"COMPOSITION OF CAPITAL INVESTMENTS BY SOURCES OF FINANCING OF UZBEKISTAN" WITH ECONOMETRIC ANALYSES AND NAÏVE MODEL

The University of world economy and Diplomacy Foreign economy activity

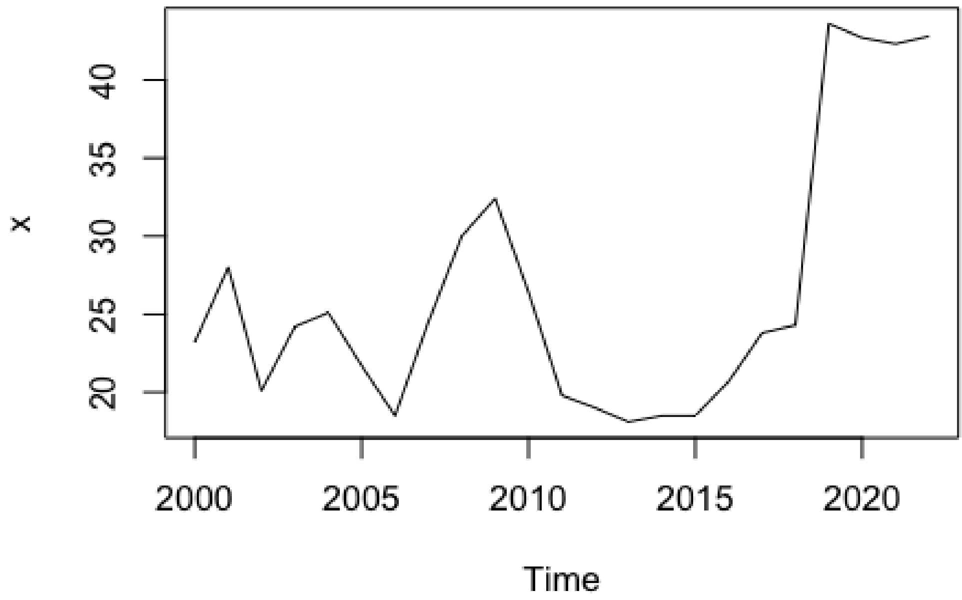
Makhmudov Jakhongir

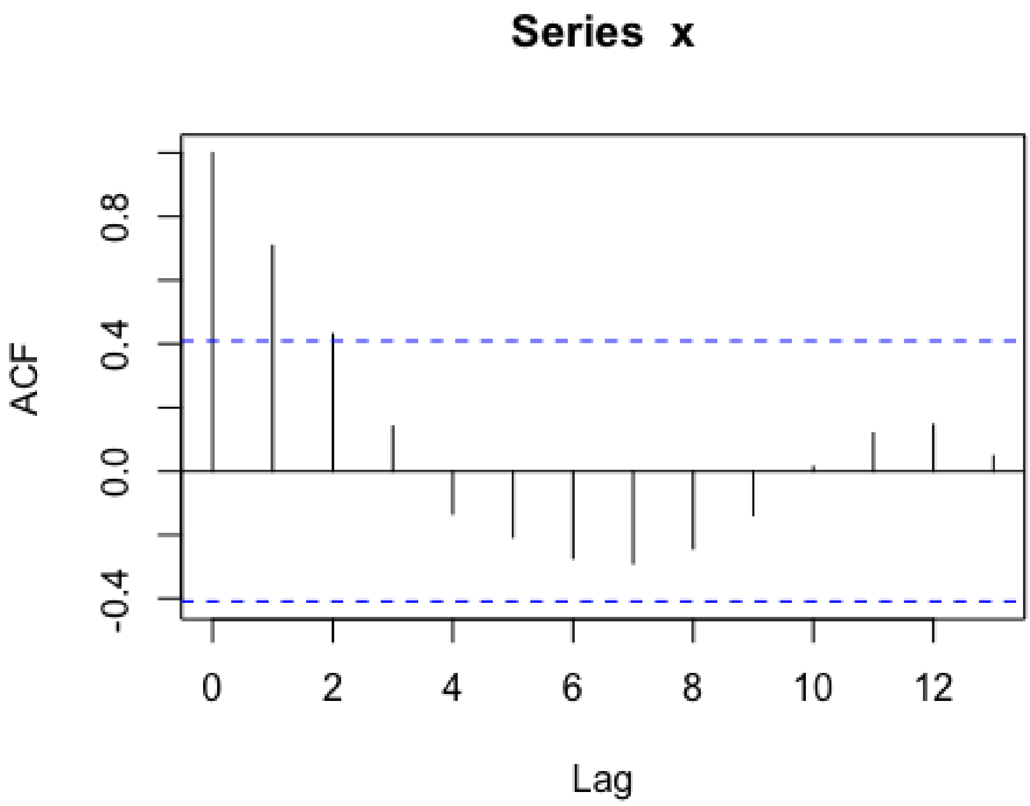
Abstract: This article explores the evolving landscape of capital investment financing in Uzbekistan over a 23-year period, emphasizing the composition and sources of funding. The study utilizes annual percentage data to reflect the country's dynamic approach to capital investments, revealing significant shifts that underscore the nation's economic adaptation and strategic,development,goals.

