: Null hypothesis indicates the availability of Homoskedasticity (*Table 7*).

Since prob, chi-Square is 0.3401 which is greater at 5%, therefore, we fail to reject the null hypothesis of homoskedasticity. There is no evidence of heteroskedasticity, as indicated by the Breusch-Pagan-Godfrey test.

### *Serial correlation test*

Breusch-Godfrey Serial Correlation LM Test: Null hypothesis (no serial correlation at up to 1 lag).

Since the Probability Value of Chi-square is **0.8054** (*Table 8*), which is greater than 0.05, so we can conclude that there are no serial correlations.

## RESULTS AND DISCUSSION

This study has found a direct relationship between Foreign Direct Investment (FDI) and Gross Domestic Product (GDP). This is in line with [29] who conducted an extensive analysis from 1987 to 2013 by utilizing multiple regression models and T-statistics, which confirmed a positive and significant relationship between FDI and GDP growth in China. The study has discovered an inverse relationship between Domestic interest rate and Gross Domestic Product (GDP). This is in tandem with the study conducted by [30] who emphasized that lower domestic interest rates generally stimulate economic activity by encouraging borrowing and investment.[31] found that remittances help reduce poverty and stimulate economic activity, providing an important source of financing for development. [32] further demonstrate that remittances support investments in education, health, and small businesses, fostering economic growth. This aligns with the results of this study, which disclosed the direct link between personal remittances and Gross Domestic Product. Many studies found a positive relationship between Exports and GDP and one of them is [33] who used a sample of developing and developed countries, this study found strong evidence that export growth leads to GDP growth, particularly in developing countries. This study also found a direct relationship between exports and GDP in the short-run. As well as [34] found that trade openness is widely regarded as a catalyst for economic growth. It facilitates access to larger markets, encourages competition, and allows for the efficient allocation of resources. This study confirmed that indeed trade contributes positively to GDP. [22] found out that real interest rate affects investment decisions and consumer spending, thereby influencing GDP. Higher real interest rates can lead to reduced investment and consumption, while lower rates can stimulate economic activity thereby confirming our results. [35] said that Merchandise trade, which includes the import and export of goods, directly affects GDP through its impact on net exports. Higher merchandise trade can indicate robust economic activity. This study got the same results showing a direct relationship between merchandise trade and GDP. discovered that total reserves, including foreign exchange and gold, provide a buffer for economic stability and can influence GDP by supporting confidence in a country's financial stability. This opposes the results of this study which it has found an inverse relationship. [36] found that Final consumption expenditure, which includes household and government spending, is a major component of GDP. It reflects the demand side of the economy. This study is here to confirm the positive relationship between consumption and GDP. Gross savings provide the

funds necessary for investment in an economy. Higher savings rates can lead to higher investments and, consequently, higher GDP. This is the opposite of the results from this study. This study found an inverse relationship between savings and GDP. [37] examined the relationship between government expenditure and economic growth in Sweden and found that higher government consumption expenditure is associated with lower GDP growth. This study has also confirmed that result. Agriculture and fisheries sector is vital for many economies, especially in developing countries. Its contribution to GDP reflects the importance of these sectors in providing food security and employment. This study has also found a direct link between Agriculture & Fisheries and the GDP of China. The study found that a positive current account has a positive relationship with GDP, thereby confirming what [38] found. The current account balance, which includes trade balance, net income from abroad, and net current transfers, reflects the economic transactions of a country with the rest of the world and can affect GDP. [23] discovered that Total debt, particularly public debt, can influence GDP through its impact on fiscal sustainability and interest rates. High debt levels can constrain economic growth if not managed properly. The study also found a negative link between total debt and GDP. C_ACC, Exports, and Merchandise trade had short-run and long-run impacts on GDP whilst Domestic interest had a long-run impact on GDP but not on the short-run. Debt, consumption, FDI, and real interest rate and short-run impacts on GDP but they had no impact in the long run.