Key words : Econometric analysis, model , Naïve model , Investment flow, capital investment ,FDI, financial sources

Introduction: Uzbekistan's economy has experienced a transformative journey, with capital investment playing a pivotal role in its growth and modernization. The composition of capital investments by sources of financing is a critical indicator of both economic health and strategic focus. This analysis, underpinned by annual percentage data from 2000 to 2023, seeks to uncover the trends and patterns that have characterized this journey. Through this exploration, we aim to understand the nuances of Uzbekistan's investment strategy, the challenges it has faced, and the prospects it looks towards in the future.

Capital Investment Trends in Uzbekistan: A Percentage Analysis The data ranging from 2000 to 2023 shows a diverse trajectory of capital investment percentages in Uzbekistan. In the early 2000s, the figures indicate a variable yet generally upward trend, with a peak at 28% in the year 2001. However, there was a noticeable dip around the mid-2000s, reflecting possible economic adjustments or external market influences.As we move towards the latter part of the decade, there's a resurgence in investment percentages, reaching a 30% mark in 2008 and further climbing to a significant 32.4% in 2010. This could be indicative of increased investor confidence and government initiatives to attract foreign capital.





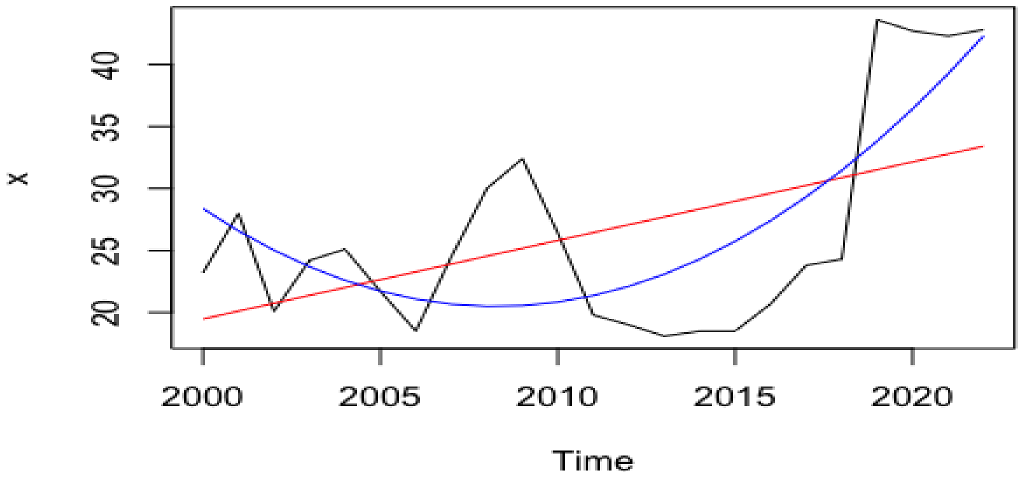
researched the foreign ivestment flow to uzbekistan in the last 23 years(2000-2023), The datas are performed and just presented with a lot functions and checked to residuals by acf function. The data shows increasing trend during the whole time.

Naive model

```
naive.x = naive(x, h=3); naive.x
##      Point Forecast    Lo 80    Hi 80    Lo 95    Hi 95
## 2023           42.8 35.74638 49.85362 32.01243 53.58757
## 2024           42.8 32.82468 52.77532 27.54407 58.05593
## 2025           42.8 30.58278 55.01722 24.11537 61.48463
round(accuracy(naive.x), 2)
##                ME RMSE  MAE  MPE  MAPE MASE  ACF1
## Training set 0.89  5.5 3.63 0.94 13.72    1 -0.02
```

$$\hat{X}_{t+1} = X_t$$

In summary, the naive model provides a simple baseline for forecasting, and the accuracy metrics help evaluate its performance. Consideration should be given to the specific characteristics of the time series data and whether a more advanced model might be beneficial for improved forecasting accuracy. MAE is an absolute measure, and in this context, a value of 3.63 suggests that, an average, the model's predictions are off by approximately 3.63 units. The RMSE value of 5.5 indicates the square root of the average squared differences between predicted and actual values. Given that the MAE and RMSE values are relatively low, it suggests that the naive model is providing reasonably accurate forecasts. The equation X^t+1=Xt suggests that the forecast for the next period (t+1) is equal to the observed value at the current period (t). ## Trend model



The most striking feature of the dataset is the pronounced increase in investment percentages from 2019 onwards, with the numbers soaring above the 40% threshold. Such a substantial rise suggests a strategic shift, potentially aligning with Uzbekistan's developmental plans and increased foreign investment interest in the region.