## CONCLUSION

This study investigates the impact of multiple economic indicators on GDP growth in a longitudinal analysis spanning from 1982 to 2022. By Utilizing an empirical model consistent with prior studies, we explored the relationships between GDP growth and fifteen independent variables: Foreign Direct Investment (FDI), exports, trade, real interest rate, merchandise trade, domestic interest rate, total reserves, final consumption expenditure, gross capital formation, gross savings, government final consumption expenditure, agriculture and fisheries, personal remittances, total debt, and current account balance. The data were sourced from the World Development Indicators (WDI), ensuring a comprehensive and robust dataset. The analysis reveals several critical insights. Descriptive statistics indicate that GDP growth has shown resilience and variability, with an average growth rate of 9.23% and a range from 2.24% to 15.19%. This variability estimates the dynamic nature of the economic environment over the study period. Key indicators such as domestic interest rates, FDI, total debt, trade, and the current account balance also displayed significant variability, reflecting their key roles in economic performance. The Augmented Dickey-Fuller (ADF) test results ensured the stationarity of variables, preventing spurious regression results. Most variables were stationary at the first difference, while a few, such as agriculture and fisheries, government final consumption expenditure, and real interest rates, were stationary at the level. This foundational step validated the integrity of our subsequent econometric analyses. In the short-run analysis, the (ECM) error correction model indicates a strong adjustment mechanism, with the error correction term being negative and highly significant. This suggests that any deviations from the long-run equilibrium are corrected swiftly, with an adjustment speed of approximately 115.85% per period. Short-run dynamics reveal that the differenced current account balance positively impacts GDP growth significantly, indicating that improvements in the current account balance can substantially boost economic growth. Conversely, increases in debt and exports have significant negative impacts on GDP growth in the short run. The negative impact of exports may seem counterintuitive; however, it can be indicative of structural issues within the economy or the presence of re-export activities that do not add substantial value domestically. Final consumption expenditure also negatively affects GDP growth, highlighting potential inefficiencies or consumption patterns that do not translate into productive

economic activity. Foreign direct investment and real interest rates positively impact GDP growth in the short run. The positive effect of FDI underscores its role as a critical driver of economic growth through capital inflows, technology transfer, and job creation. The positive impact of real interest rates suggests that higher real returns on savings might stimulate investment and economic activity. Long-run analysis through the ARDL model provides deeper insights into persistent economic relationships. Notably, the lagged value of merchandise trade positively and significantly affects GDP growth, emphasizing the long-term benefits of trade in driving economic performance. Similarly, the lagged current account balance continues to positively impact GDP growth, reinforcing the importance of a healthy external balance for sustained economic development. However, lagged exports and domestic interest rates shows negative long-term effects on GDP growth, which may indicate structural inefficiencies or over-reliance on volatile sectors. The ARDL bound test confirms the existence of a long-run relationship among the variables, further validating the robustness of our econometric model. Diagnostic checks affirm that our model is well-specified, with normally distributed residuals, no evidence of heteroskedasticity, and no serial correlation. This study highlights the dynamic interactions between various economic indicators and GDP growth. Policy implications are profound: fostering a positive current account balance, managing debt levels, and strategically leveraging FDI and trade can significantly enhance economic growth. Conversely, addressing structural inefficiencies related to exports and consumption patterns is crucial. Future research could extend this analysis by exploring sector-specific impacts and incorporating more granular data to refine our understanding of these complex economic relationships. This comprehensive analysis provides a robust foundation for policymakers to formulate strategies that promote sustainable economic growth.

To sustain and enhance China's economic growth, it is essential to adopt a multifaceted approach. This includes enhancing FDI through favorable policies and infrastructure improvements, fostering a positive current account balance by diversifying exports and adding value to raw materials, and managing domestic interest rates to balance savings and investment. Optimizing government expenditure by prioritizing high-impact projects and encouraging public-private partnerships is crucial, alongside addressing structural inefficiencies in exports and consumption. Effective debt management, promoting gross capital formation through incentives and innovation, and improving trade infrastructure and policies are vital. Long-term economic planning and continuous monitoring of policies, complemented by future research and sector-specific analysis, will ensure a resilient and sustainable economic landscape. These strategies collectively aim to bolster China's economic sustainability and long-term growth prospects.

## REFERENCES


1. Popa C.E. The importance and evolution of FDI inflows in China. *Revista Economica*. 2022;74(2):30–39. DOI: 10.56043/reveco-2022-0014
2. Majumder S.C., Rahman M.H. Impact of foreign direct investment on economic growth of China after economic reform. *Journal of Entrepreneurship, Business and Economics*. 2020;8(2):120–153.
3. Zhang K.H. How does foreign direct investment affect economic growth in China? *Economics of Transition and Institutional Change*. 2001;9(3):679–693. DOI: 10.1111/1468-0351.00095
4. Hye Q.M.A. Exports, imports and economic growth in China: An ARDL analysis. *Journal of Chinese Economic and Foreign Trade Studies*. 2012;5(1):42–55. DOI: 10.1108/17544401211197959
5. Xing Y., Pradhananga M. How important are exports and foreign direct investment for economic growth in the People's Republic of China? ADBI Working Paper Series. 2013;(427). URL: https://www.adb.org/sites/default/files/publication/156282/adbi-wp427.pdf

6. Sun P., Heshmati A. International trade and its effects on economic growth in China. IZA Discussion Paper Series. 2010;(5151). URL: https://docs.iza.org/dp5151.pdf
7. Hye Q.M.A., Wizarat S., Lau W.-Y. The impact of trade openness on economic growth in China: An empirical analysis. *Journal of Asian Finance, Economics and Business*. 2016;3(3):27–37. DOI: 10.13106/jafeb.2016.vol3.no3.27
8. Yang W., Zhang Z., Wang Y., Deng P., Guo L. Impact of China's provincial government debt on economic growth and sustainable development. *Sustainability*. 2022;14(3):1474. DOI: 10.3390/su14031474
9. Çetin H. Time series analysis of China's external debt components, foreign exchange reserves and economic growth rates. *The International Journal of Social Sciences*. 2013;13(1):1–15.
10. Hu S., Lin W., Xu H., Wong K. Relationship between government debt and economic growth. In: ICSEB'21: Proc. 2021 5th Int. conf. on software and e-business (Osaka, December 3–5, 2021). New York, NY: Association for Computing Machinery; 2021:93–103.
11. Tabata S. Growth in the international reserves of Russia, China, and India: A comparison of underlying mechanisms. *Eurasian Geography and Economics*. 2011;52(3):409–427. DOI: 10.2747/1539-7216.52.3.409
12. He D., Wang H., Yu X. Interest rate determination in China: Past, present, and future. *International Journal of Central Banking*. 2015;11(4):255–277. URL: https://www.ijcb.org/journal/ijcb15q5a7.pdf
13. Tyers R., Golley J., Yongxiang B., Bain I. China's economic growth and its real exchange rate. *China Economic Journal*. 2008;1(2):123–145. DOI: 10.1080/17538960802076455
14. Banday U.J., Murugan S., Maryam J. Foreign direct investment, trade openness and economic growth in BRICS countries: Evidences from panel data. *Transnational Corporations Review*. 2021;13(2):211–221. DOI: 10.1080/19186444.2020.1851162
15. Farshid P., Ali S., Gholamhosein S. The impact of foreign direct investment and trade on economic growth — taking China, Korea, Malaysia, Philippines & Thailand for example. *China-USA Business Review*. 2009;8(12):37–43. URL: https://www.davidpublisher.com/Public/uploads/Contribute/559b47a6517cd.pdf
16. Hou S., Li Y. Empirical analysis of the influence factors of China's current account surplus. In: Proc. 5th Int. education, economics, social science, arts, sports and management engineering conf. (IEESASM 2017). Dordrecht: Atlantis Press; 2018. (Advances in Social Science, Education and Humanities Research). DOI: 10.2991/ieesasm-17.2018.90
17. Huang Y. Empirical analysis of influence the inflow FDI on China's trade balance. *Economic Management Journal*. 2010.
18. Heshmati A., Peng S. International trade and its effects on economic performance in China. *China Economic Policy Review*. 2012;1(2):1250009. DOI: 10.1142/S 1793969012500094
19. Eichengreen B., Tong H. How China is reorganizing the world economy. *Asian Economic Policy Review*. 2006;1(1):73–97. DOI: 10.1111/j.1748–3131.2006.00008.x
20. Liu M., Ma Q.P. The impact of saving rate on economic growth in Asian countries. *National Accounting Review*. 2022;4(4):412–427. DOI: 10.3934/NAR.2022023
21. Blanchard O.J., Leigh D. Growth forecast errors and fiscal multipliers. *American Economic Review*. 2013;103(3):117–120. DOI: 10.1257/aer.103.3.117
22. Taylor J.B., Woodford M., eds. Handbook of macroeconomics. Amsterdam: Elsevier; 1999. 1745 p.
23. Reinhart C.M., Rogoff K.S. Growth in a time of debt. *American Economic Review.* 2010;100(2):573–578. DOI: 10.1257/aer.100.2.573
24. Panizza U., Presbitero A.F. Public debt and economic growth: Is there a causal effect? *Journal of Macroeconomics*. 2014;41:21–41. DOI: 10.1016/j.jmacro.2014.03.009
25. Shahbaz M., Lean H.H. Does financial development increase energy consumption? The role of industrialization and urbanization in China. *Energy Policy*. 2012;40:473–479. DOI: 10.1016/j.enpol.2011.10.050
26. Zaman K., Shahbaz M., Loganathan N., Raza S.A. Tourism development, energy consumption, and environmental Kuznets curve: Trivariate analysis in the panel of developed and developing countries. *Tourism Management*. 2016;54:275–283. DOI: 10.1016/j.tourman.2015.12.001