Discussion: The Implications of Rising Investment Percentages This remarkable increase in the composition of capital investments by financing sources in recent years hints at Uzbekistan's aggressive pursuit of economic growth. It raises questions about the sustainability of such growth and the sectors that are being targeted. The high percentage figures also indicate a reliance on investment as a key driver for economic progress, which could be a response to globalization and regional economic dynamics.

Conclusion: Uzbekistan's capital investment composition showcases a country in the midst of economic transformation. The data reflects a strategic adaptation to both domestic and international economic currents. With percentages indicating a high rate of investment, particularly in the last few years, Uzbekistan appears poised for continued growth, provided it manages to balance investment with sustainable economic policies.

The article would further need to delve into the specific sectors benefiting from these investments, the role of governmental policies, and the impact on the country's broader economic landscape.

FDI inflows have witnessed a remarkable leap, growing from USD 1.72 billion in 2020 to an estimated USD 4.5 billion in 2023. This influx has shifted the landscape, moving Uzbekistan from a resource-dependent economy towards a more diversified one. Sectors like renewable energy, pharmaceuticals, textiles, and tourism have emerged as key recipients of foreign capital, while traditional areas like oil and gas also continue to attract substantial investments.

While FDI has grabbed the headlines, domestic capital is increasingly driving investment, fueled by a burgeoning private sector and growing confidence in the economy. This trend signifies a deeper integration of Uzbekistan's internal financial system with the global investment architecture.

Despite the positive strides, Uzbekistan's investment landscape still faces obstacles. Issues like inconsistent regulatory enforcement, a shortage of skilled labor, and limited access to finance for SMEs continue to pose challenges. Additionally, the lingering legacy of corruption necessitates further institutional reforms to ensure transparency and fair business practices.

The road ahead for Uzbekistan's investment journey promises both opportunities and hurdles. Sustaining the reform momentum, strengthening institutions, and fostering a skilled workforce are crucial for attracting larger, long-term investments. Further development of domestic financial markets and diversification of financing instruments will also be key to fueling internal capital flows.

Suggestions:

1. Continued Policy Reforms: The article suggests that Uzbekistan should maintain its commitment to ongoing policy reforms aimed at enhancing the ease of doing business. Streamlining bureaucratic processes, reducing red tape, and ensuring policy consistency will further boost investor confidence.

2. Diversification Strategies*:* Encouraging diversification in investment portfolios and across sectors is recommended. By promoting investments in emerging industries and supporting innovation, Uzbekistan can create a more resilient and dynamic economy.
3. Infrastructure Development*:* The study highlights the importance of sustained infrastructure development to attract long-term investments. Focusing on transportation, energy, and digital infrastructure will not only enhance the business environment but also contribute to overall economic growth.
4. International Partnerships*:* The article suggests that Uzbekistan explore and strengthen international partnerships to attract a broader range of investors. Collaborative efforts with global institutions and neighboring countries can bring about mutually beneficial economic outcomes.
5. Investor Education Programs*:* To foster a better understanding of the investment landscape in Uzbekistan, the article proposes the implementation of investor education programs. These initiatives can bridge information gaps, educate potential investors about opportunities, and facilitate informed decision-making.

References

1. https://miit.uz/oz/investment-statistics

2. **Uzbekistan's Investment Climate Statement 2023, International Trade Administration:** https://www.trade.gov/country-commercial-guides/uzbekistan-investment-climate-statement

3. **World Bank Doing Business Report 2024:** https://www.worldbank.org/en/businessready

4. https://stat.uz/uz/rasmiy-statistika/investments

5. On the FDI Surge and Sectoral Shift:

UNCTAD World Investment Report 2023: https://unctad.org/publication/world-investment-report-2023

Invest In Uzbekistan: Sectoral Opportunities: https://invest.gov.uz/en/
"Uzbekistan raises record $2.5bn FDI in 2022," Daryo.uz, July 9, 2023:** https://daryo.uz/en/2023/07/09/uzbekistan-sets-record-with-25-bn-in-foreign-direct-investments-in-2022 **On Domestic Capital and Financial Markets:** * **Uzbekistan's Financial Sector Development Strategy 2023-2025:** https://cbu.uz/en/ * **"Uzbekistan's domestic capital market to see further growth in 2023," International Finance Corporation, June 2023:** https://en.trend.az/casia/uzbekistan/3829688.html **On Lingering Challenges:** * **"Uzbekistan: Investment Climate Challenges," Transparency International, 2023:** https://strategy.uz/index.php?news=878&lang=en * **World Bank Governance Indicators:** https://datacatalog.worldbank.org/search/dataset/0038026/Worldwide-Governance-Indicators **Additional Resources:** * **Uzbekistan: Foreign Direct Investment, Net Inflows (BoP, current US$) - World Bank Data: https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?locations=UZ
Uzbekistan Economic Update, World Bank, October 2023: https://www.worldbank.org/en/country/uzbekistan/overview