27. Narayan P.K. The saving and investment nexus for China: Evidence from cointegration tests. *Applied Economics*. 2005;37(17):1979–1990. DOI: 10.1080/00036840500278103
28. Dickey D.A., Fuller W.A. Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica*. 1981;49(4):1057–1072. DOI: 10.2307/1912517
29. Kaleem I., Rahman M.M., Chowdhury M.A.A. Foreign Direct Investment (FDI) and Gross Domestic Product (GDP) in Bangladesh: A cointegration analysis. *Journal of Economics and Sustainable Development*. 2015;6(8):196–207. URL: https://www.researchgate.net/publication/280554922_Foreign_Direct_Investment_FDI_and_Gross_Domestic_Product_GDP_in_Bangladesh_A_Cointegration_Analysis
30. Bhat D.S.A., Laskar M. Interest rate, inflation rate and gross domestic product of India. *International Journal of Technical Research & Science*. 2016;1(9):284–288. URL: https://www.researchgate.net/publication/317166806_INTEREST_RATE_INFLATION_RATE_AND_GROSS_DOMESTIC_PRODUCT_OF_INDIA
31. Adams R.H., Jr, Page J. Do international migration and remittances reduce poverty in developing countries? *World Development*. 2005;33(10):1645–1669. DOI: 10.1016/j.worlddev.2005.05.004
32. Giuliano P., Ruiz-Arranz M. Remittances, financial development, and growth. *Journal of Development Economics*. 2009;90(1):144–152. DOI: 10.1016/j.jdeveco.2008.10.005
33. Bougheas S., Riezman R. Trade and the distribution of human capital. *Journal of International Economics*. 2007;73(2):421–433. DOI: 10.1016/j.jinteco.2007.03.002
34. Dollar D., Kraay A. Institutions, trade, and growth. *Journal of Monetary Economics*. 2003;50(1):133–162. DOI: 10.1016/S 0304–3932(02)00206–4
35. Melitz M.J. The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica*. 2003;71(6):1695–1725. DOI: 10.1111/1468–0262.00467
36. Keynes J.M. The supply of gold. *The Economic Journal*. 1936;46(183):412–418. DOI: 10.2307/2224879
37. Fölster S., Henrekson M. Growth effects of government expenditure and taxation in rich countries. *European Economic Review*. 2001;45(8):1501–1520. DOI: 10.1016/S 0014–2921(00)00083–0
38. Obstfeld M., Rogoff K. The intertemporal approach to the current account. In: Handbook of international economics. Amsterdam: North-Holland; 1995;3:1731–1799. DOI: 10.1016/S 1573-4404(05)80014-0

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